

*Building Capacity to Promote Sustainable Education: Strategies and Policies*

بناء القدرات لتعزيز التعليم المستدام: استراتيجيات وسياسات

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Abstract:

This study is a comprehensive attempt to explore and evaluate policies and strategies for capacity building and promoting sustainable education. The research focuses on providing an integrated framework that governments and educational institutions can use to achieve sustainable development goals through education. The research used the interpretive scientific approach, which uses knowledge to explain phenomena, matters and things through groups of interconnected concepts called theories. This approach is concerned with reaching specific scientific results using logical and rational patterns that show the researcher's interest in analyzing the information and data at hand. The results showed that comprehensive and integrated strategic planning, providing financial and material support, effective partnerships, the use of technology, and continuous training for teachers are critical factors in achieving sustainable education.

Keywords: sustainable education; capacity building; opportunities and potentials; challenges and obstacles.

ملخص باللغة العربية

تعد هذه الدراسة محاولة شاملة لاستكشاف وتقييم السياسات والاستراتيجيات لبناء القدرات وتعزيز التعليم المستدام. حيث يركز البحث على تقديم إطار عمل متكامل يمكن للحكومات والمؤسسات التعليمية استخدامه لتحقيق أهداف التنمية المستدامة من خلال التعليم. أستخدم البحث المنهج العلمي التفسيري، يستخدم المعرفة لتفسير الظواهر والأمور والأشياء بواسطة مجموعات من المفاهيم المترابطة تسمى النظريات. وهذا المنهج يهتم بالوصول إلى نتائج علمية محددة باستخدام أنماط منطقية وعقلانية تظهر اهتمام الباحث بتحليل المعلومات، والبيانات الموجودة بين يديه، أظهرت النتائج أن التخطيط الاستراتيجي الشامل والمتكامل، وتوفير الدعم المالي والمادي، والشراكات الفعالة، واستخدام التكنولوجيا، والتدريب المستمر للمعلمين، هي عوامل حاسمة في تحقيق التعليم المستدام. كلمات مفتاحية: : التعهيم المستدام; بناء القدرات; الفرص والامكانات; التحديات والعوائق.

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## **1. Introduction**

Sustainable education is one of the main pillars for achieving sustainable and comprehensive development in modern societies. It seeks to provide individuals with the knowledge, skills, and values necessary to face contemporary environmental, social, and economic challenges. With the growing global awareness of the importance of sustainable education, there has become an urgent need to develop effective policies and strategies to build capacity and promote this type of education at all levels. In light of the increasing challenges facing the world today, from climate change, scarcity of natural resources, and the exacerbation of social problems, sustainable education appears as a pivotal means to enable future generations to deal effectively with these challenges. Hence the importance of capacity building to promote sustainable education, as achieving this goal requires the adoption of integrated strategies and supportive policies that include various educational sectors and levels.

## **2. Research problem**

Despite the great progress made by many countries in the field of education, achieving sustainable education remains a major challenge worldwide. Therefore, the ability to build a sustainable and integrated education system, capable of facing the increasing environmental, social, and economic challenges, is one of the most important priorities that require comprehensive and serious treatment. The research problem lies in how to develop and implement effective policies and strategies for capacity building to promote sustainable education. Many education systems lack integration and comprehensiveness in their policies and strategies to achieve sustainable education goals, which hinders efforts to build a sustainable and educated society.

## **3. Study Questions:**

1. What are the main challenges facing educational systems in achieving sustainable education?
2. What are the best practices and strategies for capacity building in the field of sustainable education?
3. How can governments and educational institutions adopt and implement effective policies to promote sustainable education?
4. What are the successful examples of capacity building in sustainable education at the global level, and what lessons can be learned from them?

## **4. Importance of the research**

- 1) The research contributes to enhancing the theoretical understanding of the concepts of sustainable education and capacity building, which adds to the scientific literature in this field.
- 2) The research contributes to identifying effective strategies for capacity building, which leads to improving the quality of education and providing a sustainable educational environment.

3) The research encourages the strengthening of partnerships and international cooperation in the field of sustainable education, which contributes to the exchange of experiences and successful experiments.

### **5. Research Objectives**

1. Provide an integrated view of the concept of sustainable education and its importance in achieving comprehensive and sustainable development.

2. Study the challenges and obstacles facing educational systems in achieving sustainable education and identify the underlying causes.

