



EXPLORING TEACHERS' KNOWLEDGE, ATTITUDES, AND PRACTICES TOWARDS THE INTEGRATION OF SUSTAINABLE DEVELOPMENT GOALS (SDGs) INTO TEACHING FOR SOCIO-ECONOMIC RECONSTRUCTION IN 21ST CENTURY NIGERIA

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Abstract

The integration of Sustainable Development Goals (SDGs) in education is a crucial component for the socio-economic reconstruction of 21st-century Nigeria. This study aimed to investigate the knowledge, attitudes, and practices of teachers in Nigeria regarding the incorporation of SDGs into their teaching activities. The study adopted a descriptive survey research design and collected data from a sample of 400 teachers and teacher educators selected from six Southwest region states in Nigeria. The research instrument used for the study was a self-administered structured questionnaire titled: Teachers' Knowledge, Attitudes, and Practices towards the Integration of SDGs into Teaching Questionnaire (TKAPI-SDGs). The study selected a sample of 400 teachers and teacher educators from different states using a stratified random sampling technique. The population was categorized into different strata based on states, secondary teachers, and teacher educators (Lecturers from colleges of education or faculties of education). The samples were drawn from six states in the region using a simple random sampling technique. Thirty secondary schools and twelve public tertiary institutions participated in the study. The data collected were analyzed using descriptive statistics including frequency count, percentages, means, and standard deviation. The findings reveal that there is a low level of knowledge and mixed feelings about incorporating the SDGs into teaching among teachers. Therefore, there is a need for increased support and resources to promote knowledge and understanding of the SDGs among teachers. However, there is general awareness among teachers in Nigeria about the SDGs. Findings also reveal the positive attitudes of teachers towards the SDGs, which suggests that there is potential for increased integration of the SDGs into teaching activities with adequate support and resources. The study concludes that there is a need for increased support and resources to integrate the Sustainable Development Goals into teaching activities among Nigerian educators. Professional development opportunities, collaboration, and leadership support are necessary to prepare future generations towards a sustainable future and to achieve the SDGs in Nigeria. The study recommends targeted professional development programmes for teachers, resources and materials, collaboration among teachers and departments, curriculum reform, and greater support from school leadership

Keywords: attitudes, integration, knowledge, teacher education, Sustainable Development Goals

Introduction

The Sustainable Development Goals (SDGs) are a set of objectives aimed at promoting sustainable socio-economic development that benefits everyone. Nigeria is a developing country that can benefit greatly from achieving these goals, with potential advancements in education, healthcare, infrastructure, and poverty alleviation. Teachers play a vital role in disseminating awareness about the SDGs and teaching students about their importance. Therefore, it is crucial to incorporate SDGs into teacher education in Nigeria to support the country's socio-economic development. The United Nations' SDGs offer a comprehensive response to global economic, social, and environmental challenges, including improving education quality, achieving gender parity, and promoting environmental sustainability. Achieving these goals requires redefining education and making it a cornerstone for sustainable development. Teacher



education is key to this effort, providing educators with the skills and knowledge to promote and implement the SDGs in Nigeria.

The integration of Sustainable Development Goals (SDGs) into Nigeria's national development plans highlights their potential to promote the eradication of poverty, hunger, and inequality, foster sustainable economic growth, and protect the environment. This shift in focus requires a reevaluation of the role and delivery of education. Therefore, teacher education programs must equip educators with the necessary knowledge, skills, and attitudes to promote the SDGs. Education, recognized as a powerful tool for achieving the SDGs, is a fundamental human right enshrined in Nigeria's National Policy on Education (NPE) (Federal Ministry of Education, 2013). The NPE emphasizes the essential role of teachers in achieving the SDGs. Goal 4 of the SDGs further highlights the importance of education, stressing the need for inclusive and equitable quality education for all learners (United Nations, 2015). Despite recent efforts to improve teacher education in Nigeria, there are still significant challenges. The history of low standards, inadequate resources, and a shortage of qualified teachers has left teacher education in a critical state and in dire need of reform (Okebukola, 2021). This situation is further compounded by poor infrastructure, inadequate training, and low motivation among educators (Okojie, Odeleye & Oke, 2014). Despite these challenges, there are opportunities for improvement. Technology, particularly Information and Communication Technology (ICT), holds promise in transforming teaching practices, improving resource accessibility, and enabling professional development (Okolo and Onyilofor, 2019). Collaborations with well-established teacher education systems, both domestically and internationally, offer opportunities for curriculum enhancement and capacity-building (Nwadiani, 2018).

