

# Leadership and internal policy in sustainable schools: Exploring the perceptions of primary education executives in Greece

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## ABSTRACT

A principal's vision for their school is the cornerstone of any development strategy and educational transformation. This is not simply a general statement of aspirations but a clearly defined and inspiring "picture" of the school's future, based on an accurate understanding of its current situation, potential and needs. A principal with vision systematically utilizes available human and material resources, motivates staff, students, parents, and local stakeholders and creates the conditions for active participation and collaboration toward common goals, incorporating core values such as equality, sustainability, and democracy into a framework for shaping a school that promotes learning, innovation, and social responsibility. The present study scrutinizes issues related to the management of a sustainable school and, in particular, outlines the "expected" characteristics of a sustainable school principal, as well as the pillars of internal policy formation, as reflected in the discourse of primary education executives in Greece.

**Keywords:** leadership, education for the environment and sustainability, sustainable schools, internal policy, education executives

## INTRODUCTION

Education constitutes a fundamental pillar of social, economic, and cultural development. It is not merely an organizational framework for teaching and learning but a dynamic social process of shaping values, attitudes, and citizenship. Within this context, a sustainable school is called upon to transcend its traditional role and to function as an agent of change, contributing to the achievement of the goals of sustainable development. Education for sustainability and for global active citizenship, as defined in the Maastricht Declaration of 2002 and updated in the Dublin Declaration of 2022, aims to address today's global challenges that affect modern states—and, by extension, all of us—through a range of events and situations such as conflicts, tensions between populations, terrorism, radicalization, climate change, environmental degradation, and the equitable management of natural resources. At the same time, they aim to meet the need for building peaceful and sustainable societies, setting as their objective the realization of the fundamental changes required in the way we coexist with one another and with the planet (UNESCO, 2016).

The 2030 Agenda and the 17 Sustainable Development Goals define a new, just, and sustainable developmental

trajectory that ensures the balance between economic growth, social cohesion and justice, as well as the protection of the environment and the planet's unique ecological wealth. Consequently, individuals are called to focus their attention on critically reflecting upon today's lifestyles and actions, and to be able to make informed decisions regarding their behaviors and choices in pursuit of a more sustainable world (Fien & Tilbury, 2002).

Aligned with these objectives, the global educational community is increasingly orienting itself toward the integration of sustainability into school practice through new models of administration, leadership, and pedagogical approach. Within this framework, efforts are being made to build a school that promotes Education for the Environment and Sustainability (EES), while at the same time introducing changes in practices and shifting priorities to ensure a better quality of life for everyone, both in the present and for future generations. As a model of sustainable development, the school can be transformed into a space where respect for human rights, freedom of expression, and the uniqueness of each individual is paramount, and where national, cultural, and individual differences are met with acceptance, interest, and care (Doulami, 2020). The key characteristics that define EES include holism, interdisciplinarity, fostering of values,

critical thinking, the use of multiple methods in approaching the educational process, participatory decision-making, a critical approach to and resolution of issues under investigation, solution-oriented thinking, the integration of learning experiences into daily life, and policies that are action-oriented (Dimitriou, 2009).

It is considered essential that the concept of sustainability be addressed through a holistic approach, emphasizing participatory governance, the responsible application of science, and the cultivation of students' active citizenship (Corney, 2006; Walshe, 2008). However, for a school unit to translate these principles into educational practice, a new type of leadership is required—one that shapes internal educational policy, encourages participatory planning, and actively engages the school community. The shift from the traditional principal-administrator to the leader-motivator marks a turning point in the governance approach of a sustainable school.

This study investigates the perceptions and perspectives of Primary Education Executives regarding both the professional and general attributes deemed essential for principals of sustainable schools, as well as the key dimensions for implementing educational policy. The results offer valuable insights into the expected profile of a sustainable school principal and delineate the strategic pillars upon which the internal policy of the school unit should be developed, with the ultimate goal of advancing sustainability and establishing an effective sustainable school.

### **Education for the Environment and Sustainability in the modern school**

Education for sustainability can be conceived as an ongoing pedagogical process of transformation that actively nurtures a culture of change (Fullan & Ballew, 2001). As an educational paradigm, it seeks to empower citizens to engage in actions that contribute to building a more equitable and sustainable world—one grounded in the universal values of human rights, democracy, non-discrimination, and the respectful acceptance of diversity (UNESCO, 2016).

In the literature, various definitions of sustainable development have been proposed. At the international level, the UN World Commission on Environment and Development has defined sustainable development (SD) as "development that meets the needs of the present without compromising the capacity of future generations to meet their own needs" (World Commission on Environment and Development, 1987, p. 43). This definition acknowledges not only the importance of the environment but also the world's need for development, thus emphasizing the necessity of achieving a balance between the environment, society, and the economy (UNECE, 2005). Consequently, sustainable development is the kind of development that promises to restore balance to the global system that includes the triptych Environment - Economy - Society by including the three and seeking long-term improvement and maintenance of human quality of life. Sustainable development in order to achieve this requires the development of respect, critical and systemic thinking, participation and interest, the instillation of moral values as well as important skills such as problem-solving, reflection and evaluation (Kadji-Beltran, 2013).

In order to attain sustainability, co-ordination and integration of efforts is required in a number of crucial sectors and rapid and radical change of behaviors and lifestyles, including changing consumption and production patterns (Dimitriou & Pimenidis, 2015). Sustainability is, at last, a moral imperative in which cultural diversity and traditional knowledge must enjoy the required respect (Dimitriou, 2009, p. 92), while holding the potential to transform education and as countries and communities struggle to meet modern challenges accompanied by significant life-changing events, sustainability adds purpose to education and curricula, while offering a shared vision along with changes in curriculum content.

Education for sustainability brings about changes in teaching and learning as it launches new pedagogies that encourage students to ask questions, analyze and think critically as well as make decisions that are more collaborative than competitive and more student-centered than teacher-centered (UNESCO, 2012, pp. 36-37). EES pedagogical practices also include participatory learning and community learning, "outside the walls" of the classroom, as well as promotes learning of skills and values (UNESCO, 2017).