3. Analyze and study effective strategies for capacity building in the field of sustainable education, with a focus on successful models and good practices.

### **6. Definitions and Terminology**

**Sustainable Education:** Sustainable education can be defined as an educational process that aims to equip learners with the ability to think critically, make informed decisions, and act responsibly in local and global contexts to balance environmental, economic, and social needs. Sustainable education promotes intergenerational understanding and encourages the adoption of practices that promote sustainability in everyday life. (UNESCO, 2014)

**Principles of Sustainable Education:** Integration and inclusiveness, education for action, critical thinking and problem-solving, lifelong learning, collaboration, and partnerships.

**Objectives of Sustainable Education:** Promote environmental awareness, develop critical thinking skills, encourage community participation, and support innovation and creativity. (Sterling, 2004)

**Methodology:** The scientific interpretive approach uses knowledge to explain phenomena, matters, and things using sets of interconnected concepts called theories. This approach is concerned with reaching specific scientific results using logical and rational patterns that show the researcher's interest in analyzing the information and data available to him, and highlight the best way to address his research problem (Abdul-Momen, 2008)

**Study procedures:** Based on the study approach, the researcher discussed the study objectives in a theoretical, logical, and rational manner from its various sources and the theories and philosophies based on it.

### **7. Review of previous literature**

A. Research related to sustainable education: Many studies have addressed the definitions and concepts of sustainable education, explaining its importance in achieving sustainable development. Research has indicated that sustainable education requires the adoption of comprehensive educational curricula based on environmental, social, and economic values (UNESCO, 2014).

Sustainable education strategies: Research has addressed multiple strategies to promote sustainable education, including integrating environmental issues into curricula and developing training programs for teachers (Sterling, 2010). Studies have indicated the importance of cooperative and interactive education in achieving sustainable education goals (Tilbury, 2011).

Research has addressed the definitions of capacity building and its importance in enabling individuals and institutions to achieve their goals efficiently and effectively. Studies have indicated that capacity building includes developing skills and knowledge and enhancing organizational and institutional capacities (Morgan, 2006).

Research has addressed multiple models for capacity building, including the human capital model, the empowerment model, and the organizational learning model. Studies have indicated that applying these models contributes to achieving sustainable development and improving institutional performance (Simmons & Powell, 2020).

Research has emphasized the role of sustainable education in capacity building by providing individuals with the skills and knowledge necessary to address environmental, social, and economic challenges. Studies have indicated that sustainable education enhances critical thinking, problem-solving, and cooperation (Saleem et al., 2023).

Research has addressed the challenges facing capacity building in the field of sustainable education, including lack of resources, institutional challenges, and the need for policy integration (UNDP, 2015). Studies have indicated that overcoming these challenges requires the adoption of comprehensive and multi-level strategies (Eade, 2007).

Research has examined case studies from different countries that have demonstrated successes and challenges in building capacity and promoting sustainable education. Studies have pointed to the importance of local context in implementing strategies and policies (Jickling & Wals, 2008).

The current reality of sustainable education: Despite the growing recognition of the importance of sustainable education, the extent of its adoption and implementation varies greatly between countries and regions. UN reports indicate that many countries have begun to integrate sustainable education concepts into their education policies, but practical implementation remains uneven. (UNESCO, 2020)

Many countries are developing national strategies to promote sustainable education. For example, some countries have integrated sustainable education goals into their curricula and launched teacher training initiatives (OECD, 2018).

### **8.1 Challenges and obstacles:**

Lack of funding and resources: including lack of financial support: sustainable education programs require significant investments in infrastructure, curricula, and teacher training (World Bank, 2019).

And lack of educational resources: such as interactive study materials, technological tools, and innovative learning environments (UNESCO, 2018).

**Institutional challenges:** These include organizational structure resistance to change, and lack of specialized competencies: Sustainable education suffers from a lack of specialized competencies that possess the knowledge and experience necessary to effectively develop and implement sustainable education programs (Sterling, 2004).

**Regional disparities:** The urban-rural gap: Rural areas lack the infrastructure and resources necessary to support sustainable education (UNESCO, 2019). Also, disparities between developed and developing countries: Developing countries lack the financial and human resources necessary to support sustainable education initiatives (OECD, 2018).

**Lack of awareness and understanding:** These include a lack of community awareness, and a lack of training and professional development for teachers: Many teachers lack adequate training on sustainable education and its methods, which limits their ability to integrate sustainability concepts into curricula.