The United Nations adopted the Sustainable Development Goals (SDGs) in 2015 to eradicate poverty, foster prosperity, and protect the environment by 2030. These goals are an extension of the Millennium Development Goals (MDGs) and cover a wider range of issues, including economic growth, innovation, and industry. The SDGs encompass economic, social, and environmental dimensions and seek to achieve sustainable development by promoting economic growth, social inclusion, and environmental protection from degradation, climate change, and biodiversity loss. Benson and Sillah (2020) assert that teacher education is pivotal for SDGs, as educators are instrumental in driving transformation within education systems. Aligning teacher education curricula with SDGs is crucial, and it involves providing candidates with opportunities to learn about SDGs, understand their significance, and develop strategies for their implementation. Revitalizing teacher education in Nigeria is essential to align with SDGs. This requires equipping teachers with the required knowledge, skills, and attitudes to promote sustainable development. Educational institutions must provide essential infrastructure, instructional materials, and competent faculty to achieve this goal. Education is the linchpin for achieving SDGs, particularly in a nation like Nigeria. By embedding SDGs within teacher education, Nigeria can empower its educators to be catalysts for sustainable development. As the nation grapples with challenges in teacher education, there exist promising growth opportunities, including technological integration and international collaborations. It is through such concerted efforts that Nigeria can propel itself toward a more sustainable, equitable, and prosperous future by 2030.

Teachers' knowledge about the Sustainable Development Goals (SDGs) is fundamental to their ability to integrate these principles into their teaching practices. Research suggests that educators' awareness and understanding of the SDGs are crucial factors that impact successful integration (Kalsoom et al., 2019). Additionally, a study by UNESCO (2017) highlighted the significance of comprehensive teacher training programs to enhance educators' knowledge about the SDGs and their interconnected nature. The attitude of teachers towards the integration of SDGs into teaching plays a vital role in shaping the effectiveness of



implementation. Positive attitudes are linked to increased enthusiasm, commitment, and motivation to incorporate sustainable development principles into the curriculum (Abderrahim, 2019). However, several barriers such as time constraints, lack of resources, and perceived relevance may affect teachers' willingness to adopt these goals (Fiel'ardh, 2023). Addressing these concerns is essential to foster a positive attitude among teachers towards SDG integration. The actual implementation of SDGs in the classroom reflects teachers' practices. Studies suggest that incorporating SDGs into teaching methods can enhance students' critical thinking, problem-solving skills, and global citizenship (Fiel'ardh, 2023). However, challenges such as the alignment of teaching materials with SDGs, assessment methods, and classroom activities may affect the achievement of these goals in practice (Abderrahim, 2019).

It is crucial to understand how teachers' knowledge, attitudes, and practices affect the integration of SDGs in the educational system of Nigeria in the 21st century. This comprehension helps to develop effective strategies that promote sustainable development. Teachers' awareness and understanding of SDGs may vary, with some having good knowledge and integrating them into their teaching practices while others may have limited awareness. In Nigeria, where the government is committed to SDGs, teachers should be knowledgeable about the goals and incorporate them into their teaching. To achieve this, professional development programs, curriculum integration, and innovative teaching methods that emphasize the principles of sustainable development are necessary. Teachers must have the necessary knowledge and resources to integrate the SDGs effectively into their teaching practices. This way, they can contribute to the broader national and global efforts towards achieving the SDGs by 2030.

Statement of the Problem

The purpose of this study is to address the issue of the lack of knowledge, attitudes, and practices among teachers when it comes to integrating Sustainable Development Goals (SDGs) into teaching for socio-economic reconstruction in 21st-century Nigeria. Even though education for sustainable development is crucial, there is a gap in understanding how teachers can effectively integrate SDGs into their teaching practices. This study aims to explore the knowledge, attitudes, and practices of teachers towards the integration of SDGs into teaching, as well as identify the challenges and opportunities for effective integration. The findings of this study will help in developing strategies for integrating SDGs into teaching practices and promoting sustainable development in Nigeria.

Research Questions

The following research questions were raised and answered in this study

1. What is the current level of knowledge among teachers in Nigeria regarding SDGs?
2. What are the attitudes of teachers towards the integration of SDGs into their teaching activities?
3. How do teachers currently integrate SDGs into their teaching activities in Nigeria?

