

Understanding School Principals' Actions Regarding the Implementation of Education for Sustainable Development

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Abstract

Education for Sustainable Development (ESD) is an initiative of the United Nations' Sustainable Development Goals (SDGs). ESD contributes to a sustainable community by teaching students about their personal impact on their community to help them make resourceful decisions. The researchers are interested in principals' role when implementing ESD within their schools. This was a qualitative study, which included six school principal interviews. The findings included the following themes: math and reading were a priority, social and emotional needs were prioritized, ESD was seen as extracurricular, and current events and students' interests influence learning content and activities.

Keywords: *Education for Sustainable Development, ESD, principals, leadership, implementation*

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Recommended Citation: *Lambert, M. C., Hancock, D. R., & Holshouser, K. O. (2023).*

Understanding School Principals' Actions Regarding the Implementation of Education for Sustainable Development. Journal of Educational Leadership and Policy Studies, 7(2).

Understanding School Principals' Actions Regarding the Implementation of Education for Sustainable Development

Introduction

Education for Sustainable Development (ESD) is defined as “an educational approach aimed at equipping people with competencies to understand problems of non-sustainable development and fostering them to take action” (Zala-Mezö et al., 2020, p. 676). In other words, the educational initiatives are designed to inform students of their personal impact on their community to help them make meaningful and resourceful decisions that promote sustainable development. During the United Nations Educational, Scientific, and Cultural Organization’s (UNESCO’s) General Conference (2019), ESD was explained to promote sustainability efforts through curriculum, policies, and training so teachers can be provided with clear and consistent information. Yet, they also believed that “when it comes to implementation, ESD tends to be treated as a thematic topic” and there is a need to “work more proactively at the systemic level” (p. Annex II – page 3). Overall, ESD is a continuously evolving initiative, and education leaders need to be informed so they can effectively and meaningfully implement ESD within their school community.

ESD has been developed to encompass three pillars of sustainability: environmental, economic, and social (or socio-cultural) (Cabezudo et al., 2018; de Haan et al., 2010; Mensah, 2019). While educators often associate the terms “sustainability” or “sustainable” with the environmental pillar of sustainability (Zhukova et al., 2020), attention must be given to all three pillars to ensure sustainable development (Mensah, 2019; Stafford-Smith et al., 2017). Issues pertaining to climate change (SDG 13), clean energy (SDG 7), and wildlife conservation (SDG 15) are all matters of environmental sustainability, yet solutions to these complex problems must take into account social and economic factors that may have contributed to these environmental problems (Mensah, 2019). As businesses seek to earn a profit (economic sustainability), they must balance the rights of their employees to a fair wage and safe working environment (social sustainability), while also taking into consideration their environmental footprint (environmental sustainability). The pillars of sustainability provide a useful framework to teachers and students by encouraging individuals to move beyond simplistic solutions to critical sustainability issues and towards identifying root causes (Elser et al., 2011). When integrated into the curriculum, ESD can provide students with a framework for analyzing real-world problems, thinking critically, and taking action in their community.

There are four dimensions of ESD: 1) learning content, 2) pedagogy and learning environments, 3) learning outcomes, and 4) societal transformation (UNESCO, 2014). For the first dimension—*learning content*, UNESCO (2014) states that ESD should assist with “integrating critical issues, such as climate change, biodiversity, disaster risk reduction (DRR), and sustainable consumption and production (SCP), into the curriculum” (p. 12). For the second dimension—*pedagogy and learning environments*, ESD is believed to support exploratory and transformative learning so students can develop sustainable thinking. For the third dimension—*learning outcomes*, ESD encourages the growth of different skills, such as “critical and systemic thinking, collaborative decision-making, and taking responsibility for present and future generations” (p. 12). Lastly, for the fourth dimension—*societal transformation*, ESD encourages learners to apply their new skills and knowledge to be

better-contributing citizens to their community and make a sustaining impact on the world. Understanding these four dimensions allows education leaders to see the different layers that encompass ESD (UNESCO, 2014).

