

The Role of Public-School Principals in Achieving Sustainable Development in Light of the Omani National Education Strategy 2040

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Abstract: This study identified the role of Public-School Principals (PSPs) in Achieving Sustainable Development (ASD) at Sultanate of Oman in light of the National Education Strategy (NES) 2040. It also sought to reveal whether there are statistically significant differences in the estimates of the sample members attributed to the variables of (Gender, Educational Qualification, Years of Experience, and Educational Stage). The study followed a descriptive analytical approach; it relied on a questionnaire for data collection. The sample consisted of (215) senior teachers selected by simple random sampling in public schools in the South Al Batinah Governorate during the 2022/2023. The researchers prepared a questionnaire consisting of (36) items distributed across three dimensions: (Comprehensive Education, Lifelong Learning, and Community partnership). The results showed that the role of PSPs in ASD was high. Results also indicated that comprehensive education ranked first, followed by lifelong learning in second place, and community partnership in the last rank. The results showed no statistically significant differences at the significance level ($\alpha=0.05$) in the study sample's estimates regarding the role of PSPs in ASD as a whole, attributed to the variables of (Gender, Years of Experience, and Educational Stage). However, there were statistically significant differences in all dimensions and the tool as a whole attributed to the variable (Educational Qualification), with the differences favoring the postgraduate teachers. The study recommends paying exchange visits between the General Directorates of Education in the governorates of Oman and the Directorate of South Al Batinah Governorate to increase the dissemination of sustainable development culture in Omani society as a whole.

Keywords: Sustainability, Community Partnership, Comprehensive Education, Educational Stage Omani Society, Senior Teacher, Sustainable Development, Sustainable Learning.

1. Introduction

Balancing is a universal feature. Allah created the universe with a precise system in balance between all its elements to ensure its sustainability. The heavenly religions have emphasized this balance in the cosmic system and in the relationships between individuals and societies. Any imbalance in this universe leads to disruption in the systems, whether environmental, social, economic, political, or cultural. Nevertheless, human behavior and aspirations affect this balance which has led to a disruption of this balance. Yet, this imbalance caused the emerged of many environmental, social, and economic problems since the beginning of the Industrial Revolution, and the subsequent human endeavor to employ all natural and human capabilities.

This imbalance has clearly emerged in the environmental system, where many environmental problems have emerged, prompting environmental scientists and enthusiasts to sound the alarm to push the international community towards restoring the balance in the relationship between humans and the environment. Therefore, the concept of sustainable development emerged in 1987 through the United Nations report "Our Common Future" which emphasized that sustainable development is nothing more than meeting the current needs of society, without compromising the ability to meet the needs of future generations [1].

Since then, the concept of sustainable development has become a global approach encompassing the environmental, economic, and social dimensions. Later, other dimensions were added, such as the cultural, institutional, and digital dimensions [2]. These dimensions have formed a general framework that allows states and organizations to build their development policies in a balanced manner, ensuring that no one axes dominates over another, in a way that meets the needs of society and protects the rights of future generations [3-4]. In this study, sustainable development is perceived as an approach to social, economic, and environmental planning that attempts to strike a balance between the social and economic needs of the current and future human generations, while necessarily preserving the natural environment or

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preventing unjustified environmental damage.

Embodying sustainable development requires changing the ways of dealing with things in local environments and approaching in three main directions :safeguarding the environment, developing reasonable economic growth and achieving social justice [5]. Sustainable development seeks to develop the relationship between the economy and the environment, and between the present and the future. It focuses on human development, education, the well-being and security of states, and human capital [6].

[7] Argues that the focus on social sustainability is a reaction to the dominance of the economic discourse in the approach of many international organizations towards sustainable development. Therefore, it was necessary to create an international system to address the challenges within a global framework, which is known as the 2030 Sustainable Development Goals (SDGs). The SDGs include 17 goals, and each goal includes several indicators to measure the extent of its achievement, enabling countries and international organizations to evaluate the performance of each country [8]. What distinguishes these seventeen SDGs is that they work in harmony with each other, forming an integrated system [9]. The progress achieved by each country is clearly reflected through the Voluntary National Review (VNR) submitted by each country.

