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School Leaders' Challenges in Education for Sustainable Development: A Scoping Review

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Abstract

Despite advances on the global Education for Sustainable Development (ESD) agenda, school leaders continue to confront challenges in implementing ESD in formal educational systems. The challenges staged from the ESD program's establishment until the ESD activities' enrichment. This study aimed to identify the ESD challenges as addressed in other studies. A scoping review was conducted as the methodology to discover the challenges. Articles were retrieved from four databases between 2014 and 2021, yielding a corpus of 67 articles that were synthesized systematically using Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR). The results present the multiple forms of challenges in ESD and are themed into two factors, (1) Intrinsic factor and (2) Extrinsic factor. The ESD challenges for intrinsic factors further developed three sub-groups of the challenges, (1) being a change agent and a visionary leader, (2) acquiring a high level of knowledge in ESD, and (3) having a high confidence level of robust decision-making. The extrinsic factor synthesized all other challenges of ESD that resulted from non-individual and the education system derivative challenges. Identification of ESD challenges will help school leaders and policymakers to manage and recontextualize ESD programs in a direction that positively favors stakeholders involved in ESD.

Keywords: Sustainable Development, Education for Sustainable Development, ESD Challenges, ESD in School, School Leaders.

Introduction

Education is key to reaching the pinnacle of sustainability. One of the key critical areas of the recent education sustainability issues is the challenges of the ESD program faced by school leaders, particularly in implementing ESD when this new program was first rolled into the school ecosystem (Nousheen et al., 2020). The fundamental premise is that society functions best when all its members are educated. In most traditional ways of thinking, education refers to the process by which people acquire knowledge, such as mathematics or languages. For ESD, meanwhile, it begs to differ from the concept of education itself. ESD is a dynamic concept that integrates all facets of public awareness, education, and training to foster or deepen understanding of the interconnections between sustainable development issues (Rieckmann, 2020a). In a broad sense, ESD takes a holistic, integrated, and

interdisciplinary approach to education by emphasizing classroom activities and related social and environmental factors.

ESD is a relatively new educational area that began as SD in the 1970s, evolved into Environmental Education over time, and was further developed as ESD in the early 1980s. It was introduced to provide schools with an alternative to current teaching practices and curriculums. Since the Inter-governmental Conference on Environmental Education at Tbilisi in 1977, The Brundtland Report in 1983, and the recent World Conference on Education for Sustainable Development in Aichi-Nagoya, Japan, in 2014, the notion of ESD issues has advanced significantly. However, education is still viewed as a non-sustainable endeavour in many countries (Badea et al., 2020; Kopnina & Meijers, 2014), and the challenge in ESD is still vague, not to mention what needs to be done to meet it (Jackson, 2011). People worldwide recognize that current educational trends in social and economic development are unsustainable and that public awareness and education are critical for reorienting society (Martin et al., 2013; Charles & Roselyn, 2002).

ESD and School Leadership

School leaders are central to ESD (Zachariou et al., 2013). They must have a thorough understanding of sustainable development, ESD, and sustainable schools, as well as their role in impacting the necessary changes for developing sustainable schools (Holden et al., 2014; Zachariou & Kadji-Beltran, 2009; van Weenen, 2000). ESD has been an area of tremendous importance for school leaders. Understanding the concept of ESD and several approaches that support educational change is vital to get a good handle on the ESD program (Mogaji & Newton, 2020). However, the inconsistency of the ESD definition continues to deter school leaders from understanding and implementing the concept. Although numerous attempts to enact ESD have been made worldwide, a single, replicable model of sustainability education fails to exist (Todd, 2011). Leo & Wickenberg (2013) concurred that the consequences of no single definition of ESD could be problematic from the perspective of educational change. The unspecified, disordered definition of ESD renders school leader's incapable of implementing the change in sustainability, posing a real threat to the ESD agenda. School growth and reform rely on school leaders' ability to interpret any education policy, such as ESD.