It is important to note that ESD is part of the United Nations' Sustainable Development Goals (SDGs) through Target 4.7, which states that all students should “acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development” (United Nations General Assembly, 2015, p. 17). The most recent SDGs are designed to be met by 2030, and United Nations (2019) states that “since its inception in 2015, the 2030 Agenda has provided a blueprint for shared prosperity in a sustainable world—a world where all people can live productive, vibrant and peaceful lives on a healthy planet” (p. 2). SDGs include 17 goals, which include to “end hunger, “end poverty,” “promote well-being for all,” and “ensure inclusive and equitable quality education” (United Nations General Assembly, 2015, p. 14). Recently, UNESCO General Conference (2019) found that the knowledge of all SDGs can help individuals find meaningful connections to better implement ESD.

As highlighted, ESD is a dynamic, essential initiative within education and the world, yet there are still uncertainties and inconsistencies with the implementation process. In a previous study, school leaders were found to play a huge role in developing a strong culture for ESD within their respective schools (Müller et al., 2021). Specifically, Müller et al. (2021) concluded that growth mindset skills and knowledge of ESD contributed to the successful implementation of ESD within their school communities. The purpose of this study is to continue this investigation and to better understand the implementation of ESD from a principal's perspective. However, this study will include investigating the impact of the COVID-19 pandemic on school principals' implementation efforts. This is a qualitative study that will examine the role that principals play in the implementation of ESD initiatives. We seek to understand the following research questions:

1. Do school principals in the U.S. address sustainability issues through ESD initiatives? If so, how?
2. Which issues hinder the introduction and implementation of ESD in their schools?

Literature Review

When considering the implementation of ESD within schools, we must consider *what* relevant programs and initiatives are being implemented within a variety of schools and classrooms and *how* these initiatives are being implemented. Mogren and Gericke (2017) looked at the “transformative perspectives embedded into the quality strategies of school leaders at recognised ESD schools” (p. 1010). They were interested in what principals (school leaders) believed were important quality strategies, and they found that the whole school (including students and collaborations/partnerships) was important in the implementation process of ESD—including internal and external partnerships within the school community. This shows how complex ESD is within schools because it is not a standalone initiative; ESD requires contributions and commitment by all: school leaders and members, and community leaders and partners.

Implementation can vary across different classrooms and teaching styles. As explained by Wright et al. (2021), implementing looks differently based on if the leader is considered a “1) non-implementer, 2) implementer, 3) non-responder, or 4) partial implementer” (p. 1525). Although not a specific ESD focus, teachers in this study were tasked with implementing a specific lesson that required specific materials (such as students uploading photographs) to connect their local environment to larger, sustainable efforts. They recognize that “educators need practical instructional strategies to bring these connections to fruition to help their students become environmentally literate and engaged citizens” (p. 1532). There was acknowledgment that this program had the opportunity to bring real-world connections to wildlife conservation efforts, but it required teachers’ consistent efforts to bring this program to life. By understanding what is being done within individual classrooms, a similar understanding can be applied to school principal implementation efforts.

School administrators can heavily influence their school culture and community, and school leaders have been researched to understand their efforts to implement sustainability initiatives within their schools. For example, Warner and Elser (2015) found that school administrators should “require sustainability education to be considered in all schoolwide decisions, ... work to open and maintain communication and good relationships with district level administrators, ... emphasize interdisciplinary curriculum development, and monitor and evaluate sustainability education projects that inform the school’s next steps” (p. 20). However, they saw that principals can either help (e.g., make sustainability a priority) or hinder (e.g., lack funding support and never follow through with ideas) the sustainable efforts within their respective schools. This is an important distinction to consider when understanding school leaders’ role in implementing ESD.

Verhelst et al. (2022) used the “action competence in sustainable development” (ACiSD) for their conceptual framework. This framework was developed by Sass et al. (2020), and they explained that,

“ACiSD consists of a balanced combination of personal and interpersonal competences. The personal competences entail a passion for SD, a commitment to finding solutions, knowledge about the SD issue and action possibilities, a holistic understanding of SD (systems thinking), visionary and critical thinking, and a positive feeling of personal capability and possibilities for exerting influence. Interpersonal competences add a willingness to provide arguments for the choices suggested, openness to other people’s and cultures’ perspectives, communication skills that enable collaboration, and confidence in the capability of the team and in the effects of collective pro-SD action.” (p. 302)

Using this framework, Verhelst et al. (2022) looked at student, leadership, and organizational influence in the implementation of ESD. Several key ACiSD components were found to heavily influence the implementation and participation success amongst all school community members: knowledge, willingness, communication, and decision-making. However, the biggest distinction is that a student's action competence is connected to the school’s action competence, thus signifying the importance of strengthening ESD implementation, beginning with school administration.