Therefore, education for sustainability is not a narrow body of information or knowledge, but rather constitutes the very content of education (Gleason et al., 2020). This means that sustainability permeates all aspects of school operations at multiple levels, encompassing the curriculum, teaching approaches, school governance, sustainable consumption, community engagement, and the maintenance and enhancement of school infrastructure. For a school to effectively promote sustainability, the orientation of its learning process must extend beyond the boundaries of the classroom. It should be rooted in the community and its issues, with a focus on utilizing the external environment as well as a wide range of community-based resources and tools that enhance students' knowledge, abilities, skills, interest, participation, and motivation—enabling them to understand their role and individual responsibility in improving their quality of life (Zachariou et al., 2005). In this context, sustainability is not limited to what is learned but extends to how learning is applied as a lived experience and way of life (Zachariou & Kadji, 2023). Curriculum, pedagogy, professional development, school-community relationships, school practices, ethos, vision, and leadership are approached systemically within an inclusive process in which all stakeholders, both inside and outside the school, participate meaningfully, with a voice and a role (Wals & Mathie, 2022), working together constructively and creatively to implement changes that improve the learning process, school life, and the community itself (Zachariou & Kadji, 2023).

### **Leadership in the Sustainable School: From Principal to Strategic Leader**

The implementation of EES in school practice requires educational, pedagogical, and institutional changes that enable schools to effectively integrate its principles. From this perspective, it is equally important for schools to develop sustainable approaches and modes of operation. Education, beyond serving as the space where children and students are taught and nurtured—where teaching, learning, and practical

application take place—constitutes the most significant driver of the social and economic development of nations. Its inherent dynamism necessitates the continuous adaptation of its objectives to the evolving conditions of the economic and social environment (Doulami & Dimitriou, 2025).

The sustainable school is an innovation of the modern education system. It is also a new perspective and a field that remains unexplored in several aspects and dimensions (Flogaitis et al., 2010). However, its effectiveness depends on the degree of its connection with the local community. The immediate social environment is a “resource” that can highlight the school and “exploit” it as an aid to the project, along with resolving local environmental issues (Goethals et al., 2013). Within this framework, the sustainable school emerges as a new educational model that places critical thinking, participatory action, and intergenerational justice at its core (Smyth & Shacklock, 1998). It encourages students to take initiative, participate in decision-making, and engage in democratic processes. At the same time, it fosters strong connections with the local community, parents, and various stakeholders, functioning as a social learning organization (Goethals et al., 2013). This vision of schooling aligns with strategic leadership principles, where the principal not only manages but actively cultivates an inclusive, collaborative, and future-oriented culture.

Educational leadership has undergone significant transformations in recent years. The traditional role of the principal as an administrator has evolved into that of a leader who inspires, plans, and coordinates the school community towards a common purpose (Lambert, 2002). Leadership can no longer be conceived as a unilateral exercise of authority but rather as a collective process that empowers all members of the school unit. Strategic leadership constitutes a fundamental component for the sustainable development of schools. Strategic leaders possess a clear vision, mobilize staff, engage in long-term planning, and adapt the school to evolving social and pedagogical needs. Managing change, building trust, and developing strategic capabilities are among their core functions (Davies & Davies, 2006).

The Greek educational reality may differ significantly from the models of educational administration adopted in other European countries. The centralized nature of the Greek educational system, in which decisions are made at the central level by the Ministry of Education and the school unit functions primarily as the final recipient of these decisions, limits the autonomy of educational institutions (Andreou & Papakonstantinou, 1994) but on the other hand, it is becoming increasingly accepted that changes and innovations in education could not proceed if they have not been understood at the level of the educational unit.

A new framework through which the Greek school unit can formulate and implement internal educational policy is the recently established «Evaluation framework of the educational work of school units», implemented by the Institute of Educational Policy and the Ministry of Education, Religious Affairs, and Sports. Under this framework, schools are invited to design, organize, implement, and assess action plans based

on their specific conditions and needs, focusing on areas such as teaching, learning and assessment, program development, leadership and the management of material and technical infrastructure, collaboration with families and the wider community, as well as the professional development of teachers (Pedagogical Institute of Greece, 2024). In this context, the school unit is positioned as the central agent for planning and evaluating its educational work, with the aim of improving its quality in the areas each school selects according to its specific characteristics. Additionally, another new framework through which Greek schools can design and implement action plans related to EES is the innovative program “Active Citizen Actions,” combined with the implementation of Local Geography and Local History projects,<sup>1</sup> as well as the School Vegetable Gardens initiative. Especially regarding the Active Citizen Actions, their mandatory implementation commenced in the 2024–2025 school year, as proposed by the Ministry of Education, Religious Affairs, and Sports to all Greek school units.

To address the new challenges emerging in the Greek educational context, particularly in the administration of a sustainable school, a new and different model of governance is required—one in which the school is not a passive recipient of directives but an active shaper of educational policy at the local level. Within this framework, the role of the principal is transformed from that of a mere administrator into that of a strategic leader who inspires, mobilizes, and empowers the educational community. The effective principal relies not solely on the authority of their position or professional expertise, but on the ability to coordinate human resources and create conditions of safety, respect, and creativity (Matsagouras, 2008). Key characteristics of the principal-as-leader in guiding the school toward sustainability include being driven by a vision to shape the school unit in accordance with the principles of sustainability, fostering a sense of participation and support among all members of the school community, promoting open communication and a democratic spirit, leveraging the unique attributes of each staff member, demonstrating trust in practical ways, and formulating the internal policy of the school unit.

The concept of internal educational policy constitutes the core “mechanism” and refers to the school unit’s capacity to take initiatives, adapt the curriculum, pedagogical methods, resource management, and the allocation of responsibilities, as well as to implement policies that address the specific needs and circumstances of the local community based on its unique characteristics and requirements. Within this framework, the school is called upon to design, innovate, and evaluate according to the particular features of its “micro-society.” This, however, presupposes the existence of leadership capacity, professional competence, and a culture of collaboration. Furthermore, the school culture—as defined by Everard & Morris (1999) and Anthopoulou (1999)—plays a decisive role in the potential for implementing innovations. A school with a positive climate, a sense of community, and mutual respect among staff members is far more likely to incorporate sustainability practices into its daily operation. In contrast, a culture of “closed communication” and mutual

<sup>1</sup> <https://act.digitalschool.gov.gr/>

distrust constitutes a significant barrier to change (Athanasoula-Reppa, 1999).