School leaders' roles in executing ESD are challenging, especially when the challenges are still ambiguous with no proposed intervention. ESD prepares instructional leaders to plan for, cope with, and find solutions to the issues that threaten the sustainability of our planet (UNESCO, 2005). The roles are not only for educating and producing tomorrow's sustainable leaders but also challenging to find ways to instruct them about what ESD is, how to practice it and the challenges beyond it. School leaders' practices are essential for day-to-day activities at the school level and their practices for implementing ESD in school (Martin et al., 2013; Minguet et al., 2011; Hopkinson et al., 2008). The overarching aspect of effective ESD in schools is determined by the effectiveness of the role of the school leaders. Educational research has identified the importance of school leaders in ESD for the successful and long-term implementation of educational innovations (Kadji-Beltran et al., 2012; Mogren & Gericke, 2019; Kuzmina et al., 2020). However, school leaders' actions as crucial players in managing and coordinating ESD have not been empirically discovered (Leithwood et al., 2004; Leithwood & Jantzi, 2005). Research on ESD is insufficient, scarce, and scattered, and attempts to identify the root cause of the ESD challenge are daunting. Despite the global encouragement for ESD and the acknowledgement of the school principal's role as a key component for ESD implementation, research on the latter is still at an early stage (Zachariou

& Kanji-Beltran, 2009). School leaders have direct contact with students and teachers and are therefore well suited for an empirical investigation on the implementation of ESD.

ESD Concerns Among School Leaders

Earlier research on ESD implementation has mainly focused on the educational outcomes of students (Berglund et al., 2014; Pauw & Petegem, 2011; McNaughton, 2012; Olsson et al., 2016) or teacher practices (Borg et al., 2012; Sund & Wickman, 2011). However, little research focuses on the school leader's role as the main character in steering the school toward effective ESD implementation. Scott (2015) agreed that, despite widespread recognition of the importance of school leaders in ESD implementation, little research on how their role supports or obstructs ESD. Studies (Leo & Wickenberg, 2013; Hargreaves & Fink, 2006) have investigated ESD implementation at the school organization level with a small amount of emphasis on school leaders' attributes and competencies, and they have stressed the need for more work in this area. ESD has also become the UN Sustainable Development Program's focus (Elfert, 2019). The ESD program initially focused on guaranteeing lifelong learning, efficient training, optimization of resource use, high-quality education, and promoting school sustainability. However, as argued by Srivastava et al. (2020), the emphasis has shifted away from what is done in each area and toward how it should be done. The shift is more pragmatic, as the need to solve problems stems from school leaders who are more concerned with process than with theoretical planning. Based on the issues mentioned above, this review paper attempt to identify and synthesize the challenges of implementing ESD among school leaders as stated in the literatue. Therefore, these arguments about the nature of ESD practice, are another possibility for this study to venture deeper into understanding the in-reality ESD phenomena that genuinely arise in schools. This study was guided by the following research question: What challenges do school leaders experience in ESD implementation?

The researchers argue that there is a need to determine the ESD challenges. Knowing and understanding the nature of school leaders' issues in ESD will put this study in the best position to offer some alternatives to effectively managing and implementing ESD, especially in school leaders' professional development.

Methods

Scoping reviews are a decent technique for determining the extent or coverage of a body of literature on a particular issue and providing a clear indicator of the volume of literature and studies accessible. This review protocol is helpful for 'examining emerging evidence when it is still unclear what other, more specific questions can be posed and valuably addressed by a more precise systematic review' (Anderson et al., 2008). Scoping reviews are chosen for this review because there is no in-depth investigation into the concepts and features of ESD challenges among school leaders. Scoping reviews do not give a critically reviewed and synthesized result or answer to a specific topic but rather provide an overview or map of the evidence (Munn et al., 2018). Scoping reviews also provide an opportunity for ESD researchers who may draw on advancements in related fields that use knowledge syntheses to drive new developments and priorities for practice (Gutierrez-Bucheli et al., 2022). For example, this study concentrated on analyzing the broader landscape of ESD into a focused topic on school leaders' challenges. Our review protocol was developed by using PRISMA-ScR. This review protocol systematically maps evidence on a topic and identifies main concepts, theories, sources, and knowledge gaps. The PRISMA-ScR protocol describes the

methods for handling and summarizing the data. Developed by Tricco et al (2018), this study used the PRISMA-ScR checklist in preparing and guiding the report and data analysis. The review protocol is divided into five phases in this study.