Although focused on teachers, Timm and Barth (2021) explored what competencies, skills, and attributes are needed to effectively implement ESD within their classrooms/school

community. They purposely sought out elementary teachers who were already “dedicated to education for sustainable development” (p. 52). They found a few common characteristics of teachers who found success with ESD: 1) having a pre-established or thoroughly developed understanding of ESD and 2) personally seeing the benefit of ESD (either through cultural understanding or of the direct impact on students). Yet, they also found consistent challenges impeding teachers’ implementation efforts: 1) feeling intimidated by the global connection, 2) feeling a sense of overwhelmingness (personally and professionally), and 3) seeing a lack of connection within their specific subject’s curriculum. Understanding the teacher’s perspectives on the challenges and strengths when implementing ESD is important to help guide a principal’s perspective so they can better support their school as a whole.

With the COVID-19 pandemic serving as an additional layer of challenges within education, it is important to consider how the pandemic has, directly and indirectly, impacted ESD implementation. Spyropoulou and Koutroukis (2021) researched obstacles and challenges that were impacting the management of a school at the start of the 2020-2021 school year. They found that “lack of resources” (e.g., staff, space, and materials to help implement new protocols), “physical and mental burden” (e.g., increased responsibilities and stress), “difficulties in implementation and adherence” (e.g., implementing unreasonable health and safety measures) were challenges that school principals identified due to the pandemic (pp. 5-7). Understanding these factors is important when interviewing principals at the end of the 2020-2021 academic year when inquiring about their ESD implementation efforts.

Methodology

This qualitative study was completed using semi-structured interviews. These interviews were audio-recorded and then transcribed verbatim. Participants were assigned a pseudonym and other names (e.g., school or county names) were removed to keep data non-identifiable. Six school principals from a convenience sample were participants in the study. All six principals were a lead principal within a single metropolitan area in the southeastern part of the United States during the 2021-2022 academic year. This paper focuses on these six principals and their experience with implementing Education for Sustainable Development (ESD) initiatives in their schools; however, this is part of a larger, multi-cultural comparison study (Müller et al., 2022). This study was approved by the Office of Research Protections and Integrity (ORPI) at the lead researcher’s university; the study number is IRB-22-0544. After the participants expressed interest in the study (after receiving the initial recruitment email), they were forwarded the Letter of Consent to review. During the interview, they were asked for their verbal consent to begin the interview in lieu of returning a signed copy. The interviews were about 30 minutes each following an IRB-approved protocol, and participants were asked seven questions (which are provided in Appendix A).

Data Analysis: Constant Comparison

The qualitative analysis utilized the constant comparison method, which involves identifying codes and themes generated by the data collected. Brinkmann and Kvale (2015) explain that the categories developed should “capture the fullness of the experiences and actions studied” and they should “constantly” be analyzed (p. 227). Coding is found to be essential in a grounded theory approach—through its inductive and iterative characteristics (Brinkmann & Kvale, 2015). Dye et al. (2000) found that they could relate the constant

comparison method to a kaleidoscope: “the endless variety of patterns in a kaleidoscope represented the constant comparison of our data bits in our unending journey to create category arrays” (p. 4).

First, the data was analyzed by identifying raw words/statements/phrases that related to the two research questions: Were principals implementing ESD initiatives (and how, if so), and what issues hinder the implementation of ESD? With these two research questions in mind, raw words were found to relate directly to ESD implementation within schools from a principal perspective. After these raw words were identified, the researcher reviewed these words to create descriptive groups—labeled with “open codes”. Then, the items that were not categorized were considered (concerning the bigger picture still), and the researchers refined these preliminary categories (or open codes) again, and as often as needed. These open codes were then analyzed to form overarching groups, which were labeled with “axial codes”. Again, these axial codes were named in relation to the research questions, such as “internal struggle with changes due to pandemic” and “science relating to sustainable development”. Together, axial codes were examined (and reexamined) to see how they relate altogether—thus forming the final themes.