Particularly in the case of the sustainable school as a framework for educational transformation, its success depends significantly on the “culture” of the school unit—that is, the set of values, beliefs, and practices that shape the collective identity of the school. It serves as an “invisible guide” influencing decision-making, interpersonal relationships, and the overall effectiveness of the organization. A positive school climate can foster motivation, collaboration, and academic achievement. Human resource management in education is not limited to the utilization of professional skills, but also involves the cultivation of emotional intelligence, the recognition of individual needs, and the support of teachers’ personal development. The principal acts as a coordinator, synthesizing the strengths of the team and creating conditions conducive to collaboration (Anthopoulos, 1999; Matsagouras, 2008).

Moreover, the implementation of EES in school practice requires educational, pedagogical, and institutional changes that will allow schools to effectively integrate its principles. School principals, in order to achieve such a transition need to be leaders who have a vision and are inspired by an imperative moral need and thought, which benefits society. According to Davies & Davies, their role is crucial because as principals and in particular as leaders with strategic skills can ideally turn strategy into action, align individuals and organizations accordingly and determine crucial points of intervention (Zachariou & Kadji - Beltran, 2009).

Furthermore, as suggested by Caldwell and Spinks (1998) research, the development of effective internal policy requires participatory decision-making processes, collaborative structures, and the utilization of human resources in ways that enhance their professional growth. Smyth and Shacklock (1998) argue that the sustainable school is grounded in a redistribution of roles: the teacher becomes a “co-traveler” in the learning process, the principal acts as a visionary leader, parents and local stakeholders are engaged as partners, and students become equal contributors to the learning experience. Consequently, school leadership is responsible for shaping a physical and emotional learning environment that reflects and reinforces the values and practices of a school committed to its collective long-term vision. Leadership practices should be coherent, participatory, and democratic, engaging students and all staff members while fostering a sense of shared responsibility. The realization of the school’s vision is achieved through whole-school coordination, the promotion of distributed leadership, and the assumption of shared responsibility. Through the policies it develops, the school community lives and “embodies” in its daily life and culture the goals and values that embrace sustainable and inclusive practices (Zachariou & Kadji, 2023).

In this context, the successful integration of EES in schools depends on the extent to which principals can translate the vision into everyday practice, creating conditions in which students, teachers, and parents actively participate in shaping a shared culture of sustainability (Liarakou et al., 2016; Zachariou et al., 2011). Through this internal process, the aim is to create an educational institution that is “open” and in “interaction” with its community in which its students,

teachers and staff but also various social groups of the local community could not only acquire knowledge and experiences for the future but at the same time they could shape their living and working conditions in the present (Flogaitis et al., 2010).

### Defining the Research Problem

The object of this research, which is based on the theoretical framework and the general reflection briefly developed above, was to select and investigate the views and perceptions of the Primary Education Executives regarding the following issues:

**RQ1** What are the views of the Primary Education Executives regarding the professional and general characteristics that a principal in a sustainable school should have?

**RQ2** What are the views of the Primary Education Executives regarding the pillars of effective internal policy in order to promote EES?

The selection of the above research questions was made after a thorough bibliographic review and was based on the originality and the potential theoretical value and practical usefulness of the research. In the Greek and international literature, while the concept of sustainability has been discussed in depth, the sustainable school is still a concept under development. It also emerged that the investigation of the views and perceptions of Primary Education Executives regarding EES has not been documented in relation to the Greek school.

## METHODOLOGY

In the present study, a qualitative research approach was adopted to explore in depth the views and perceptions of Primary Education Executives regarding EES. Qualitative research was deemed appropriate for capturing rich, descriptive data, enabling participants—including those unfamiliar with EES—to express their perspectives freely (Chatzifotiou, 2002).

The sample was composed of Primary Education Executives from the Regional Units of Evros and Rodopi, within the Regional Directorate of Education of Eastern Macedonia and Thrace. Data were collected through purposive sampling and semi-structured personal interviews, which allowed for clarification, probing, and in-depth exploration of participants’ views (Bird et al., 1999).

In designing the research, particular attention was paid to avoiding predetermined hypotheses, aiming instead for conclusions to emerge directly from participants’ discourse. Interviews, as the primary data collection tool, provided a means to investigate attitudes and experiences, test potential hypotheses, and identify relationships relevant to the research objectives (Cohen & Manion, 1997).

### Data Collection Tool

During the planning of the interviews, the thematic axes and evaluation criteria were designed and formulated to capture the perceptions and views of Primary Education Executives. The research questions and objectives served as

the main axes of investigation, while the specific criteria further defined and analyzed these axes into measurable elements.

For the research questions mentioned earlier, the following axes, criteria, and questions were established:

- AXIS 4: Investigation of the perceptions and attitudes of Primary Education Executives toward the administration of a sustainable school.
  - Criterion 6: Perceptions of Primary Education Executives regarding the administration of a sustainable school.
    - Question:
      1. In your opinion, what professional and general characteristics should a principal possess in order to lead and support a sustainable school?
  - Criterion 7: Perceptions of Primary Education Executives regarding educational planning and the implementation of “internal” educational policy.
    - Question:
      1. As a school principal or as a primary education executive, if you were developing an educational strategy or formulating an “internal” educational policy, what would you emphasize and what priorities would you set in order to promote EES?

The target population of this research comprised Primary Education Executives of the Regional Directorate of Education of Eastern Macedonia and Thrace. The research sample consisted of 40 executives from Primary and Special Education in the Regional Units of Evros and Rodopi. Specifically, the sample included: The Regional Director of Education; Pedagogical Guidance Counselors for Primary School Teachers and Kindergarten Teachers; the Head of the Minority Education Office<sup>2</sup>; the Head of School Programs for Primary Education in Evros; the Head of Educational Affairs and later Deputy Director of Primary Education in Evros; Principals and Deputy Principals of Primary Schools from urban, rural, and minority schools; Heads of Kindergartens from urban, rural, and minority schools; the Principal of a Primary School for Special Education and the Head of a Special Education Kindergarten; as well as a member of the Supervisory Scientific Council of the Experimental Primary School of Alexandroupolis. This composition aimed to ensure representation from all major areas in which Primary Education Executives operate (Doulami, 2020).

## RESULTS

In qualitative research, after the collection of data, the next step is their processing. Kerlinger defines coding as the process of transferring respondents' answers and information into specific categories for analysis (Cohen & Manion, 1997). In this study, the processing of the interview material involved transcribing the interviews, converting them into written text,

and then analyzing them using the method of content analysis. This method, which focuses on analyzing respondents' discourse, is considered the most appropriate for examining written evidence—particularly for identifying and evaluating messages in the printed word, especially when dealing with issues of opinion. The content analysis was based on the process of categorization, which allows the transformation of the verbal content of the interviews into concise findings that can then be interpreted qualitatively. Finally, the data were analyzed and interpreted in light of the research objectives (Cohen & Manion, 1997).