It is clear that the dimensions of sustainable development have revolved around the human being. Therefore, the focus on educating the human being is the foundation and essence of development. The success of development in any society depends on the success of its education system, as education is the key to progress and the source of power in societies. Both development and education centralize their focus on the human being, and their ultimate goal is to develop the human being and build their capabilities to achieve sustainable development efficiently and equitably [10].

The relationship between education and development is firmly established and strong. Yet, some of the previous studies argued that education is concerned with the intellectual, cultural, and spiritual aspects of the human being, while development is concerned with the material aspects only, though. The correct view is that education influences the various aspects of comprehensive development and is influenced by it, as long as education is responsible for developing human resources, or what is referred to as human capital [11].

In fact, human is the primary driver for ASD, the role of education has been entrusted as the most important. Education is to build generations characterized by balance in their thought and behavior. This is evident through the UNESCO Decade of Education for Sustainable Development (ESD), which extended from 2005 to 2014 [12]. Therefore, it is essential to focus on ESD; it is the primary supporter for building communities with the ability to address problems, especially those that constitute pivotal challenges [13-14]. Through education, students acquire problem-solving skills, skills for engaging in activities and events related to sustainable development, and the embodiment of sustainable behavior in their daily lives [15].

Yet, it is necessary to focus on sustainable development and utilize it in the educational system. In so doing, this brings about change in the entire society and equips its members with the necessary knowledge, skills, values, and behaviors to address global challenges. [16-18] are indicated that the world has become more aware and conscious of the vital role that the school plays in building generations with high capacities for innovation, creativity, and wise work. This importance highlights the role of school principals, as they are responsible for school policies and their implementation, as well as committing to the achievement of national and international orientations to achieve ESD [19-21]. [22] Believe that the responsibility for the transformation targeted by sustainable development falls on the shoulders of school principals.

The Sultanate of Oman has taken decisive steps in achieving the SDGs, as revealed by the First Voluntary National Review Report of the Sultanate in 2019, which included the level of progress of the Sultanate of Oman in achieving the SDGs 2030 [23]. An extensive implementation plan for the NES 2040 has been prepared, taking into account two crucial elements in the strategy. The first is that it should be flexible and adaptable to accommodate any emerging requirements and changes within its specified timeframe of 2040. The second is to conduct a continuous review process of the plan's performance level [24]. The NES 2040 in the Sultanate of Oman is the fundamental reference for planning work in the field of education, as it is the cornerstone for building national cadres in the Sultanate of Oman in the next two decades [24].

Accordingly, the study at hand aims to identify the role of public-school administrations in ASD; they are the fundamental driver in providing the community with outputs capable of taking the initiative to achieve the SDGs. The researchers have endeavored to clarify the role of PSPs in ASD in light of the NES 2040. Hence, this strategy has focused extensively on the field of education, which is the fourth goal of the SDGs [25].

Sustainable development in the school environment is a necessary requirement imposed by the developmental visions and objectives set by the Sultanate of Oman to achieve the 17 SDGs at all levels. Based on the NES 2040, this study aims to address the role of school principals in achieving the goals of sustainable development in light of the NES 2040, as this role is of great importance, as revealed by the previous literature [26].

The Ministry of Education is the primary responsible for achieving the SDGs in the community, and it is the one that

determines the efficiency of the human resource that drives educational institutions. These goals cannot be achieved without the presence of a school administration that is aware and familiar with the dimensions and indicators [27]. Despite the importance of sustainable development in the educational field, the focus of previous studies has been mainly on study curricula, teaching methods, teachers, and students. There are numerous studies at the level of the Sultanate that have addressed sustainable development and its relationship to the educational field, such as the studies of [25-33]. However, there are no studies that address the role of school principals in ASD in the school environment, let alone any study on their role in achieving the NES 2040. Therefore, this study is a new area that requires the focus of researchers.

2. Literature Review

There are various previous studies that have been focused on the research topic. [18] Addressed the attitudes of teacher preparation in light of education for sustainable development, and the potential to benefit from them in the Sultanate of Oman. The results indicated that the mission and declared objectives of the College of Education do not clearly include the global trends to support sustainable development.