Locate Literature

A combination of search terms and Boolean operators were employed for the search of "Education for Sustainable Development challenges" OR "Education for Sustainable Development barriers" OR "Education for Sustainable Development challenges and school leaders" OR "Education for Sustainable Development challenges in school" OR "Education for Sustainable Development in education" OR "Education for Sustainable Development principals" OR "Education for Sustainable Development school leaders." The phrase ESD was written in its entirety to obtain more precise and relevant results. For each manuscript that emerged, preliminary relevance was decided by the title. If the content meets the keywords identified from the title, we obtain its complete reference, including author, year, title, and abstract, for further analysis. We used the university EZProxy Library e-Resource portal as a gateway to access Google Scholar, Scopus, and ProQuest, the three frequently used databases by researchers across various disciplines, as well as grey literature from the Open Access Thesis and Dissertation (OATD) search engine. Grey literature from young and broad fields, like ESE, might be incredibly beneficial for researching contexts or settings where peer-reviewed publications are limited (Gutierrez-Bucheli et al., 2022). Should we omit these sources, it could result in publication bias (Kitchenham & Charters, 2007). The publication period is between 2014 and 2021 (articles published in the past eight years), so the review will be built on the recent literature considering information retrieval and synthesis in the digital age. The results from Google Scholar, Scopus, and ProQuest were only restricted to academic journal articles, books, and book chapters to capture relevant types of publications. We first searched Google Scholar using broad keywords as stated above and yielded 146 studies. After reviewing all eight pages of search results, a total of 31 potentially relevant articles were found. Some articles were dismissed as the records were not matched to the keywords, unrelated, too broad, and out of scope of studies. Filters like publication year, language, and field of study were applied and yielded a total of 212 studies. After initial screening of the titles, a total of 49 studies were identified. The same steps were repeated on ProQuest and OATD, yielding a total of 61 records of peer-reviewed articles and book chapter articles for ProQuest and 49 records for OATD. And from the initial title screening, 16 records related to the ESD challenges from ProQuest and 6 from OATD were identified. Altogether, four sources combined, we identified 101 potential studies, including nine duplicates we later excluded.

Inclusion screening and evaluation of quality and eligibility

The abstracts of the 101 studies were read to decide further the relevance of the research topic related to the ESD challenges among school leaders. Parallel independent assessments of the manuscripts were performed. Discrepancies between the reviewers' findings were discussed and resolved. Ninety-two studies were deemed relevant, and the steps continued to obtain the full-text articles for quality assessment. The full-text articles were skimmed through further to evaluate the quality and eligibility of the studies. We viewed journal articles and books published by reputable publishers as high-quality research and included them in the review. Most essays and online presentations are excluded from the review due to the lack of a peer-review process. Only a few of these high-quality organization reports

(including UNESCO) with well-cited references are included in this study. After a careful review, a total of 24 studies were excluded: 14 were excluded because the objectives and scope of the study were irrelevant to ESD; seven were excluded because the manuscripts had no reputable arguments to support the research questions; three were excluded because it was not highly relevant concept papers with the combination of a too broad topic and insubstantial discussions in ESD. We also utilize the forward and backward search to identify ESD challenges and related studies to obtain a comprehensive literature search.; six studies were excluded because they reviewed a specific topic, and another four were written as concept papers. We could not find the full text for three of the studies. Sixty-two studies from the initial search were included in the following stage of full-text analysis.

Iterations

We also utilize the forward and backward search to identify ESD challenges and related studies to obtain a comprehensive literature search. An additional 11 studies through backward and forward searches were identified. After locating the article that established the ESD challenges, we identified the closest related articles that had referenced the ESD paper. Five ESD-related studies entail ESD challenges included in this review. In total, 67 studies from these research results were included in the final step.

Data Extraction and Analysis

From each study, information on the following two subtopics was extracted: (1) the concept of ESD, general current issues and problems of ESD, and (2) the challenges of ESD in the school context. The literature review process is further broken down into subtopics formulating the research problem, developing and validating the review protocol, searching the literature, screening for inclusion, assessing quality, extracting data, analyzing and synthesizing data, and reporting the findings. All data extraction and coding were performed by using Atlas.ti software. The data extraction process did not focus only on the findings section but also on any arguments, opinions, and suggestions of the authors related to ESD challenges, especially in the introduction, findings (results), and discussion sections. Due to the scarcity of studies focusing solely on ESD challenges, obtaining data from a scientific paper is impossible. This review considers the inclusion of myriad written articles, such as original research reports, theoretical articles, highly relevant concept papers, and review articles. Figure 1 is a PRISMA Flow Diagram, as described in the PRISMA Statement, for a graphical representation was used to simplify the detailed articles selection process.