Regarding the first research question, how primary school principals and education executives envision the role of, and the characteristics they attribute to, the principal of a sustainable school, the following characteristics are listed, given that they do not constitute a typology, but rather expected characteristics based on the respondents' statements. They therefore propose that the principal:

1. Should possess a clear vision for the school unit and the determination to implement it. This entails a full awareness of the human resources and material infrastructure available and the formulation of a concrete plan outlining the desired outcomes. First and foremost, the principal must personally believe in this vision, and subsequently have the capacity to communicate and transmit these ideas and aspirations to all members of the school community. In doing so, they will work collaboratively with colleagues, parents, and other community members to realize the vision, thereby serving as the driving force that mobilizes all stakeholders within both the school and the wider community.
2. Act as a leader and support initiatives aimed at “opening” the school, thus mobilizing the entire school community and parents, while also demonstrating a conciliatory spirit to resolve potential conflicts or personal disputes that may hinder future plans and collaborations.
3. Be well-trained, possessing either the relevant knowledge or the willingness and determination to engage in further professional development, so as to transfer the acquired knowledge to the school and take appropriate action accordingly.
4. Be sensitized to issues of sustainability and social matters, enabling them to propose innovations and ideas, as well as to mobilize all staff in actions aimed at cultivating a culture of sustainability—always, as one education executive emphasized, “with an eye on the future.”
5. Possess the appropriate culture, philosophy, and outlook on life, combined with up-to-date personal knowledge and a deep understanding of key issues. It is of great importance that the principal serves as a role model, primarily through their way of life.
6. Demonstrate administrative and personnel management skills, fostering collaboration among staff, guiding and uniting teachers so they operate as a

<sup>2</sup> Minority education comprises a group of schools that operate exclusively in the region of Thrace, under a special legal status.

**Table 1.** Professional and general characteristics of a sustainable school principal

Sustainable school management: Professional and general characteristics of a principal	References for executive responses
1. Vision for the school unit and determination to implement it	25
2. Administrative skills, knowledge, and competencies in personnel management	23
High level of training and commitment to ongoing professional development	17
3. Awareness and sensitivity to sustainability and social issues	15
4. Appropriate culture, philosophy, and outlook on life; up-to-date knowledge and deep understanding of key issues	13
5. Teaching experience to understand the educational process	11
6. Leadership and support for initiatives aimed at “opening” the school to the wider community	10
7. Open-mindedness to perceive and understand societal developments affecting students’ futures	7
8. Support for colleagues, promoting collaboration, autonomy, and recognition of their contributions	3

cohesive team in a shared spirit of cooperation, while respecting diverse perspectives. Additionally, they should be able to prevent tensions and reconcile differing views in pursuit of mutually acceptable and beneficial decisions for the school unit.

7. Have teaching experience, enabling them to understand the educational process, and possess patience, perseverance, and genuine care for children.
8. Has an open mind, that is, the ability to perceive and understand societal developments that affect the future of students. Furthermore, they should recognize that the school is an integral part of society and that one of its primary aims is to prepare and educate future citizens for a world full of challenges.
9. Support his/her colleagues by offering assistance and encouragement, granting them degrees of autonomy and freedom, recognizing and valuing their work, providing moral rewards for their efforts, and showcasing their contributions—thereby enabling them to achieve their full potential without the imposition of coercive measures.

Subsequently, **Table 1** summarizes the professional and general characteristics expected of a sustainable school principal, as identified in the responses of the education executives. Specifically, **Table 1** was developed based on the occurrence of terms within the participants’ statements.

As evidenced by the responses of education executives, the role of principals, as well as that of education executives more broadly, emerges as one of decisive importance. Principals in particular, ideally acting as leaders with strategic capabilities, are able to translate strategy into action, align individuals and the organization accordingly, and identify critical points for intervention (Davies & Davies, 2004, p. 30). To achieve such a transition, principals must possess vision and be guided by a compelling moral purpose and reasoning that ultimately serve the benefit of society (Fullan, 2003). In the context of EES – where fostering a “culture” of change in schools links people’s lifestyles and their consequences to environmental degradation, and thus to the future of life on the planet—the principal’s role is recognized as not only that of the so-called “keeper of change” (Fullan & Ballew, 2001, p. 144) but also that of an effective executive who embodies a dual capacity: both principal and leader (Louis & Miles, 1990).

As a second research question, the Education Executives were asked to identify the key axes they would propose when formulating educational planning or developing an “internal”

educational policy concerning EES. The perspectives of the education executives highlight a multifaceted framework of actions essential for fostering EES within the school environment. Central to this framework is the systematic education and training of teachers to raise awareness of environmental, cultural, social, and humanitarian issues, enabling them to design and implement activities aligned with EES objectives. Innovation is viewed as a key driver of progress, with suggestions including the use of multiple textbooks selected in accordance with the curriculum and the adoption of mentorship schemes. This approach is reinforced by the establishment of a collaborative culture, encompassing both in-school cooperation and the active engagement of all stakeholders—teachers, students, and parents—alongside partnerships between schools and with the wider local community. Equally important is the promotion of research-based learning, enriched by simple experiments, field trips, and experiential learning opportunities that integrate the arts, theater, and music. Furthermore, the provision of relevant training for parents and other members of the local community is emphasized—an initiative that not only offers multiple benefits but also cultivates a culture of cooperation within a supportive network of relationships.

In parallel, stakeholders emphasize the importance of promoting respect for cultural diversity and upholding the principles of equality and democracy among all members of the educational community. They also advocate for the implementation of a comprehensive work plan, co-designed and executed with the participation of all school stakeholders, aimed at monitoring and improving specific indicators that reflect the development of a sustainable culture across the educational organization. Within this framework, the creation of dedicated working groups, primarily composed of teachers, is envisioned to organize, coordinate, distribute responsibilities, and direct activities toward shared objectives. This vision is further strengthened by a holistic approach that calls for the establishment of a joint council where all stakeholders can engage in dialogue, exchange ideas, and collaborate on building a sustainable, cooperative school environment. Finally, attention is drawn to the improvement of building and material infrastructure, including the design of outdoor spaces, with the dual aim of reducing energy consumption and facilitating the integration of practices that promote experiential learning.