On the other hand, the results of [25] study showed that the level of awareness of social studies teachers in the Sultanate of Oman was high. [34] Aimed to understand the perspectives of teachers on sustainable development in the upper secondary school in Sweden. The study used a qualitative approach through the interview tool with 11 teachers. Findings showed that all the participants emphasized the great importance of teaching for sustainable development, but managing sustainable development still suffers from weakness.

Additionally, [35] demonstrated the role of school principals' leadership in implementing the Eco-School program as an effort to support sustainable development in Indonesia. The study interviewed 10 principals. Findings of the study showed that the leadership of the school principal has a vital role in the success of the school in achieving the goal of the Eco-School program as one of the requirements for sustainable development. The results also showed that the school principal's care and commitment to environmental issues play a significant role in developing and implementing the school's environmental policy towards promoting sustainable development.

While [31] found that Basic Education had achieved the majority of the SDGs, the topics of sustainable development were presented separately from the academic subjects. [36] Identified the reality of the role of vocational training centers in ASD in the Sultanate of Oman, in light of the NES 2040 and the challenges facing this role. The results showed that the challenges facing the achievement of sustainable development in training centers were high according to the perspective of the employees.

Meanwhile, [28] aimed to identify the impact of the suggestions of the NES 2040 on the plans and programs of higher education in the Sultanate of Oman. The study found that the extent to which the study sample was familiar with the NES 2040 and its recommendations regarding the plans and programs of the Colleges of Applied Sciences was moderate, while the impact of the recommendations of the NES 2040 on the plans and programs of the Colleges of Applied Sciences was significant.

[37] Explored the perceptions of school principals and sustainability practices in schools, as well as the perceived role of the management team in facilitating change towards incorporating sustainability in Spain. This study collected data using exploratory qualitative research in which an open survey was shared with sample included thirty-six primary and secondary school principals. The findings showed that school principals were clearly committed to incorporating sustainability education in schools, but there are several hindering factors, such as staff and student participation, lack of resources, government support, and overcrowded curricula. The results also revealed a need for effective frameworks and professional development programs that help develop sustainability competencies among school principals and assist in leading sustainability education within schools.

In contrast, [32] found that high across attitudes of pre-service social studies teachers towards the values of sustainability during the COVID-19 pandemic, as well as their future orientations across all dimensions. [38] Aimed to uncover the perspectives of principals in China, Germany, and the United States on the impact of the COVID-19 pandemic on ESD. The study qualitatively surveyed of a sample of school principals. The findings indicated the significant role of school principals in integrating sustainability and ESD in their schools, especially after the COVID-19 pandemic.

[39] Identified the role of the school principal in promoting sustainability in its environmental aspects in Istanbul. The study qualitatively interviewed a purposive sample of 35 principals. The results of the study showed that most school principals believe that one of the primary and vital tasks in their management of their schools is to work on developing a clear plan and strategy to implement environmental sustainability.

[40] Identified the degree of practicing sustainable leadership and its dimensions among female leaders in public secondary schools in western Dammam from the teachers' point of view. To achieve the study's objectives, a questionnaire based on

the Hargreaves and Fink model of sustainable leadership with adopted to an entire population of 657 teachers. The study found that the degree of practicing sustainable leadership among secondary school leaders in western Dammam was very high. The results also indicated statistically significant differences in the direction of the study sample's perceptions regarding the degree of practicing sustainable leadership among secondary school leaders, attributed to the variables of academic qualification, school type, and years of experience. [7] Aimed to determine the role of the school principal in promoting sustainable development in the schools in Thailand. The study showed that the school principal plays a crucial role in developing and improving the overall level of the school, working to develop it, and increasing the overall quality to ensure the school's sustainable development.

While presenting the previous studies which focused on one of the dimensions of sustainable development, the most distinctive feature of the current study is that it examines sustainable development in its entirety. Additionally, the current study is grounded in the NES 2040 in the Sultanate of Oman.