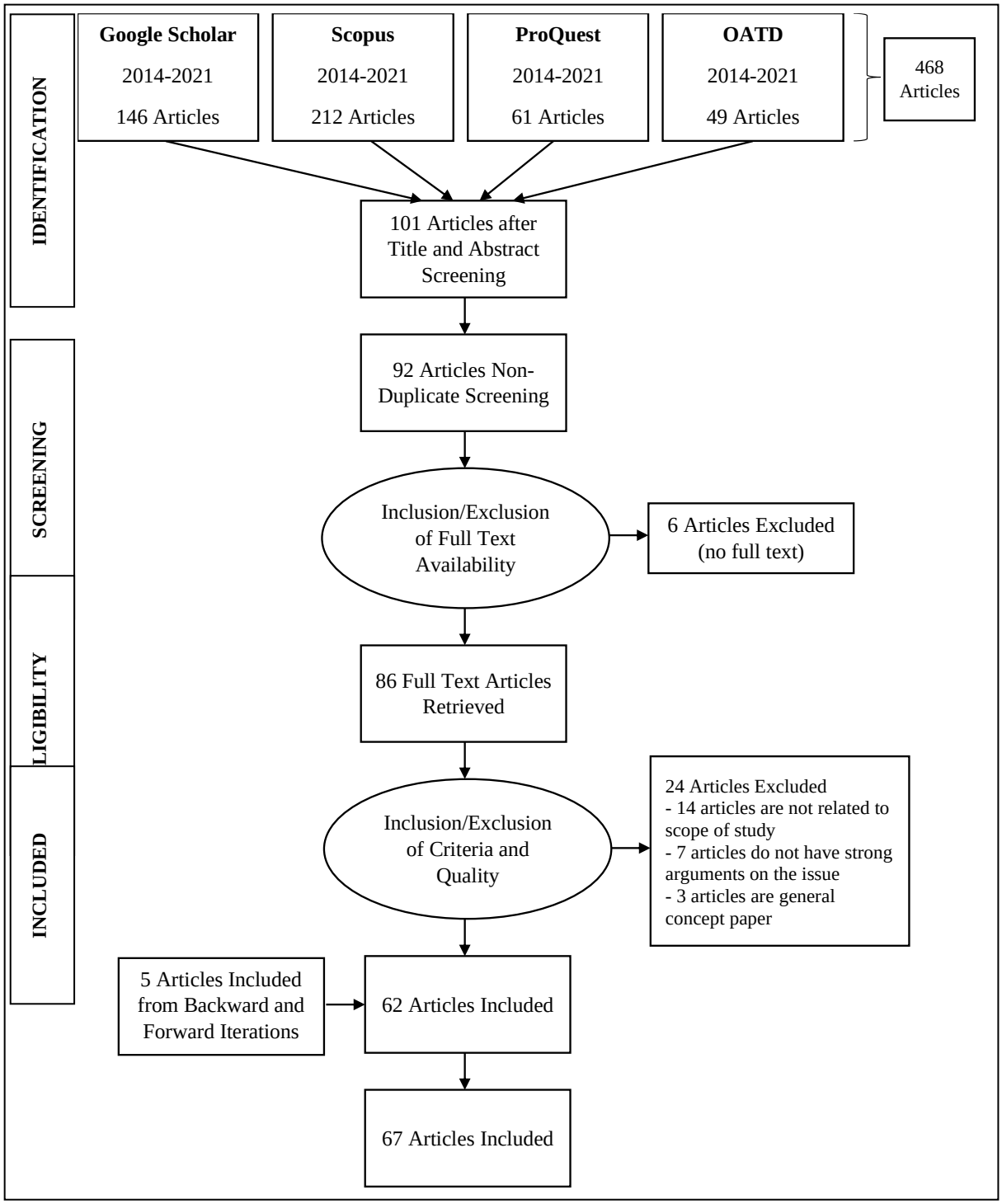

Fig. 1. PRISMA Flow Diagram

An analysis of 67 studies was rendered, and the distribution of the year's published articles is illustrated in Figure 2. Articles obtained since 2014 have shown that discussion on issues related to ESD challenges is published every year, and the numbers significantly show a tremendous increment in the last five years.