Methodology

The study used a descriptive survey research design and did not manipulate the variables under study. The population for the research was all teachers and teacher educators in South-West Nigeria who received formal teacher training from recognized institutions. The region included six states: Lagos, Ogun, Oyo, Ondo, Osun, and Ekiti. A stratified random sampling technique was used to select a sample of 400 teachers and teacher educators from different states. The population was categorized into different strata based on states, institutions, secondary school teachers, and teacher educators (university lecturers from faculties of education in the region). 300 of the respondents were teachers from secondary schools, while

the remaining 100 were lecturers. Using a simple random sampling technique, five public secondary schools each per state, and two public tertiary institutions each per state were selected for the study. The samples were drawn from the six states in the region: Lagos 50 teachers and 17 teacher educators, Ogun 50 teachers and 17 teacher educators, Oyo 50 teachers and 17 teacher educators, Ondo 50 teachers and 17 teacher educators, Osun 50 teachers and 16 teacher educators, and Ekiti 50 teachers and 16 teacher educators. Each participating secondary school had 10 participants, and in total, 30 secondary schools and 12 universities participated in the study.

The research instrument used for the study was a self-constructed structured questionnaire titled: Teachers' Knowledge, Attitudes, and Practices towards the Integration of SDGs into Teaching Questionnaire (TKAPI-SDGs). The questionnaire consisted of 30 items that assessed the extent to which teacher education promotes SDGs in Nigeria. The questionnaire was designed using a 4-point Likert scale that ranged from strongly agree to strongly disagree. The instrument's reliability coefficient was determined through a trial test with 30 teachers and 10 teacher educators, outside the purview of study locations. The result from this exercise was then used to calculate the reliability coefficient of the instrument using statistical methods like Cronbach's alpha. This assessed the internal consistency and reliability of the questionnaire. The result yielded 0.89, which considered the instrument adequate for the study. The data for the study were collected through the use of a self-administered questionnaire, which was administered both online and face-to-face. The online participants were contacted through email and social media platforms, and they were directed to complete the online questionnaire, the data collection period lasted for six weeks. The data collected were analyzed using descriptive statistical tools, including frequency counts, percentages, means, and standard deviation.

Results

Research Question 1: What is the current level of knowledge among teachers in Nigeria regarding SDGs?

Table 1: *Level of Knowledge among Teachers in Nigeria Regarding SDGs*

S/N	Item	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)	Mean	Std. Dev.
1	I believe that teachers in Nigeria have adequate knowledge of the Sustainable Development Goals (SDGs).	30 (7.5)	20 (5)	150 (37.5)	200 (50)	1.70	.26
2	Have you received any training or development programs related to the SDGs?	5 (1.25)	6 (1.5)	209 (52.25)	180 (45)	1.59	.47
3	Teachers incorporate the SDGs in their lesson plans or classroom activities.	3 (0.75)	6 (1.5)	250 (62.5)	141 (35.35)	1.68	.57
4	Are you aware of the specific SDGs that are relevant to the subjects you teach?	3 (0.75)	3 (0.75)	157 (39.25)	237 (59.25)	1.43	.39
5	Do you think that the SDGs are important for the future of Nigeria?	245 (61.25)	55 (13.75)	45 (11.25)	55 (13.75)	3.23	1.10
6	Do you believe that incorporating the SDGs in education will improve students' knowledge and awareness of global issues?	195 (46.75)	100 (25)	40 (10)	65 (16.25)	4.53	.80



7	Have you collaborated with other teachers to incorporate the SDGs in a cross-curricular approach?	10 (2.5)	20 (5)	180 (45)	190 (47.5)	1.63	.37
8	My experience shows that government and education authorities have provided enough support and resources to promote knowledge of the SDGs among teachers.	20 (5)	5 (1.25)	185 (46.25)	190 (47.5)	1.64	.39
9	Would you be interested in attending training or development programs to improve your knowledge and understanding of the SDGs?	200 (50)	180 (45)	9 (2.25)	11 (2.75)	3.42	.98
10	Do you think that the SDGs should be a mandatory part of the curriculum in all schools in Nigeria?	250 (62.5)	126 (31.5)	(2.5)	14 (3.5)	3.53	1.16