2.1 Research Problem

The study problem stems from the lived reality of the challenges facing the achievement of sustainable development, as revealed by the 2019 Voluntary National Review Report of the Sultanate of Oman [23]. It also stems from the Sultanate of Oman's orientation towards achieving the Oman Vision 2040, whose four main themes cover all the SDGs 2030 [41-42]. Furthermore, the results of previous studies confirm the problem of the study. They revealed the existence of some aspects of failure in the level of students' knowledge of the goals and indicators of sustainable development. For example, [34] found that the degree of knowledge of post-basic education students about the indicators of the sustainable development social dimension was low. Additionally, [43] showcased the role of social upbringing institutions in enhancing the values of sustainable development among Basic education students, also contributed to the identification of this problem. The results of some previous studies [31-32, 44] have also highlighted the roles of teachers in the field of sustainable development.

The objectives of this study were further reinforced by the government's orientations in the Sultanate of Oman towards ASD and the NES 2040, on which the Sultanate builds its aspirations to achieve the goals and objectives of education. This is also in line with the Oman Vision 2040, which considers education as the primary driver for the advancement of the development process. The Omani Cabinet approved on February 26, 2023, the curriculum plan presented by the Ministry of Education, which included new study curricula and educational pathways, prepared to keep pace with the requirements of sustainable development and future skills, as well as the restructuring of the educational ladder to begin the technical and vocational education system [45]. The Sultanate is committed to achieving the Sustainable Development Goals in their three dimensions - social, economic, and environmental-within the specified timeframe, despite the challenges that cannot be underestimated [23, 46]. Given the link between sustainable development and the NES 2040, the researchers were keen to find the relationship between them. The NES 2040 represents the reference framework for the educational system in the Sultanate of Oman, from which the educational policies and executive plans at the higher levels and at the school level are derived. More specifically, this study sought to answer the following two research questions:

RQ1. What is the role of PSPs in ASD in South Al-Batinah Governorate in light of the NES 2040 from the perspective of the senior teachers?

RQ2. Are there statistically significant differences in the responses of senior teachers regarding the role of PSPs in ASD in South Al-Batinah Governorate attributed gender, academic qualification, years of experience, and educational stage?

2.2 Research Objectives

The current study aims to achieve the following objectives: Identify the role of government school principals in achieving sustainable development in the South Al Batinah Governorate, in light of the NSE 2040 from the perspective of early teachers. Additionally, to detecting the presence of differences in the responses of the study sample members to the role of government school principals in achieving sustainable development in the South Al Batinah Governorate, in light of the NSE 2040, according to the variables of the study: gender, educational qualification, years of experience, and educational stage.

2.3 Research Significance

The theoretical significance of this research lies in the fact that it is one of the rare Omani studies in the field of educational management to the best of the researchers' knowledge that addresses the role of PSPs in achieving sustainable development. It is hoped that this research will provide a scientific reference framework by presenting the most important aspects addressed by the studies and scientific references regarding the ASD in the field of education. It is also expected that this research will be a starting point for a series of future studies on the role of PSPs in ASD.

On the practical side, the results of this study can help decision-makers identify the challenges faced by school principals in ASD in public schools and develop strategic plans and programs to achieve the SDGs in the school environment, as well as improve

educational outcomes. It is hoped that this research will benefit the school administration in knowing the strengths in their programs and development strategies in the field of sustainable development and enhance them, as well as discover weaknesses and address them to achieve the desired goals. This study supports the efforts of the Sultanate of Oman in ASD and the efforts of the Ministry of Education in achieving the SDGs in light of the NES 2040. This investigation may help uncover the potentials and challenges that may face the implementation of Oman's Vision 2040 in the field of ASD and the NES 2040.

2.4 Limitations

The study limits are represented by the following limits:

- **Time limits:** The research was implemented in April of the second semester of the academic year 2022/2023.
- **Spatial limits:** The research was implemented in schools in South Al Batinah Governorate.
- **Human limits:** This research was limited to a sample of senior teachers in government schools in South Al Batinah Governorate.
- **Subject limits:** The current research was limited to addressing the topic of the role of government school principals in achieving sustainable development in South Al Batinah Governorate in light of the NES 2040 from the point of view of senior teachers according to the study axes, which are: (comprehensive education, lifelong learning, and community partnership).