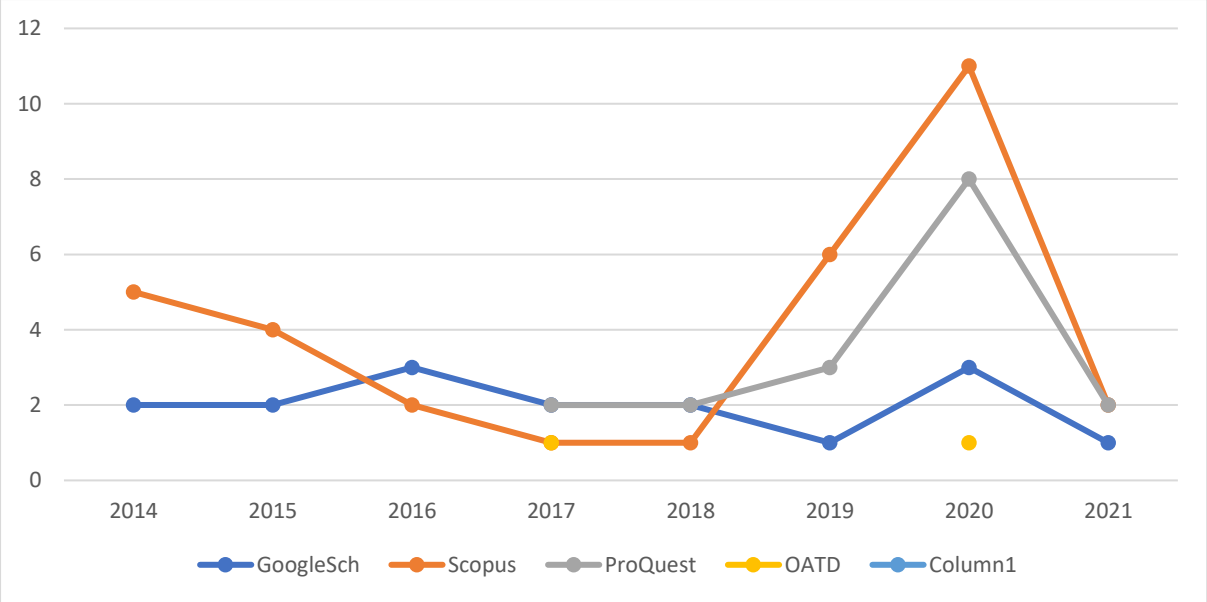

Fig. 2. Distribution of Studies Related to ESD Challenges by Year

The trend shows a noticeable increment of published articles observed in the year past 2014, which is the repercussion of the 2014 World Conference on Education for Sustainable Development at Aichi-Nagoya, Japan, and the global race towards the 2030 Agenda for Sustainable Development adopted at the United Nations Sustainable Development Summit in September 2015.

Results

Analysis of critical issues of ESD challenges was determined to answer the research question of this paper. The data extraction process will often involve coding, especially for extending reviews. It is essential to establish whether coding will be inductive or deductive (i.e., whether the coding will be based on the data or pre-existing concepts) (Suri & Clarke, 2009). After completing the data extraction process, we organized the data according to the review chosen to include the combination of charts, tables, and a textual description. The critical issues listed in Table 2 were randomly arranged from the codes generated from the analysis of the articles. Some articles, however, had discussed multiple key issues, later rearranged into a table that can be analyzed clearly. It should be emphasized that the data presented in Table 2 represent the findings from three of the five articles.

Table 2
Summary of ESD Challenges Key Issues

School Leader's Challenges in ESD	Authors
Principles as the vital agent of change	Müller et al., (2021)**;** Şemin, (2019)**;** UNESCO, (2018)**;** Holfelder, (2019)
Establishing awareness, motivation, and the team shared vision	Iliško & Badyanova, (2015); Mogren & Gericke, (2019); Mogren et al., (2019); Holfelder, (2019)
ESD competencies	Timm & Barth, (2020); Redman et al., (2020); Cebrián et al., (2020); Straková & Cimermanová, (2018); Aznar et al., (2018) Cebrián & Junyent, (2015); Mahat et al., (2016)
The complexity of the ESD term	Mogaji & Newton (2020)**;** Timm & Barth, (2020)**;** Leo & Wickenberg, (2014)**;** Kioupi & Voulvoulis, (2019)**;** Kang, (2019)**;** Liz Jackson, (2018)**;** Mahat & Idrus, (2016)**;**
ESD-related knowledge acquisition	Schröder et al., (2020); Filho et al., (2020) Benavot, (2014); Glavič, (2020); Mogaji & Newton, (2020); Richter-Beuschel & Bögeholz, (2020); Fredriksson et al., (2020)
Aligning to curriculum	Hubers, (2020a); Hubers, (2020b); Renta-Davids et al., (2020); Rieckmann, (2020a); Rieckmann, (2020b); Berglund et al., (2014);
Curriculum reform and school transformation	Sund & Gericke, (2020); Prabawani et al., (2020); Richter-Beuschel & Bögeholz, (2020); Waltner et al., (2020); Svalfors, (2017); Cook, (2014)
Readiness, commitment, and confidence level	Skarstein & Wolff, (2020); Desfandi et al., (2016); Warner & Elser, (2015); Sammalisto et al., (2016)
ESD and leadership	Müller et al., (2021); Burns et al., (2015); Srivastava et al., (2020); Coburn & Russell, (2018); Carbach & Fischer, (2017)
Empirical studies in ESD	Kuzmina et al., (2020); Olsson et al., (2016); Pauw et al., (2015);
Organizations and political influences	Egana del Sol, (2020); Cebrián et al., (2020); Ndiaye et al., (2019)**;** Evans et al., (2015)
Limited support, resources, and funds	Glavič (2020); Mogren (2019); Moore et al. (2019); Bennell (2015); Cook (2014)