Participants

Of the six participants, four were male (Kevin, Josh, Aidan, and David) and two were female (Sammy and Amanda). Four participants have a master’s degree as their highest degree earned, yet these four are currently pursuing their doctorate degrees. The other two participants already have their doctorate degrees. Three participants were elementary school principals, two were High School principals, and one was an intermediate school principal (i.e., grades 5 and 6). There was a wide range of experience that all participants held as veteran school principals—two had 4-7 years of experience as a principal, two had 8-11 years of experience, and two had 12-15 years of experience.

Findings

After completing the constant comparison data analysis, four themes emerged: 1) principals reiterated the focus on math and reading being prioritized over ESD (with science being seen as a related component to ESD), 2) the pandemic has shifted a focus on social and emotional needs, 3) extracurriculars are seen to best relate to ESD initiatives, and 4) current events and student interests have a direct impact on what is implemented within their schools (thus having the power to incorporate ESD themselves). The findings incorporate the different understandings that principals had about ESD, and, as an overall goal, the findings can help inform action by school leaders that can better inform all stakeholders of the ESD implementation efforts.

Theme 1: Math and Reading Focus

Regarding the first research question, school principals were found to not be focused on implementing ESD within their schools. Instead, math and reading were found to be central areas of focus by school principals. Test scores are critically examined by district leaders and the overarching school community (i.e., parents, guardians, students, etc.). For example, a principal shared, “the unfortunate thing is that we had to really focus on making sure the kids can read, do the math ... there was a lot of pressure ... to be the top district ... you have to find ways for your school to perform academically with some of the assessments

things like end of course test and grade test” (Josh). Therefore, the core instruction (i.e., math, reading, science, and social studies) is what seems to get the most attention regarding teaching and learning, including what content and curriculum are introduced. When school district leaders focus on math and reading, teachers’ autonomy is also impacted. One principal explained, “the district demands on low-performing schools and teachers restricts the curriculum and basically prioritizes the basics like reading and writing” (David). Overall, the school principals are personally feeling the pressure, and, therefore, they make decisions based on this priority.

However, science was found to be the closest resemblance to ESD initiatives, but, also, science is seen to be lacking in schools. Principals seem to be aware that sustainable initiatives are not being prioritized in their schools. For example, one principal added, “You know, we would like to be able to do science and a lot of these sustainable things, you know, throughout the school day” (Josh). Additionally, when asked if they are aware of any ESD initiatives that are mandated by the district, state, or federal government, one principal stated, “No, I do not know of any mandate... unless it directly relates to like their curriculum, which I imagine Earth science probably has something about it in their curriculum, so if it was the objectives or something... but nothing outside of their coursework” (Sammy). Science is found to be related to ESD while being recognized that ESD (and science) has not been their focus.

Theme 2: Social-Emotional Needs

The social and emotional needs of students were found to be prioritized by school leaders (in addition to the focus on core instruction, as mentioned in Theme 1). This was because school leaders recognized that the social-emotional needs of students needed to be supported because the lack of these skills negatively impacted the teaching and learning community within their schools. This concern was mentioned in relation to the COVID-19 pandemic. One principal stated,

“... it [2020-2021 academic year] was survival, and well to get the reading [and] math standards in the best that we can and let's take care of kids’ social-emotional growth because they you know we’re dealing with all the things ... I think that students have seen that there are more needs, and so that being more and that as a country we had a struggle so how do we support each other and how do we continue to be a place where that is caring and respectful of those around us ... we're creating global citizens that are gonna you know to take care of us in the future” (Amanda).

Students experienced unforeseen challenges during the pandemic, and, upon return to in-person learning, teachers and staff were focused on building their connections back with their students—not so much focused on ESD initiatives. The social-emotional connection with students was a heightened priority when students returned to in-person learning. For example, on principal explained that “there was a big effort ... placed on connecting the children with the building, and now I hope that with it [COVID-19] subsiding so much, we're gonna be able to connect to children with people, and then from there, and have those programs” (Sammy). Principals recognized the importance of meeting social and emotional needs first, and then other initiatives, such as ESD, could be implemented in their schools.