Grand Mean: 2.44

Table 1 shows the level of knowledge among teachers in Nigeria regarding SDGS. The table reveals that the respondents agreed to the following items: I believe that teachers in Nigeria have adequate knowledge of the Sustainable Development Goals ($\bar{x} = 1.70$), have you received any training or development programs related to the SDGs? ($\bar{x} = 1.59$), teachers incorporate the SDGs in their lesson plans or classroom activities. ($\bar{x} = 1.68$), are you aware of the specific SDGs that are relevant to the subjects you teach? ($\bar{x} = 1.43$), do you think that the SDGs are important for the future of Nigeria? ($\bar{x} = 3.23$), do you believe that incorporating the SDGs in education will improve students' knowledge and awareness of global issues? ($\bar{x} = 4.53$), have you collaborated with other teachers to incorporate the SDGs in a cross-curricular approach? ($\bar{x} = 1.63$), My experience shows that government and education authorities have provided enough support and resources to promote knowledge of the SDGs among teachers. ($\bar{x} = 1.64$), would you be interested in attending training or development programs to improve your knowledge and understanding of the SDGs? ($\bar{x} = 3.42$), do you think that the SDGs should be a mandatory part of the curriculum in all schools in Nigeria? ($\bar{x} = 3.53$). Based on the grand mean value (2.44 out of the maximum value of 4.00), which falls within the decision value for low, it can be inferred that the Level of Knowledge among Teachers in Nigeria Regarding SDGS is low

Research Question 2: What are the attitudes of teachers towards the integration of SDGs into their teaching activities?

Table 2: *The Attitudes of Teachers towards the Integration of SDGS into Their Teaching Activities*

S/N	Item	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)	Mean	Std. Dev.
1	I believe the SDGs are important for creating a better future for all.	205 (52.25)	130 (32.5)	25 (6.25)	40 (10)	3.25	.92
2	I feel motivated to integrate the SDGs into my teaching.	210 (52.5)	150 (37.5)	25 (6.25)	15 (3.75)	3.39	.97
3	I am aware of the different SDGs and their objectives.	75 (18.75)	85 (21.25)	160 (40)	80 (20)	2.39	.27
4	I understand the role of education in achieving the SDGs.	65 (16.25)	50 (12.5)	200 (50)	85 (21.25)	2.24	.34
5	I feel confident in my ability to incorporate the SDGs into my lesson plans.	55 (13.75)	60 (15)	190 (47.5)	95 (23.75)	2.19	.30
6	I think that teaching the SDGs is relevant to my subject area.	45 (11.25)	55 (13.75)	214 (53.5)	86 (21.5)	2.15	.37
7	I find it challenging to implement the SDGs in my teaching.	250 (62.5)	100 (25)	15 (3.75)	35 (8.75)	3.41	1.14
8	I believe that incorporating the SDGs into my teaching can lead to positive student outcomes.	105 (26.25)	245 (61.25)	20 (5)	30 (7.5)	3.06	.85
9	I feel supported by school leadership in integrating the SDGs into my teaching.	15 (3.75)	20 (5)	255 (63.75)	110 (27.5)	1.85	.54
10	I think that teaching the SDGs is an important component of global citizenship education.	260 (65)	130 (32.5)	6 (1.5)	4 (1)	3.62	1.22

Grand Mean: 2.76

Table 2 shows the attitudes of teachers towards integrating SDGS into their teaching activities. According to the table, respondents agreed to the following items: I believe the SDGs are important for creating a better future for all ($\bar{x}=3.25$), I feel motivated to integrate the SDGs into my teaching ($\bar{x} = 3.39$), I am aware of the different SDGs and their objectives ($\bar{x} =2.39$), I understand the role of education in achieving the SDGs ($\bar{x} =2.24$), I feel confident in my ability to incorporate the SDGs into my lesson plans ($\bar{x} =2.19$), I think that teaching the SDGs is relevant to my subject area ($\bar{x} =2.15$). I find it challenging to implement the SDGs in my teaching ($\bar{x} =3.41$), I believe that incorporating the SDGs into my teaching can lead to positive student outcomes ($\bar{x} =3.06$), I feel supported by school leadership in integrating the SDGs into my teaching ($\bar{x} =1.85$) and I think that teaching the SDGs is an important component of global citizenship education, ($\bar{x} =3.62$). Based on the grand mean value (2.76 out of the maximum value of 4.00), which falls within the decision value for high, it can be inferred that the attitudes of teachers towards the integration of SDGs into their teaching activities are high.

Research Question 3: How do teachers currently integrate SDGs into their teaching activities in Nigeria?