Clustering keywords later synthesized key issues in ESD challenges among school leaders into several codes. The codes were marked differently to distinguish their groups and will soon be used to generate feasible themes. After analyzing the codes, two themes emerged, and the classification of the themes of the ESD challenges were (1) Intrinsic factors and (2) Extrinsic factors. The intrinsic factors include all ESD challenges from the codes tagged as; the school leaders' perceptions, skills, motivation, attributes, and individual efforts in

practising ESD. This factor includes school leaders as agents of change and the ability to establish awareness, motivation, and team-shared vision and self-perception of the ESD concept. The extrinsic factors include other non-personal, external sources of challenges beyond school leaders' control, including the environment, higher organization policy, funds, and resources.

Discussion

The intrinsic factor of ESD challenges was later interpreted into three sub-themes, categorized as the three needs of school leaders in ESD. In contrast, the extrinsic factor was explained as the system and environment limitations.

The Three Intrinsic Challenges of School Leaders in ESD

The studies reported that the role of school leaders is the central issue that led to the challenges of implementing ESD. Kadji-Beltran et al. (2013) poised that the complex challenges of implementing ESD make the principal and other school leaders even more critical, where school leadership plays a central role. However, the role of principals in implementing sustainability and ESD in schools is seldom discussed (Müller et al., 2020). From the emerging themes identified from the literature and summarized in Table 3, this paper synthesized and intensely discussed the intrinsic challenges of ESD into three sub-themes.

The Challenge to Be an Agent of Change and Visionary Leader

In approaching successful ESD implementation, as described in the literature, principals are highlighted as the critical factor driving change in schools. Principals are key change agents because they can shape the organizational conditions and build the capacity necessary for the successful and sustained implementation of ESD programs and practices (Dieleman & Huisingh, 2006; Davies & Davies, 2006; Jackson, 2008). To develop change, principals develop strategies by establishing a shared vision. Education programs such as ESD are involved with the turbulence of change, ranging from planning, development, and supporting systems to managerial work. Another study describes, "the school management plays the role of a change agent, and in this context, it is also important to break up more or less rigid structures to enable change" (Müller et al., 2021). McKeown (2013) agreed that ESD involves managing change and school leaders are responsible for the changes associated with reorienting education to address sustainable development goals – changes that occur in the curriculum, procedures, plans, goals, and policies of a school system. A study by Todd (2011) suggested that school leaders' roles cannot be overlooked when they put ESD as a challenge to the school community to promote SDG by establishing the mood and vision of the SDG in the school's system thinking. Timperley (2009) also believed that school change depends on leaders building trust and establishing a shared vision of ESD that creates clarity of purpose and high expectations for achieving school program objectives, staff satisfaction, and student achievement. In line with this, Davies & Davies (2006) posit that the role of principals in promoting sustainable schools is crucial because they build organizational capacity through strategic competencies; they can translate strategy into action, align people and organizations and determine effective intervention points.

The Challenge to Acquire a High Level of Knowledge in ESD

ESD is a relatively new educational field and was implemented to provide schools with an alternative to conventional teaching approaches and curricula. In particular, the programs

were supposed to help students learn more about the world around them, and a thorough knowledge of ESD is essential. However, the readiness of principals to enact ESD goals is contingent on their knowledge of ESD. The lack of a comprehensive understanding of ESD could make it difficult for leaders to engage fully in ESD activities (Bottery et al., 2012). Multiple factors stem from the ineffectual understanding of the ESD concept, some of them because of the ESD concept, which is still relatively new (Timm & Barth, 2020; Kadji-Beltran et al., 2012). There is no single definition of ESD, which is problematic from the perspective of educational change (Kioupi & Voulvoulis, 2019; Leo & Wickenberg, 2013). The lack of a single definition led to a less rigid perception of ESD linked to the problems that already had arisen (e.g., workload, support system, and competencies). Bharucha and Siege (2013) also believed that a constraining factor in connecting teachers with sustainability appears to be principals' lack of interpretation of the specific sources of appropriate ESD expertise.