2.5 Procedural Definitions

- **Sustainable Development:** Good management of available resources to achieve the well-being of current generations in economic, social and environmental aspects, while preserving the rights of future generations.
- **Strategy:** Choosing and determining the most appropriate path or method by the institution using the available capabilities and means to achieve its long-term goals.
- **National Education Strategy 2040 (NES 2040):** It is the main reference for planning work in the field of education as it is the main pillar for building national cadres in the Sultanate of Oman in the next two decades
- **Government Schools:** Public schools supervised and funded by the government, and the Ministry of Education is responsible for developing unified educational curricula for all schools, and education in them is free of charge for the country's children, and study in them is in two stages, the first is the basic education stage for ten years, and the second stage is post-basic for two years.

3. Methodologies

3.1 Research Design

The current study adopts the descriptive-analytical approach. It describes the phenomenon accurately as it is in reality, expressing it quantitatively, by studying and interpreting the perspectives of the first-grade teachers in the South Al-Batinah Governorate, regarding the role of PSPs in achieving sustainable development in light of the NES 2040. The research was conducted in the second academic semester of the academic year 2022/2023.

3.2 Participants

The population included all first-grade teachers in public schools in the South Al-Batinah Governorate, the Sultanate of Oman. They totaled 428 teachers distributed across 149 schools, according to statistics for the 2022/2023 academic year, obtained from the Annual Statistical Book of the Ministry of Education [42]. The study sample consisted of (215) first-grade teachers during the second semester of the academic year 2022/2023.

Table1: Distribution of the study sample according to demographic variables

Variable	Category	Frequencies	Percentage
Gender	Male	82	%38.1
	Female	133	%61.9
	Total	215	%100
Educational Qualification	Bachelor	187	%87
	Postgraduate studies	28	%13
	Total	215	%100
Years of Experience	Less than 10 years	30	%14
	10-20 years	130	%60.5

	More than 20 years	55	%25.6
	Total	215	%100
Education Stage	Basic	151	%70.2
	Post-Basic	64	%29.8
	Total	215	%100

3.3 Instrument

After reviewing previous studies [30-33, 46-50], related to the subject of the study, and to achieve its objectives, the study tool was designed in the form of a questionnaire. After verifying its validity for application according to scientific procedures in terms of its validity and reliability, it was composed of the following parts: Part one is an introductory note addressed to the research sample, indicating the importance of participating in the study and emphasizing that their responses and ratings will be treated with strict confidentiality and will only be used for scientific research purposes. Part two includes items related to the demographic variables of the research sample, which are (Gender, Educational Qualification, Years of Experience, and Educational Stage). Part three has the research axes related to the role of PSPs in ASD. It included the following three dimensions: Comprehensive education, i.e., the first dimension, consisting of 12 items. The second dimension: Lifelong learning, consisting of 12 items. The third dimension: Community partnership, consisting of 12 items. The total number of questionnaire items was 36. The researchers assigned numerical weights expressing the respondent's point of view according to the Likert five-point scale measurement method. The rank five was given to strongly agree and one for strongly disagree.

3.4 Data Analysis

The appropriate statistical and descriptive-analytical treatments were used to process the results for each research question using the SPSS (Version 27). The demographic characteristics of the teachers were processed using frequencies and percentages. Cronbach's Alpha, Pearson correlation coefficients, and split-half method were used to ensure the validity and reliability of the research instrument. Means and standard deviations were calculated to answer the first question t-test and one-way ANOVA were used to answer the second question.

4. Results and Discussion

4.1 RQ1. What is the Role of PSPs in ASD in South Al-Batinah Governorate in Light of the NES 2040 from the Perspective of the Senior Teachers?

To answer this question, the researchers calculated the means and standard deviations of the sample's estimates regarding the role of PSPs in achieving ASD. To clarify the results of the answer to the first question, the researchers relied on the criterion of [25] measures, Table 2.