Table 3: Current Teachers' Strategies of Integrating SDGs into their Teaching Activities in Nigeria

S/N	Item	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)	Mean	Std. Dev.
1	Do you include discussions about the SDGs in your teaching?	20 (5)	20 (5)	200 (50)	160 (40)	1.75	.39
2	Do you use examples or case studies related to the SDGs in your teaching?	35 (8.75)	30 (7.5)	210 (52.5)	125 (31.25)	1.94	.38
3	Do you encourage students to think critically about the SDGs and their relevance to their lives?	75 (18.75)	65 (16.25)	172 (43)	88 (22)	2.32	.29
4	Do you integrate the SDGs into your lesson plans and activities?	15 (15)	32 (8)	218 (54.5)	135 (33.75)	1.82	.43
5	Do you collaborate with other teachers or departments to integrate the SDGs into your teaching?	17 (4.2)	43 (10.75)	188 (47)	152 (38)	1.81	.34
6	Do you assess student learning related to the SDGs through assignments or projects	23 (5.75)	47 (11.75)	177 (44.25)	153 (38.25)	1.85	.29
7	Do you assess student learning related to the SDGs through classroom discussions or debates	29 (7.25)	67 (16.75)	179 (44.75)	125 (12.5)	2.00	.28
8	I do not assess student learning related to the SDGs	125 (31.25)	217 (54.25)	33 (8.25)	28 (7)	3.11	.78
9	Do you believe that teaching about the SDGs is important for students' education?	200 (50)	134 (33.5)	30 (7.7)	36 (9)	3.25	.90
10	Do you agree that we are fully equipped to teach about the SDGs?	10 (2.5)	12 (3)	198 (49.5)	180 (45)	1.63	.42

Grand Mean: 2.15

Table 3 shows the strategies used by current teachers in Nigeria to integrate Sustainable Development Goals (SDGs) into their teaching activities. The table indicates that the respondents agreed to the following items: Do you include discussions about the SDGs in your teaching? ($\bar{x} = 1.75$), do you use examples or case studies related to the SDGs in your teaching? ($\bar{x} = 1.94$), Do you encourage students to think critically about the SDGs and their relevance to their lives? ($\bar{x} = 2.32$), do you integrate the SDGs into your lesson plans and activities? ($\bar{x} = 1.82$), do you collaborate with other teachers or departments to integrate the SDGs into your teaching? ($\bar{x} = 1.81$), do you assess student learning related to the SDGs through assignments or projects ($\bar{x} = 1.85$), do you assess student learning related to the SDGs through classroom discussions or debates ($\bar{x} = 2.00$), I do not assess student learning related to the SDGs ($\bar{x} = 3.11$). Do you believe that teaching about the SDGs is important for students' education? ($\bar{x} = 3.25$), do you agree that are fully equipped to teach about the SDGs? ($\bar{x} = 1.63$). Based on the grand mean value of 2.15 out of the maximum value of 4.00, which falls within the decision value for low, it can be inferred that the current teachers' strategies for integrating SDGs into their teaching activities in Nigeria are low.



Discussion

The findings revealed that Nigerian teachers have a low level of knowledge regarding sustainable development goals (SDGs). The grand mean score of the respondents was 2.44 out of a maximum of 4.00, indicating that teachers have a poor understanding of the SDGs. The respondents' agreement to various items related to their knowledge of SDGs, such as incorporating SDGs in lesson plans, awareness of relevant SDGs to the subjects they teach, and collaboration with other teachers to incorporate SDGs, also point towards a low level of knowledge among teachers in Nigeria about SDGs. This finding corroborates Omisore, et al (2017) that found only 43% of respondents in a university community in Southwestern Nigeria were aware of the SDGs, and only 4.2% had good knowledge of them. The low level of knowledge among teachers has implications for integrating SDGs into the education system and the potential impact on students' awareness of global issues. This situation is particularly worrying given the crucial role of education in achieving the SDGs, and teachers' role in implementing curricular changes that can foster awareness and understanding of these goals among students (Omisore et al., 2017). Without adequate knowledge, teachers may struggle to integrate SDGs into lesson plans or collaborate effectively with peers in a cross-curricular approach. The respondents' interest in attending training programs to improve their understanding of the SDGs highlights the gap in knowledge and training (Bascopé, et al., 2019).