In fact, the Education Executives suggest that all actions should be preceded by a self-evaluation process covering all parameters that need improvement. This process could

**Table 2.** Axes for shaping educational planning and internal educational policy for education for the environmental and sustainability (EES)

Sustainable school leadership: Pillars for internal educational policy	References to executive responses
1. Provision of in-service training for school teachers aimed at enhancing their professional skills and raising their awareness of environmental, cultural, social, and humanitarian issues	23
2. Provision of in-service training on related issues for parents and other members of the local community	21
3. Promotion of innovative practices in teaching & learning	18
4. Promotion of research-based learning, moving away from teacher-centered teaching, and enrichment of teaching through simple experiments, field trips, and experiential learning, complemented by the integration of the arts, theater, and music	13
5. Development of a collaborative culture that fosters cooperation among all stakeholders within the school community	12
6. Promotion of cultural diversity and respect for others in terms of linguistic and cultural particularities, and, more broadly, the advancement of equality and democracy	9
7. Development of a comprehensive work plan through the participation and collaboration of all stakeholders in the school	7
8. The promotion of a holistic approach to the issue	4
9. The improvement of building and material infrastructure, as well as the appropriate configuration of the outdoor spaces and courtyard areas	4

highlight issues related to infrastructure, activities, collaboration, or organization, thereby informing actions that would lead to the desired outcomes.

**Table 2** summarizes the key points proposed by education executives in shaping an educational plan or an “internal” educational policy focused on EES, as revealed by their responses.

As Shallcross et al. (2000) point out, schools that prioritize the continuous professional development of all their members gain multiple benefits, not only for students, teachers, and other staff, but also for parents, associations, school boards, and, indirectly, the state itself. In this perspective, education needs to be reinvented and repurposed (Sterling, 2016) so that educational organizations can develop the capacity to respond to contemporary challenges and implement the necessary transformations toward sustainability. Focusing on leadership in the context of sustainable school is crucial and of great importance, as it underscores that the transition towards sustainability entails not only concrete actions, but also of a shared culture, a clear vision, and strategic guidance.

## DISCUSSION, CONCLUSIONS AND LIMITATIONS OF THE RESEARCH

Capturing the perspectives of primary education executives, the profile of an effective school principal is defined by a set of professional, personal, and leadership qualities that collectively shape their ability to guide the school toward achieving its goals. Foremost among these is the possession of a clear and inspiring vision for the school unit, coupled with the determination to implement it, grounded in a thorough understanding of its needs and resources. A high level of academic and professional training, combined with a commitment to continuous professional development, strengthens the principal’s ability to transfer knowledge and promote initiatives with significant pedagogical and social impact. Sensitivity to issues of sustainability and social justice, together with foresight and the capacity to mobilize all members of the staff, facilitates the advancement of

innovative ideas and the cultivation of a culture of sustainability. Moreover, the principal’s consistent philosophy, lifestyle, and personal values—supported by up-to-date knowledge and a comprehensive understanding—further reinforce their role as a model within the school community.

On the basis of this reasoning, the continuous professional development of principals—and, more broadly, of teachers—emerges as a factor of critical importance, as it is expected to contribute to the dissemination of the values promoted by education for sustainable development (Merritt et al., 2019). Owing to their central pedagogical role (Matsagouras, 1999), teachers—through the learning situations they design and the pedagogical approaches they implement—can equip students with the necessary skills and dispositions to actively engage in actions that promote sustainable development (Burgener & Barth, 2018). In particular, with regard to EES, teacher education & training, according to UNESCO-UNEP, is characterized as a “Priority of Priorities.” It is therefore crucial to reorient education and training systems toward the principles and practices of EES, in order to foster within civil society the understanding, critical analysis, and commitment necessary to support sustainable development (Zachariou, 2013). For these reasons, principals should receive appropriate training to fully understand the content and orientations of sustainability, thereby enabling them to create learning environments that foster the multifaceted development of students within their schools (Nousheen et al., 2020).

Equally important, as reflected in teachers’ discourse, are the principal’s personality and outlook on life, as they are expected to serve as role models through their lifestyle and philosophy. Strong administrative abilities and effective personnel management skills facilitate the creation of a cooperative climate, the prevention of tensions, and the achievement of consensual solutions that strengthen the cohesion of the school unit. Classroom experience, combined with patience and genuine care for children, enhances the principal’s understanding of the educational process and its challenges. Their leadership should be marked by conciliation, openness, and an awareness of the social dimension of

education, as emphasized by education executives, acknowledging that school is an integral part of society and plays a vital role in preparing tomorrow's citizens for a world full of challenges. Finally, a supportive attitude toward colleagues—expressed through recognition and moral appreciation of their work, as well as by providing opportunities for autonomy and creative expression—fosters collective effectiveness and maximizes the potential of the school community.

According to Papageorgakis (2005), the principal plays a decisive role, as through a series of initiatives they can raise awareness and foster cooperation both at the organizational level of the school unit and within broader social networks. Furthermore, by overcoming bureaucratic rigidity, the principal can effectively embed the school within the broader context of social reality.

Findings from a study conducted among school principals in Cyprus, which sought to identify leadership approaches capable of supporting the effective implementation and sustainability of education for sustainable development (ESD) in primary schools, point to several enabling factors. These include encouraging teachers to participate in ESD-related programs, promoting collaboration, and offering various forms of motivation—although such actions often reflect what is generally expected of principals without necessarily driving substantive change. Limiting factors identified in the study include a lack of confidence in the administrative skills required to manage a sustainable school, a limited willingness to challenge the status quo, and insufficient commitment to undertaking the actions necessary to support ESD-related activities. The practical significance of these findings lies in their identification of specific areas for principals' professional development, such as staff empowerment, fostering critical reflection on current approaches, and exploring alternative possibilities for the curriculum, pedagogy, and policy (Kadji-Beltran et al., 2012).

The management of human resources is, therefore, intrinsically linked to the prevailing "culture," which influences—and, in some cases, even determines—the behavior and performance of those within it. Of particular interest are the findings of Lightfoot's (1983, as cited in Anthopoulou, 1999) research, according to which six schools with significant achievements shared certain common characteristics: Principals who cultivated a positive school climate, teachers who demonstrated genuine care for their students, a shared sense of pride in the school's accomplishments, mutual respect between principals and teachers, a strong sense of community, and a collective aspiration for improvement. For human resource management to be effective, the identity and specific characteristics of the environment in which the organization operates must be thoroughly analyzed and taken into serious consideration (Anthopoulou, 1999, p. 22).