Table 2: The Role of PSPs in ASD

Dimensions	Mean	SD	Level
Comprehensive Education	4.18	0.33	High
Lifelong Learning	4.14	0.34	High
Community Partnership	4.07	0.40	High
Overall	4.13	0.32	High

Table 2 shows the perceptions of senior teachers' regarding the role of PSPs in ASD. The overall mean for the dimensions was 4.13 with a general standard deviation of 0.32, indicating a high level of role. Comprehensive Education ranked first with the highest mean of 4.18 and a standard deviation of 0.33. This was followed by the Lifelong Learning, with a mean of 4.14 and a standard deviation of 0.34. Community Partnership ranked last with a mean of 4.07 and a standard deviation of 0.40. These results indicated that PSPs play a high role in ASD, with the highest role observed in the dimension in the South Al-Batinah Governorate. This result can be attributed to the continuous updating of the plans and programs of the Ministry of Education, and the ministry's efforts to provide its services in line with the requirements of sustainable development. The results suggest that the ministry is striving to enhance education for sustainable development and consider it an integral part of the SDGs related to quality education. This is seen as a key empowering element for all other sustainable development goals. The Sultanate's policy works to implement this through the Oman Vision 2040 and the new philosophy of education in the Sultanate includes goals related to education for sustainable development. The ministry has also paid attention to implementing various activities and events that work to enhance students' skills and educate them about the dimensions of sustainable development, such as the "Largest Global Lesson to Understand the Sustainable Development Goals" initiative organized by the Ministry of Education in collaboration with the Ministry of Social Development. These initiatives have provided PSPs with sufficient knowledge to achieve sustainable development in their

schools. This result is consistent with the results of [7, 35, 40, 51] who reported the role school principals in achieving sustainable development.

4.2 RQ2. Are There Statistically Significant Differences in the Responses of Senior Teachers Regarding the Role of PSPs in ASD in South Al-Batinah Governorate Attributed Gender, Academic Qualification, Years of Experience, and Educational Stage?

To answer this question, the data were to compare the role of PSPs in ASD using t-test and One-Way ANOVA to verify the significance of the differences based to the variables of Gender, Academic Qualification, Years of Experience, and Educational Stage, as follows:

Gender: Identifying the significance of differences between the senior teachers' responses according to the gender variable (male, female), an independent samples t-test was used. Table 3 shows the results.

Table 3: Difference in senior teachers' responses across gender

Dimensions	Gender	Frequency	Mean	SD	t	Sig
Comprehensive Education	Male	82	4.29	0.65	2.075	0.040
	Female	133	4.12	0.51		
Lifelong Learning	Male	82	4.20	0.65	1.157	0.249
	Female	133	4.10	0.53		
Community Partnership	Male	82	4.18	0.71	1.845	0.067
	Female	133	4.01	0.57		
Overall	Male	82	4.23	0.64	1.774	0.078
	Female	133	4.08	0.51		

The results presented in Table 3 reveal the non-existence of statistically significant differences ($\alpha=0.05$) in the senior teachers' estimates regarding the role of PSPs in ASD in the dimensions of "Lifelong Learning" and "Community Partnership", as well as the instrument as a whole, which can be attributed to the "Gender" variable. The overall t-value was 1.774 with a statistical significance of 0.078. This result indicates that the responses of male and female senior teachers do not differ significantly in their perceptions of the role of PSPs in ASD in the context of the study. The gender of the respondents does not appear to be a factor that influences their views on this matter. However, the results indicated the presence of statistically significant differences in the senior teachers' estimates regarding the role of PSPs in ASD in the dimension of "Comprehensive Education", which can be attributed to the "Gender" variable. The t-value was 2.075 with a statistical significance of 0.040, and the differences were in favor of the male teachers.

Academic Qualification: Identifying the significance of differences between the senior teachers' responses according to academic qualification variable (bachelor's, postgraduate), an independent samples t-test was used. To reduce the gap between the two groups and obtain the best results, the researchers examined a similar sample size of 28 from each group. Table 4 presents these results.