Sustainability, sustainable development, and ESD are intertwined concepts but are challenging to define and describe. They are more often understood by 'doing' rather than 'theorizing,' and there is a debate about whether to consider a goal or follow a journey (Cook, 2014). The term "ESD" is highly problematic and open to various interpretations (Filho et al., 2020; Bonnett, 2002). Therefore, pluralism in the interpretation of the term leads to various tensions and paradoxes that are also reflected in the concept and pedagogy of ESD (Huckle & Martin, 2001; Scott & Gough, 2003). School leaders can identify and delimit the core concept of ESD, which cannot be accessible at the early stage of introducing ESD. The term and concept of SD are criticized within sustainability studies for several reasons: the incorrectness and narrowness of the term, the selectivity of its concept, the controversial character of several methods used, the diversity in understanding its goals, its inefficiency in solving global problems, the incompatibility of national interests with global human interests, the sources of funding the transition and the mechanisms of its implementation (Glavič, 2020). Zachariou and Kadji-Beltran (2009) argued that ESD development is interpreted loosely as environmental education, and sustainable schools' operation is limited to sustainable development's environmental aspects. Their research outcomes on primary school principals also illustrate that the understanding of the term ESD is weakly developed with an inability to identify the three dimensions; environment, economy, and society. As a result, the question of how sustainable development should be interpreted and ESD implemented is not settled. Therefore, ESD may be too narrow or too wide, and the definition of sustainable development is thus contentious (Mogaji & Newton, 2020). Along with Liz Jackson (2018), they agreed to the concept of sustainable development contested in the literature with diverse interpretations and weighting.

Education policy and strategy complexities involve a knowledgeable school leader with skills and knowledge in all education areas. School leaders consider ESD an area of enormous importance, which requires an adequate understanding of the concept of ESD and practices supportive of educational change (Mogaji & Newton, 2020). However, leaders of sustainable schools blame their insufficient knowledge and skills in managing the ESD program. A study on principal perceived knowledge of ESD by Zachariou and Kadji-Beltran (2009) shows that most of the definitions given by ten of the twelve principals were connected to the environmental pillar of sustainable development and restricted to the preservation of the natural environment. For most school leaders, the limitation of ESD literacy arose from the idea of ESD as environmental education, which often does not go beyond recycling-related practices. Jackson (2018) also stated that a quantitative survey reveals a significant mismatch between what schools are saying about the importance of sustainability and what they are

doing. Similar findings (Mahat et al., 2016; Leo & Wickenberg, 2013) concerning the low level of ESD knowledge among principals and teachers and research on the reasons for this lukewarm response in ESD competency are not details (Gough & Scott, 2003).

The challenge to have a High Confidence Level of Robust Decision-Making Skill

The school leaders' confidence level and readiness are substantial in assisting teachers in developing ESD pedagogical strategies and establishing the school as an environmental agent within the community (Warner & Elser, 2015). In an attempt for school leaders to make changes and achieve high goals in ESD, self-confidence is the primary concern. Self-confident leaders prefer to deal with challenges and disputes quickly and openly instead of avoiding or moving issues over to others. The same attribute also applies to school leaders in managing ESD. Implementing ESD requires bold and necessary actions by school leaders. As Zachariou and Kadji (2009) found in their ESD study summarized, principals exhibit (a) a lack of knowledge and understanding of ESD and how to implement it in their schools, (b) a lack of confidence in their own and their school's capacity to implement ESD. The lack of commitment of a principal to experience a school transformation and insufficient confidence in their management abilities are constraining factors for the effective implementation of ESD (Müller et al., 2020). The principal lacks confidence in administrative skills for sustainable schools, limited willingness to challenge the system's limitations, and the frequency of engaging the school's community in actions necessary for supporting ESD activities (Müller et al., 2020; Zachariou & Kadji-Beltran, 2009).

The actions also involved how the principals confidently manage school decisions and influence teachers toward more efficient ESD programs and implementation. The principal's care and commitment to environmentalism and sustainable development play a substantial role in implementing ESD in school policy (Desfandi et al., 2016). A few studies have shown that school leaders can make a difference in school and student performance if they are full of confidence and granted autonomy to make crucial decisions (Richter-Beuschel & Bögeholz, 2020; Pont et al., 2008). School leaders must also be regularly involved in the school's critical decision-making process (Coburn & Russell, 2018; Kowalski, 2010). In common practice, the educational system is centralized (Egana del Sol, 2020; Činčera et al., 2019) in terms of the school's curriculum, timetable, and funding, limiting school leaders' authority for granting ESD programs any support outside the system's structural parameters for school principals. The problem of low decision-making opportunities and limited funding, therefore, unlocked another door of challenge beyond school leaders' authority. The discussion further framed it in the extrinsic factor.