School principals are thus faced with a significant challenge: To translate the vision of education for sustainability into tangible action within their institutions. Their primary objective should not be the partial or superficial application of sustainability principles, but rather the awakening and inspiration of all stakeholders in the educational process, ensuring that the adoption of relevant

practices stems from an internalized commitment to orient actions and behaviors toward sustainable development (Zachariou et al., 2011).

Regarding the second research question, the Education Executives emphasize that implementing EES in schools requires a comprehensive vision or plan that integrates the professional development of teachers, parents, and the local community, the adoption of innovative practices, and the promotion of research-based and experiential learning. Central to this effort is the cultivation of a collaborative culture, the promotion of respect for cultural diversity, and the strengthening of equality and democracy. Additionally, the action plan should be grounded in a holistic approach to sustainability, allowing for the systematic monitoring and achievement of objectives, while the improvement of building and material infrastructure, together with the appropriate configuration of outdoor spaces and the school courtyard, enhances the pedagogical dimension of sustainability and facilitates its effective integration into everyday school practice.

At the same time, through their perspectives, education executives emphasize that a school's "internal" educational policy can play a decisive role in managing change, transforming the school unit into a "learning organization" that fosters an innovative and effective culture of educational collaboration. Such a culture is grounded in the recognition of both individual and collective value, enabling objectives to be achieved more effectively while individuals remain open to new challenges and experimentation, and experience mutual safety, trust, and respect.

Norris (1992, as cited in Anthopoulou, 1999) argues that the culture of an educational institution "is a representation of what its members collectively believe about themselves: It is their self-image. It reflects what they value and what they present to others as important. Just as an individual's self-image shapes their personality, so too does an organization's perception of itself shape what the organization ultimately becomes or what it represents to others" (Anthopoulou, 1999, p. 21). The contributions of all members of the educational unit—together with an "open-door" policy, research initiatives, counseling services, and the dissemination of activities and events—help to cultivate an open and supportive climate within the organization. Establishing such an "open" communicative climate improves interpersonal and public relations within the educational unit, while freeing individuals from feelings of threat and fear. In contrast, a "closed" communicative climate leads to the concealment of messages and information, fostering distrust and conflict (Athanasoula-Reppa, 1999).

Through this internal process, the goal is to create an educational institution that is both "open" and in constant "interaction" with its community—one in which students, teachers, and administrative staff, as well as various social groups from the local community, can not only acquire knowledge and experiences for the future but also actively and creatively shape the conditions of their lives and work in the present (Flogaitis et al., 2010). It can therefore be argued that the educational unit is capable of cultivating the necessary conditions to assume responsibility for implementing an effective "internal" educational policy, provided that

circumstances favor the scientific and professional training of teaching staff and the development of collaborations with parents and other local stakeholders. The activation, enrichment, and encouragement of teachers' work constitute a pedagogical policy with substantial implications for the quality of teaching, learning, professional practice, development, and life.

As Kadji-Beltran (2013) emphasizes, delivering quality education in the context of EES requires revising both the content and structure of curricula, as well as fostering an interdisciplinary understanding of social, economic, and environmental sustainability. It is also necessary to reconsider the pedagogical strategies and the teaching, learning, and assessment methods employed in EES. The overall aim of this process is to develop skills in self-directed learning, creative and critical thinking, communication, collaboration, conflict management, problem-solving, decision-making, action planning, citizenship, and the use of new technologies (p. 23).

Moreover, a study conducted in Cyprus examining the factors that promote Environmental Education (EE) in schools found that principals constitute the most significant factor for its successful integration (Kadji-Beltran, 2002). A school supported by its principal in promoting EE is far more likely to achieve a high level of integration (Zachariou & Kadji-Beltran, 2009). According to Jensen (2005), a sustainable school requires a "holistic, school-based approach," as it can be viewed as a system encompassing teaching, learning, leadership, culture, and collaboration. The central aim of EES is the development of autonomous and active citizens. Achieving this fundamental goal requires the design of curricula that address all aspects of school life, taking into account the pedagogical framework, which refers to the fundamental approaches to teaching and learning; the overall organization of the school and the social climate that should be cultivated within it; and the technical and economic component, which concerns the school's infrastructure (Kadji-Beltran, 2013).

School principals are therefore called to meet an important challenge: To translate the vision of EES into concrete action within schools. Their primary goal should not be the partial or superficial application of EES principles, but rather the awakening and inspiration of all participants in the educational process, so that the adoption of relevant practices arises from an internalized need to orient their actions and attitudes toward sustainable development (Zachariou et al., 2011).

Consequently, based on the findings of this research, the role of principals is of paramount importance for every school unit, as an effective school principal combines professional expertise, personal integrity, and strong leadership to guide the school toward its strategic and educational objectives. Central to this role is a clear and inspiring vision, grounded in a deep understanding of the school's needs and resources, and accompanied by a commitment to continuous professional development. Sensitivity to issues of sustainability and social justice, administrative competence, and the ability to foster collaboration and unity among staff are essential for cultivating a supportive, innovative, and inclusive school culture. Classroom experience enriches the principal's insight into the educational process, while openness to societal

development ensures that the school remains relevant to students' futures. By recognizing and valuing colleagues' contributions, providing autonomy, and engaging the wider community, the principal maximizes the school's potential without resorting to coercive measures.

Concurrently, the principal's vision serves as the cornerstone of effective school development and transformation. Rooted in a clear understanding of the school's current context, it guides the strategic use of resources, mobilizes all stakeholders, and promotes collaboration toward shared objectives. Anchored in values such as equity, sustainability, and democracy, this vision shapes a school culture that fosters learning, innovation, and social responsibility.

In the Greek context, the perceptions of education executives are shaped within a framework where daily management consumes significant time and energy, thereby limiting the space for strategic planning. This reality reinforces the need to develop targeted training programs focusing on:

- Promoting the principles of education for sustainable development,
- Enhancing strategic thinking and leadership capacity,
- Strengthening human resource management skills,
- Designing and implementing participatory decision-making processes that actively engage all stakeholders — teachers, students, parents, and the local community.

Addressing these needs is essential for bridging the gap between current administrative practices and the transformative vision of EES.