Table 4: Difference in senior teachers' responses across academic qualification

Dimensions	Academic Qualification	Frequencies	Mean	SD	t	Sig
Comprehensive Education	Bachelor	28	3.52	0.70	3.390	0.001
	Postgraduate	28	4.14	0.66		
Lifelong Learning	Bachelor	28	3.53	0.79	3.291	0.002
	Postgraduate	28	4.13	0.53		
Community Partnership	Bachelor	28	3.21	0.66	4.569	0.000
	Postgraduate	28	4.02	0.66		
Overall	Bachelor	28	3.42	0.69	3.939	0.000
	Postgraduate	28	4.10	0.58		

Table 4 shows that there are statistically significant differences ($\alpha=0.05$) in the senior teachers' estimates regarding the role of PSPs in ASD in all dimensions and the questionnaire as a whole, attributed to academic qualification variable. The overall t-value was 3.939 with a statistical significance of 0.000, and the differences were in favor of the postgraduate senior teachers. The reason for this could be that the senior teachers with postgraduate qualifications in the South Al-Batinah Governorate have benefited from their research and studies, and have acquired experiences, skills, and competencies that have enabled them to better evaluate the role of PSPs in ASD, compared to their counterparts with bachelor's degrees, in order to achieve the desired educational objectives in schools. This result is consistent with the findings of the studies [40-44].

Years of Experience: Identifying the significance of differences between the senior teachers' responses according to the

years of experience variable (less than 10 years, 10-20 years, more than 20 years), the means and standard deviations for the categories of the variable were first extracted. Table 5 presents the results.

Table 5: Difference in senior teachers' responses across Years of Experience

Dimensions	Years of Experience	Frequency	Mean	SD
Comprehensive Education	Less than 10 years	30	4.27	0.50
	10-20 years	130	4.14	0.58
	More than 20 years	55	4.24	0.58
Lifelong Learning	Less than 10 years	30	4.19	0.57
	10-20 years	130	4.12	0.56
	More than 20 years	55	4.17	0.65
Community Partnership	Less than 10 years	30	4.05	0.56
	10-20 years	130	4.07	0.63
	More than 20 years	55	4.10	0.68
Overall	Less than 10 years	30	4.17	0.52
	10-20 years	130	4.11	0.56
	More than 20 years	55	4.17	0.61

Table 5 shows an apparent variation in the means and standard deviations regarding the role of PSPs in ASD according to the years of experience variable. To identify the statistical significance of the differences between the means, one-way analysis of variance (ANOVA) was used. The following table presents these results.

Table 6: ANOVA Analysis According to the Years of Experience

Dimensions	Source	SS	df	MS	F	Sig
Comprehensive Education	Between Groups	0.678	2	0.339	1.021	0.362
	Within Groups	70.384	212	0.332		
	Total	71.062	214			
Lifelong Learning	Between Groups	0.200	2	0.100	0.288	0.750
	Within Groups	73.491	212	0.347		
	Total	73.690	214			
Community Partnership	Between Groups	0.059	2	0.029	0.072	0.931
	Within Groups	86.903	212	0.410		
	Total	86.961	214			
Overall	Between Groups	0.210	2	0.105	0.319	0.727
	Within Groups	69.730	212	0.329		
	Total	69.940	214			

Table 6 indicates no statistically significant differences level ($\alpha=0.05$) in the responses of the senior teachers' regarding the role of PSPs in ASD, attributed to years of experience across all dimensions and the questionnaire as a whole. The calculated F-value was 0.319 with a statistical significance of 0.727. This result shows agreement among male and female senior teachers, regardless of years of experience, on the importance of sustainable development. They possess sufficient knowledge about the requirements of sustainable development and how to achieve it in their schools. Therefore, they were able to accurately and credibly assess the role of PSPs in ASD, irrespective of their specializations, and in a more positive manner. This result differs from the findings of some studies [7, 16, 31].

Educational Stage: Identifying the significance of differences between the senior teachers' responses according to the educational stage variable (Basic Education, Post-Basic Education), an independent samples t-test was used. Table 7 presents these results.