Extrinsic Challenge: System, Policy, and Environment Limitations

Reasons for schools engaging in ESD relate primarily to extrinsic motives. This study has identified a few extrinsic motives as challenges to school leaders, including the educational system and policies, support system, resources readiness, and the development of sufficient empirical study in ESD. School performance is associated with the motivation and control power of the leaders in a school ecosystem. Eyal and Roth (2011) suggest that school leaders' drive and control power are related to school effectiveness in a school setting. Motivations for why schools and their leaders participate in ESD include political pressure from decision-makers outside the school (Evans, 2015). School leaders are paramount to the success of ESD since their roles involve planning and coordinating the ESD implementation among all the school personnel while adhering to the national policy and school procedures that facilitate

the ESD. The structural implementation program for ESD is an immense challenge that is frequently in response to political decisions that pressure schools to transform education and become catalysts in building a sustainable society (UNESCO, 2014). However, a curriculum always guides schools with predefined goals by the education authorities (Mogren & Gericke, 2019). Jackson (2019) perceives the centralization and rigidity of the formal education structure, for instance, SATS and OFSTED, as a significant barrier. Even if the curriculum presents ESD as emerging in the tension between nature and humankind, between physical science and humanities, the term ESD does not appear as a paradoxical compound policy slogan. However, it appears to be relatively consistent (Svalfors, 2017).

The introduction of ESD, through policy documents and principals, is a top-down operation. Nations with a highly centralized education system have little leeway in directing ESD engagement in more helpful directions as the school demands. The educational system is centralized in terms of the school's curriculum, timetable, and funding, limiting school leaders' authority for granting ESD programs any support outside the system's structural parameters for school principals that become reluctant to challenge the status quo (Pashiardis, 2013). Cook (2014), in his study, added that the lack of apparent priority for ESD within many local authorities and, therefore, insufficient support for the sustainable schools' strategy was observed as a significant barrier and demotivating school leaders to take the ESD initiative forward. Mogren (2019) also reported that schools have failed to implement ESD successfully and argues that it is rooted in picturing the implementation of ESD as a political project without the engagement of the whole school system. However, this idea is opposed to that of Pauw et al. (2015), who claim the importance of local authorities and political involvement in ESD. They added a few political initiatives to support schools with the implementation of SD teaching and learning during the DESD. Therefore, schools seem to rely heavily on supporting politics, organizations, and authorities. The support system of ESD is also limited by a shortage of community engagement and experts in the ESD curriculum (Mogaji & Newton, 2020; McKeown & Nolet, 2013). To foster the concept of making sustainable schools, they will need to build a deep network with communities and other organizations. UNECE (2011) highlighted the critical issue in implementing ESD that requires schools to overcome their isolation from society by reorienting their operations, curriculum, and pedagogy. A strong collaboration with societies is essential to ensure the schools are ready to cope with any future changes and challenges in ESD.

Conclusion

This paper aimed to improve understanding of ESD challenges experienced by school leaders. The analysis provided a range of issues that lead to challenges and barriers that could support or hinder sustainable development implementation in schools. In this study, the shared perspective of the ESD challenge is developed, like the prevalent belief in leadership traits, leading from within. However, it is, after all, pivoted on the bold action of school leadership to pave the way in the planning and accomplishment of the ESD program according to the school's strength, and findings in this study are not intended as a parameter for measuring the effectiveness of school leaders in implementing ESD. The implementation of the ESD can be dissimilar in every school because of different actions undertaken by the principals. As stated by Ryan et al. (2010), ESD effectiveness is determined by the principals' attitudes and ideas about the school's program innovation content. However, the challenges observed in this study are viewed as pre-indicatives for the subsequent intervention measures

for school leaders, policymakers, and education authorities in planning a new approach to ESD.

Further research on the ESD challenges interventions and measures are possible, guided by the finding of this study. The intrinsic factor of ESD challenges would be used percurrent during the instructional leadership training phase to prepare for the actual school situation. Meanwhile, thorough research is needed for the extrinsic factor to comprehend the dynamics of ESD in practice. ESD aims to prepare people from all walks of life to plan for, cope with, and find solutions for issues that threaten the sustainability of our planet (UNESCO, 2005), including instructional leaders. They are responsible for producing tomorrow's sustainable leaders and finding ways to instruct them about what ESD is, how to practice it, and the challenges beyond it. A longitudinal study on these observed challenges can be performed in various educational settings, such as primary, secondary, and tertiary education. As part of a research approach, the question may remain open to be explored.

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