Recent academic research highlights the importance of having a systematic approach to education for sustainable development (ESD) and global citizenship. This involves developing teaching methods and providing professional development opportunities for teachers to ensure they can effectively contribute to achieving Sustainable Development Goals (SDGs) (Bascopé, et al., 2019; Omisore, et al 2017). The findings suggest that there is a clear need for targeted interventions to improve the knowledge of teachers in Nigeria regarding the SDGs. This may include developing comprehensive training programs, incorporating SDGs into teacher education curricula, and providing resources and support from government and education authorities. It is also important to make SDGs a mandatory part of the curriculum in all schools in Nigeria to ensure that students are well-informed about global issues and sustainable development goals. The study found that teachers generally have a positive attitude towards integrating the Sustainable Development Goals (SDGs) into their teaching activities. This aligns with recent research that highlights the growing recognition of the importance of SDGs. For instance, a 2020 study by Vernia et al. revealed that Malaysian university teachers displayed positive attitudes towards the SDGs, recognizing their significance for a sustainable future. Similarly, Yager et al. (2018) reported that pre-service teachers in the US acknowledged the relevance of SDGs in creating a better future. The findings also show that teachers feel motivated and confident in incorporating SDGs into their lessons. This resonates with Mørck Jensen et al. (2022), who found that Danish teachers are motivated to integrate sustainability education but expressed concerns about limited resources and guidance. Similarly, Özgün-Koçyiğit & İşman (2020) reported that Turkish teachers value sustainability education but need support to overcome implementation challenges. The study also reveals that teachers perceive SDGs as relevant to their subjects, which aligns with studies like Ferrer-Balas et al. (2018), who demonstrated successful SDG integration across diverse disciplines. This highlights the universality and interconnectedness of the SDGs. However, the reported struggle with implementation echoes common concerns raised by teachers. A study by Fang et al. in 2019 identified a lack of time, resources, and training as key barriers in China. Similarly, Mørck et al. (2022) emphasized the need for school leadership support and collaborative learning opportunities for teachers.

The findings suggest that teachers have a positive attitude towards integrating Sustainable Development Goals (SDGs) into their teaching, but they need support to overcome implementation challenges. Adequate support is crucial to ensure effective SDG integration and maximize its potential impact on student learning and global citizenship development. The study reveals that Nigerian teachers have relatively low implementation of SDG integration strategies. This finding aligns with recent studies that have raised concerns about limited integration practices of SDGs in schools. A study by Mørck et al. (2022) found that Danish teachers are motivated towards sustainable education but face implementation challenges. Fang et al. (2019) reported limited SDG integration in Chinese classrooms due to time, resource, and training constraints. The study also reveals that teachers do not assess their students about SDGs. The low reported use of SDG-related assessments resonates with Özgün-Koçyiğit & İşman (2020), who identified difficulty in assessing sustainability concepts as a barrier for Turkish teachers. Similarly, Mador et al. (2017) highlighted the need for developing appropriate assessment tools for SDG-based education. The study further reveals that teachers do not feel fully equipped to teach about SDGs. This finding aligns with Mørck Jensen et al. (2022), who identified a need for training and support for Danish teachers. Likewise, Yager et al. (2018) reported that pre-service teachers in the US expressed a need for guidance and resources to effectively integrate SDGs. While teachers seem to recognize the value of SDG education, low-reported implementation suggests challenges hindering effective integration. Therefore, addressing these challenges through targeted interventions is crucial.

Conclusion

The study revealed that Nigerian teachers are interested in integrating the Sustainable Development Goals (SDGs) into education. However, their knowledge and implementation strategies currently lack in effectiveness. This shortfall is a significant barrier to achieving the potential impact of SDG education on students' awareness and understanding of global issues.

Recommendations

Based on the findings, the following recommendations are proposed:

1. Development and implementation of comprehensive training programs that will equip teachers with the knowledge, skills, and pedagogical approaches needed to effectively integrate SDGs into their lessons.
2. Integrating SDGs into teacher education curricula to ensure pre-service teachers receive adequate training on SDGs and their integration into various subjects.
3. Provision of ongoing professional development opportunities to keep teachers updated on the latest developments and best practices in SDG education.
4. Resources and materials should be allocated for providing teachers with access to relevant resources, teaching materials, and technology to facilitate SDG integration into their lessons.
5. Encouraging interdepartmental and cross-disciplinary collaboration among teachers to share best practices and support each other.
6. School leaders should demonstrate commitment to SDG education by providing clear guidelines, allocating time, and recognizing teachers' efforts.
7. Develop clear and practical assessment tools and methods aligned with learning objectives to assess students' understanding and application of SDGs.



8. Making SDGs a mandatory part of the curriculum will ensure all students receive consistent exposure to global issues and sustainable development goals.
9. Developing national guidelines and resources to provide clear guidance and support materials for teachers and schools to implement SDG education effectively.

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