In conclusion, in Education for the Environment and Sustainability (EES), the way in which schools develop sustainable approaches and practices is of paramount importance. The successful implementation of EES requires strengthening teachers' professional development, upgrading training structures, and integrating innovative pedagogical approaches (Kadji-Beltran et al., 2013; Van Petergem et al., 2005). Schools that manage to adopt sustainable and innovative practices tend to share a set of common characteristics, which collectively foster an enduring culture of sustainability and educational excellence:

- Principals who inspire and support staff, providing clear vision, moral purpose, and strategic guidance.
- Teachers who demonstrate genuine care for their students, fostering trust, respect, and engagement in the learning process.
- A strong sense of pride in the school's achievements and identity.
- A collaborative culture characterized by shared decision-making and a commitment to continuous improvement.
- Sensitivity to sustainability and social issues, embedded in both policy and practice.

- Openness to cultural diversity, respect for linguistic and cultural particularities, and promotion of equality and democracy.
- Active involvement of parents and the local community, enhancing partnerships and mutual support.
- Provision of autonomy and encouragement for innovation among teaching staff.
- A holistic approach to educational planning, embedding sustainability across the curriculum and everyday school life.
- Improvement of the school's infrastructure, including the environmentally conscious design and appropriate configuration of outdoor spaces.
- Ongoing professional development for all school members, ensuring adaptability to emerging challenges.
- Integration of experiential learning opportunities, such as field visits, simple experiments, and creative arts, to enhance student engagement.
- Transparent and open communication channels, fostering trust and reducing conflict.
- Research-oriented school culture, where data and reflection guide planning, decision-making, and policy refinement.

Collectively, these elements transform the school into a learning organization—one that is adaptive, inclusive, and forward-looking. Such a school not only meets the immediate educational needs of its students but also equips them with the competencies, values, and dispositions required to thrive as active citizens in a rapidly changing and interconnected world.

Last but not least, it should be noted that the conclusions of this research are neither objective facts nor definitive findings, as the study was conducted with a sample drawn from the broader population of Primary Education Executives in the Region of Eastern Macedonia and Thrace. Rather, they should be viewed as an interpretative approach to understanding the current reality within the area of investigation, based on the responses of the specific sample. At the same time, the study may serve as a stimulus for further exploration of the topic by researchers or educators who engage with similar questions, issues, or concerns—particularly those interested in participating in related research initiatives.

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## REFERENCES

Andreou, A., & Papakonstantinou, G. (1994). *Power and organization – administration of educational system*. Nea Synora Publications.

Anthopoulou, S.-S. (1999). Human resource management. In A. Athanasoula-Reppa, S.-S. Anthopoulou, S. Katsoulakis, & G. Mavrogiorgos (Eds.), *Administration of educational units: Human resource management* (Vol. II). EAP.

Athanasoula-Reppa, A. (1999). Decision-making in the field of education. In A. Athanasoula-Reppa, S.-S. Anthopoulou, S. Katsoulakis, & G. Mavrogiorgos (Eds.), *Administration of educational units: Human resource management* (Vol. I). EAP.

Bird, M., Hammersley, M., Gomm, R. & Woods, P. (1999). *Educational research in practice: A study handbook*. EAP.

Burgener, L., & Barth, M. (2018). Sustainability competencies in teacher education: Making teacher education count in everyday school practice. *Journal of Cleaner Production*, 174, 821-826. <https://doi.org/10.1016/j.jclepro.2017.10.263>

Caldwell, B., & Spinks, J. M. (1998). *Beyond the self-managing school*. Routledge. <https://doi.org/10.4324/9780203397435>

Chatzifotiou, A. (2002). *Teachers' knowledge and motivations for teaching environmental education in two European countries* [PhD thesis, University of Durham].

Cohen, L., & Manion, L. (1997). *Educational research methodology*. Metaichmio Publications.

Corney, G. (2006) Education for sustainable development: An empirical study of the tensions and challenges faced by geography student teachers. *International Research in Geographical and Environmental Education*, 15(3), 224-240. <https://doi.org/10.2167/irgee194.0>

Davies, B. J., & Davies, B. (2004). Strategic leadership. *Strategic Leadership & Management*, 24(1), 29-38. <https://doi.org/10.1080/1363243042000172804>

Davies, B. J., & Davies, B. (2006). Developing a model for strategic for strategic leadership in schools. *Educational Management Administration & Leadership*, 34(1), 121-139. <https://doi.org/10.1177/1741143206059542>

Dimitriou, A. (2009). *Environmental education: Environment, sustainability: Theoretical and pedagogical approaches*. Epikentro Publications.

Dimitriou, A., & Pimenidis, D. (2015). Local authorities' views and attitudes on sustainable energy policy: The case of mayors of Rhodes, island, Greece (2010-2014). *International Journal of Environmental Protection and Policy*, 3(2), 20-30. <https://doi.org/10.11648/j.ijepp.20150302.11>

Doulami, E. (2020). *Exploring the perceptions of primary education executives in Greece on the role of the modern school in promoting education for the environment and the sustainability* [PhD thesis, Democritus University of Thrace].

Doulami, E., & Dimitriou, A. (2025). Exploring the perceptions of primary education executives in Greece on the role of the modern school in promoting environmental and sustainability education. *Interdisciplinary Journal of Environmental and Science Education*, 21(1), Article e2504. <https://doi.org/10.29333/ijese/15812>

Everard, K. B., & Morris, G. (1999). *Effective educational leadership*. EAP.

Fien, J., & Tilbury, D. (2002) The global challenge of sustainability, στο D. Tilbury, R.B. Stevenson & J. Fien, D. Schreuder (eds.), *Education and Sustainability: Responding to the Global Challenge* (pp. 1-12). IUCN.

Flogaitis, E., Katsenou, C., Naoum, E., & Nomikou Ch. (2010). Sustainability as a regulatory concept for the development of a learning community. In *Proceedings: Conference on Sustainable school*. Greek Society of the Environment and Culture – University of Athens.

Fullan, M. (2003). *The moral imperative of school leadership*. Corwin Press.

Fullan, M., & Ballew, A. (2001). *Leading in a culture of change: Personal action guide and workbook*. Jossey-Bass.

Gleason, R., Kirillov, P., Koryakina, N., Ermakov, S., & Ermakov, D. (2020). Whole-institution approach in education for sustainable development. *Theory and Practice*, 15, 36-43.

Goethals, M. S., Howard, R. A., & Sanders, M. M. (2013). The novice teacher facing teaching: An attempt at approaching reflective teaching practice. In G. Spanos (Ed.), *A framework for initial and in-service teacher training*. DaVinci Publications.