Theme 3: ESD Initiatives Are Considered Extracurriculars

When principals were referencing their implementation efforts of ESD, they viewed ESD initiatives/programs/curricula as an extracurricular agenda item. In addition to focusing on the social-emotional needs of students, one principal referenced ESD subtly as an external initiative:

“I think our focus has really been on getting back to the norm. So honestly new initiatives really haven't been embraced this year. Our goal was, okay, we are back in school face-to-face, let's just focus on closing learning gaps, so really we haven't done anything extra other than trying to maximize our effectiveness for what we normally do, and that's teach kids- day in and day out.” (Kevin).

The COVID-19 pandemic was claimed to hinder “extracurriculars” being implemented, in relation to ESD initiatives within their schools (Sammy & Aidan). School principals were found lacking the ability to view ESD as an integral component embedded within their schools and corresponding curriculum; instead, ESD is seen as a separate and individual program. Ultimately, other school programs and initiatives were viewed as more important, thus hindering the implementation of ESD within their schools.

Theme 4: Current Events and Student Interests Influence Curriculum and Content

ESD initiatives varied across all participants, yet all recognized the importance of global issues that need to be addressed. This theme shows the influence that students have in what is implemented within their school because school leaders are listening to what they care about and want to make learning meaningful to them. When students care about an issue, they tend to be more invested in what they are learning. This is reiterated when a principal explains the following:

“We have really caring kids, and they want to do these you know projects, and these service learning things, you know, they bring it up. A few years ago ... when there were the wildfires in Australia, well our fourth graders study Australia, so like how can we help you know the animals in Australia and things like that. So you know they want to make it authentic, it becomes a great learning experience for them. We can tie the curriculum in, but we just need the time to plan it so it's done well and intentionally.” (Amanda)

This is a great example of how current events can lead to specific ESD projects within the classroom. The inclusion of current events was also visible during the COVID-19 pandemic and online learning. When adapting their lessons to a virtual format by sharing, current events were naturally found to be included within their online lessons. Principals and teachers recognized the benefit of current events leading their instruction, so, if viewed equally, ESD could also be incorporated alongside global issues that students are learning about through current events.

Additionally, students have a hidden power to influence what curriculum/initiatives/programs are found within the classroom. As one teacher explained, “in our school, a lot of clubs or extracurriculars are student-initiated so you know if a student says, ‘well I want to start a chess club’ or ‘I want to start an environmental club’ like what we used to have, a student kind of initiates and finds a staff member to help support it.” (Aidan) However, teachers can also incorporate student interests within their lessons, including current events. Principals recognize the importance that teachers have to help make learning more than a daily task for students. Although ESD is already a global initiative, the

prioritization of ESD initiatives may continue to be lacking until ESD is mutually accepted and prioritized at a classroom level.

Discussion and Implications

It is apparent from these themes that continued decentralization of ESD efforts by a few well-intentioned school leaders and teachers will not be sufficient to meet the formidable challenges of sustaining our environment in the future. A concerted effort at the state, regional, and federal levels, to include uniform guidance and resource allocation, must occur if our society is to avoid continued devastation of our natural surroundings.

As found in this study, ESD is viewed as an isolated initiative competing for teachers' instructional time. The fact that science was seen as being most aligned with ESD initiatives may indicate that educators view ESD as being primarily environmental in nature. In fact, many studies have found that educators often over-prioritize environmental sustainability over the other pillars (Redmen et al., 2018; Wolff et al., 2017; Zhukova et al., 2020). Yet, when ESD is viewed in light of the three pillars of sustainability, one can find clear connections to math (economics- economic sustainability) and social studies (social justice- social sustainability). It is imperative that professional development be provided to educators that provides a deeper understanding of sustainability and sustainable development in order for educators to recognize the existing connections between topics of sustainable development and their own context areas.