Table 7: Difference in senior teachers' responses across Educational Stage

Dimensions	Stage	Frequency	Mean	SD	t	Sig
Comprehensive Education	Basic Edu.	151	4.17	0.59	0.703	0.483
	Post-Basic Edu.	64	4.23	0.53		
Lifelong Learning	Basic Edu.	151	4.14	0.61	0.243	0.809
	Post-Basic Edu.	64	4.16	0.51		
Community Partnership	Basic Edu.	151	4.05	0.66	0.765	0.445
	Post-Basic Edu.	64	4.13	0.57		
Overall	Basic Edu.	151	4.12	0.59	0.603	0.547

	Post-Basic Edu.	64	4.17	0.51		
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Table 5 shows that no significant differences ($\alpha=0.05$) in senior teachers' responses' estimates regarding the role of PSPs in ASD in all separate dimensions and the whole questionnaire attributable to the "Educational Stage" variable. The overall t-value was 0.603 with a statistical score of 0.547. This result displays the fact that the principals of Basic Education schools and those of Post-Basic Education schools in the South Al-Batinah Governorate in their efforts to ASD do not differ in their effort to ASD. They are all working to develop their schools in order to improve the educational outcomes that are aware of the goals and dimensions of sustainable development. This result can also be attributed to the fact that the principals of Basic and Post-Basic Education schools work together effectively, as they are all informed about the latest developments from the Ministry of Education, and they seek to exchange experiences related to ASD between Basic and Post-Basic Education schools. Their constant communication with the specialists in the Ministry of Education and their commitment to attending training programs to develop their performance also contribute to this finding.

5. Conclusion

Results of the study are important to all whosoever is connected with the education field especially the Ministry of education to increase the guidance provided to educational practitioners to utilize the best educational methods and approaches that ASD and the foundations of the NED 2040, in order to ensure high-quality education throughout the Sultanate. It is suggested to expand the role of local community institutions, such as volunteer teams, in spreading the culture of sustainable development among public school students through lectures and awareness campaigns. Furthermore, the results recommend facilitate exchange visits between the General Directorates of Education in the governorates of the Sultanate of Oman and the Directorate of the South Al-Batinah Governorate, to enable the exchange of experiences and best practices related to sustainable development issues. Expanding the awareness of the local community and change its culture towards education, this can be achieved by shifting the focus from merely obtaining high grades to developing the necessary life skills for coexistence, and enhancing the capacity for creativity, innovation, and entrepreneurial spirit, which are emphasized in the NES 2040. Working to increase the dissemination of the culture of sustainable development in the Omani society as a whole, through the media, universities, and schools in the Sultanate, until it becomes a general culture for the community. Determining volunteer hours for parents in all public schools in the Sultanate, to increase the connection between the school and parents, in a way that achieves the goals of sustainable development. Establishing a club in each school called the "Oman Club for Sustainable Development" and increases the activities that develop students' awareness of the issues of sustainable development in the Sultanate. Finally, it is recommended to dedicate a day in public schools to organize events and activities related to sustainable development.

6. Recommendations

Based on the research results, the study recommended the following:

- Increasing the guidance of workers in the educational field to work on using the best educational methods and techniques that achieve sustainable development and the foundations of the National Education Strategy 2040, so that education is of high quality throughout the Sultanate.
- Expanding the role of local community institutions, such as volunteer teams, in spreading the culture of sustainable development among government school students through lectures and awareness bulletins.
- Conducting an exchange of visits between the General Directorates of Education in the governorates of the Sultanate of Oman and the Directorate of South Al Batinah Governorate, so that experiences and expertise can be exchanged between them regarding sustainable development issues.
- Expanding awareness of the local community and changing its culture towards education, by working to change the culture of obtaining high grades, to developing the life skills necessary for coexistence, and enhancing the ability to create, innovate and the spirit of leadership that the National Education Strategy 2040 is keen to establish.
- Working to increase the dissemination of the culture of sustainable development in Omani society as a whole, through the media, universities and schools of the Sultanate, so that it becomes a general culture for society.
- Working on setting volunteer hours for parents in all government schools in the Sultanate, to increase the connection between the school and parents, in order to achieve the goals of sustainable development.
- Establishing a club in each school under the name "Oman Club for Sustainable Development" and increasing activities that develop students' awareness of sustainable development issues in the Sultanate.

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