Jensen, B. B. (2005). *Education for sustainable development: Building capacity and empowerment* [Conference report]. Conference on Education for Sustainable Development, Esbjerg, Denmark (pp. 5-23).

Kadji-Beltran, C. (2002). Considering the teacher's profile for effective implementation of environmental education. In *Proceeding's 2nd International Conference of Science Education*, (pp. 419-430). University of Cyprus.

Kadji-Beltran, C. (2013). Sustainable development and education. In C. Kadzi, & A. Zachariou (Eds.), *Education for the environment and sustainable development as a pedagogical framework in primary and pre-primary education: A handbook for teachers* (pp. 16-44). Frederick Research Centre.

Kadji-Beltran, C., Zachariou, A., & Stevenson R. B. (2012). Leading sustainable schools: Exploring the role of primary school principals. *Environmental Education Research*, 19(3), 303-323. <https://doi.org/10.1080/13504622.2012.692770>

Kadji-Beltran, C., Zachariou, A., Liarakou, G., & Flogaitis, E. (2013). Mentoring as a strategy for empowering education for sustainable development in schools. *Professional Development in Education*, 40(5), 717-739. <https://doi.org/10.1080/19415257.2013.835276>

Lambert, L. (2002). A framework for shared leadership. *Educational Leadership*, 59(8), 37-40.

Liarakou, G., Gavrilakis, C., & Flogaitis, E. (2016). School community collaboration in remote communities: Challenges for future teacher training. In W. Lambrechts & J. Hindson (Eds.), *Research and innovation in education for sustainable development: Exploring collaborative networks, critical characteristics and evaluation practices* (pp. 106-122). Environment and School Initiatives – ENSI.

Louis, K., & Miles, M. B. (1990). *Improving the urban high school: What works and why*. Teacher College Press.

Matsagouras, I. (1999). *Theory and practice of teaching. The classroom: Space-group-discipline-method*. Grigorios Publications.

Matsagouras, I. (2008). *Theory and practice of teaching: The classroom – space, group, discipline, method*. Grigorios Publications.

Merritt, E., Hale, A., & Archambault, L. (2019). Changes in pre-service teachers' values, sense of agency, motivation and consumption practices: A case study of an education for sustainability course. *Sustainability*, 11(1), Article 155. <https://doi.org/10.3390/su11010155>

Nousheen, A., Zai, S. A. Y., Waseem, M., & Khan, S. A. (2020). Education for sustainable development (ESD): Effects of sustainability education on pre-service teachers' attitude towards sustainable development (SD). *Journal of Cleaner Production*, 250, Article 119537. <https://doi.org/10.1016/j.jclepro.2019.119537>

Papageorgakis, P. (2005). Views of the local community on the dissemination of environmental education and the role of the school principal. In *Proceedings of the 1st Conference on School Environmental Education Programs* (pp. 23-25).

Pedagogical Institute of Greece. (2024). *Indicative evaluation questions for the axes for primary, lower secondary, and upper secondary education*. Pedagogical Institute of Greece, Athens.

Shallcross, T., O'Loan, K., & Hui, D. (2000). Developing a school focused approach to continuing professional development in sustainability education. *Environmental Education Research*, 6(4), 363-382. <https://doi.org/10.1080/713664694>

Smyth, J., & Shacklock, G. (1998). *Re-making teaching: Ideology, policy and practice*. Routledge.

Sterling, S. (2016). A commentary on education and sustainable development goals. *Journal of Education for Sustainable Development*, 10(2), 208-213. <https://doi.org/10.1177/0973408216661886>

UNECE. (2005). *UNECE strategy for education for sustainable development* (CEP/AC.13/2005/3/Rev.1). High-Level Meeting of Environment and Education Ministries, Vilnius, March 17–18.

United Nations Educational, Scientific and Cultural Organization [UNESCO]. (2012). *Education for sustainable development sourcebook* UNESCO. <http://unesdoc.unesco.org/images/0021/002163/216383e.pdf>

United Nations Educational, Scientific and Cultural Organization [UNESCO]. (2016). *Schools in action : Global citizens for sustainable development*.

United Nations Educational, Scientific and Cultural Organization [UNESCO]. (2017). A decade of progress on education for sustainable development: Reflections from the UNESCO chairs programme. UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000368097?posInSet=67&queryId=ab58e9b6-0ebb-48aa-92c5-710baffd611a>

Van Petergem, P., Blieck, A., Imbrecht, I., & Van Hout, T. (2005). Implementing environmental education in pre-service teacher training. *Environmental Education Research*, 11(2), 161-171. <https://doi.org/10.1080/1350462042000338333>

Wals, A. E. J., & Mathie, R. G. (2022). Whole school responses to climate urgency and related sustainability challenges. In M. A. Peters, & R. Heraud (Eds.), *Encyclopaedia of Educational Innovation*. Springer. [https://doi.org/10.1007/978-981-13-2262-4\\_263-1](https://doi.org/10.1007/978-981-13-2262-4_263-1)

Walshe, N. (2008). Understanding students' conceptions of sustainability. *Environmental Education Research*, 14(5), 537-558. <https://doi.org/10.1080/13504620802345958>

World Commission on Environment and Development. (1987). *Our common future*. Oxford University Press.

Zachariou, A. (2013). Teachers' professional development and education for sustainable development: Points of focus and orientation. In C. Katzi, & A. Zachariou (Eds.), *Education for the environment and sustainable development as a pedagogical framework in primary and pre-primary education: A handbook for teachers* (pp. 45-79). Frederick Research Centre.

Zachariou, A., & Kadji-Beltran, C. (2009). Cypriot primary school principals' understanding of education for sustainable development key terms and their opinions about factors affecting its implementation. *Environmental Education Research*, 15(3), 315-342. <https://doi.org/10.1080/13504620902862902>

Zachariou, A., & Katzi, C. (2023). A holistic school approach: A comprehensive pedagogical perspective for education for sustainable development. *Environmental Education for Sustainability*, 5(1), 163-176.

Zachariou, A., Kaila, M., & Katsikis, A. (2011). Sustainable school: Findings, aspirations, and perspectives. *X-RAY@Education*, 4, 13-24.

Zachariou, A., Symeou, L., & Katsikis, A. (2005). Community action programs: An alternative proposal for promoting the socio-critical orientation of environmental education in the school process. In Th. D. Lekkas (Ed.), *Proceedings of the 1st Conference on School Environmental Education Programs* (pp. 162-171). University of the Aegean.