It is also important to note that many of the tenets of ESD overlap with pre-existing initiatives in the field (e.g., Global Ready Initiatives, Environmental Education, Problem-Based Learning, etc.) (Feinstein, 2009; Holshouser, 2022). The array of local, national, and international ESD policies and guidance has often been fragmented (and not widely understood in the U.S.A.), resulting in a lack of continuity of efforts in the area (emphasizing that change is needed). There is a need to situate ESD within and among current educational initiatives (Holshouser, 2022). While seeing extracurricular activities as a way to integrate ESD at the school level is a noble pursuit, it is not the only viable means, nor the most beneficial means, by which we would recommend ESD to be implemented. ESD can provide students with relevant contexts to explore and deepen subject area understanding. When teachers begin to see the connections between their subjects and topics of sustainability, students will be provided with richer contexts to explore the mandated curriculum, rather than being taught skills in a decontextualized manner. This type of contextualized teaching and learning is likely to support teachers and administrators in their efforts to prepare students for standardized tests.

The COVID-19 pandemic has been seen as one constraint, among others, hindering ESD implementation in schools. As mentioned by de Klerk and Palmer (2021), "owing to COVID-19, causing visible and aggravated prevailing disparities and inequalities in education resulting in an unparalleled financial, social and educational catastrophe has increased the challenges in attaining SDGs (Sustainable Development Goals)" (p. 13). Therefore, post-pandemic schools are faced with figuring out ways to remedy gaps in student learning that may have occurred due to the loss of face-to-face instructional time during the pandemic. Yet, the Covid-19 pandemic can be an avenue for discussing intersections of social, economic, and environmental sustainability with students, making the content come to

life. For example, social sustainability can be discussed as students look at data related to the spread of the virus among vulnerable populations. Economic sustainability became extremely relevant during the pandemic as businesses had to determine the best ways to balance their profit with the well-being of their employees (e.g., decisions pertaining to working from home or on-site), as well as the well-being of the environment (use of extra plastics to prevent the spread of Covid-19).

Given the pressures of standardized testing, student and teacher agency is critical to the initiation of ESD. These findings demonstrate how accountability measures may deter ESD implementation at the school level (Hill & Dyment, 2016; Kuzich et al., 2015); therefore, teachers and students may hold promise in implementing ESD from the bottom-up, through what Moroye (2017) conceptualizes as the “complementary curriculum” (p. 351). As found in this study, many students have a passion for topics related to sustainable development, which could influence ESD implementation at the classroom and even school level via the “complementary curriculum” (Moroye, 2017, p.351). As students initiate clubs or as teachers take student interests into consideration when planning instruction, ESD is able to find its way into the classroom despite not being part of the mandated curriculum. This bottom-up approach to ESD implementation has been observed by other researchers (Holshouser, 2022), and should not be minimized as a viable pathway to ESD implementation in the wake of accountability pressures.

Educational leaders at all levels should coordinate with and harness the support of the community and corporate partners to develop strategies for addressing the environmental challenges that are jeopardizing the stability and growth of both the public and private sectors. Preparing future generations of students in our schools on the importance of sustainable development and ways in which sustainable development may be attained and fostered will benefit all areas of our society.

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Appendix A

1. In your school, do you have *ESD* activities/programs/curricula? If so, describe them in detail.
2. Are the *ESD* activities/programs/curricula in your school mandated by your district, state, or federal government? If not externally mandated, what was the impetus for their creation?
3. Has anything hindered or prevented you from creating/sustaining *ESD* activities/programs/curricula in your school? If so, what is it?
4. “Human resource management” may be defined as “measures of organizing and developing staff, such as distribution of tasks, selection of personnel, personnel evaluation and remuneration, personnel development, and team development.” In your school, what role does human resource management play in implementing *ESD* activities/programs/curricula?
5. “Organizational development” may be defined as “all tasks and measures to develop a school as an organization, such as developing a share vision, and mission, school program, organizational structure, and school culture and atmosphere.” In your school, what role does organizational development play in implementing *ESD* activities/programs/curricula?
6. From your perspective, what competencies must principals have in order to create/sustain *ESD* in their schools?
7. In addition to the issues that you cited in the previous questions, in what ways has the COVID-19 pandemic impacted *ESD* activities/programs/curricula in your school?