**Environmental and political challenges** Climate and environmental changes: Sustainable educational efforts face major challenges as a result of climate and environmental changes, which may affect available resources and impose additional pressures on education systems (UNEP, 2019). Also, political stability: Unstable political situations and conflicts affect the ability to implement sustainable education programs, as these conditions hinder educational efforts and limit international funding and support (UNDP, 2015).

## **8.2 Opportunities and Potential:**

### **Technology and Innovation**

**A-Technological tools** are used to develop interactive curricula and deliver online educational programs, which increases access to sustainable education. By developing digital educational platforms, they provide interactive educational content and online lessons. These platforms contribute to increasing access to sustainable education and providing diverse educational resources. And providing a digital educational environment that allows students to access educational content, submit assignments, and interact with teachers and colleagues.

**B-Digital libraries** provide access to a wide range of educational resources such as e-books, scientific articles, and research studies.

**C-Open education platforms:** Open education platforms such as MOOCs (massive open online courses) can contribute to expanding access to sustainable education, by offering free or low-cost courses in various fields related to sustainability.

Also encouraging e-learning, distance learning, and virtual classrooms as a means of promoting sustainable education. This can contribute to providing flexible and appropriate educational opportunities for all individuals regardless of their geographical location.

C- Employing innovation and modern technologies: including interactive learning, smart boards, simulation programs, and educational games, to enhance interactive learning and motivate students. These tools allow students to interact with educational content in innovative and enjoyable ways. Also, virtual and augmented reality (VR/AR) contribute to providing immersive and realistic educational experiences. These technologies can include simulating different educational environments and providing interactive and multi-dimensional educational content. Finally, artificial intelligence (AI) plays a major role in improving education by developing smart educational systems that adapt to the needs of individual students. These systems include providing personal guidance, analyzing academic performance, and providing immediate support to students. (Anderson, 2016).

### **8.3. Partnerships and international cooperation**

A- These partnerships contribute to the exchange of expertise and resources, developing joint educational programs for cooperation between educational institutions, and enhancing cooperation between educational institutions at the local and international levels to exchange expertise, resources, and best practices. These partnerships include universities, schools, and non-governmental organizations. The private sector contributes to capacity building by providing financial and technical support and implementing joint training programs. This enhances the effectiveness of efforts made to achieve sustainable education. B- Cooperation with international organizations: Cooperation with international organizations such as UNESCO, UNICEF, and the United Nations Development Program to exchange experiences and obtain technical and financial support. These partnerships can contribute to achieving the global goals of sustainable education. (Tilbury & Wortman, 2004).

C- International organizations participate in launching educational initiatives and programs aimed at promoting sustainable education at the global level. These initiatives include training programs, the exchange of experiences, and the development of sustainable education policies.

D- International conferences and forums contribute to the exchange of ideas and experiences between countries and educational institutions. These events provide a platform for discussion and cooperation in developing joint solutions to global challenges in the field of sustainable education.

C- Supportive legislation and policies: It contributes to providing an enabling environment for implementing sustainable education initiatives. These policies include supporting research and development, providing the necessary funding, and promoting innovation (Tilbury, 2011).

. Continuing education and lifelong learning

A- Encouraging continuing education and lifelong learning by providing opportunities for continuous professional development for teachers and educational staff. This helps to update knowledge and skills periodically.

Providing training and professional development programs for teachers to enhance their skills in using technology in education. These programs include training on the use of various technological tools and designing interactive curricula.

C- Encourage teachers to learn continuously and update their technological skills periodically. This contributes to enhancing innovation in education and improving the quality of teaching.

D-Forming communities of professional practice: where experiences and knowledge are exchanged between teachers and enhancing cooperation in the field of using technology in education. These communities include online forums, workshops, and training seminars. (United Nations Development Programme, 2015).

By understanding the concept of sustainable education, its principles, and objectives, effective strategies and policies can be designed to promote this type of education and build the necessary capacities to achieve sustainable development. The theory of sustainable development is directly related to capacity building, as it emphasizes the importance of developing the skills and knowledge of individuals and societies to face environmental, social, and economic challenges. This theory considers that capacity building must be done in a way that enhances sustainability and achieves a balance between current and future needs.

Capacity building strategies: Capacity building strategies are pivotal in promoting sustainable education, as they aim to develop the skills, knowledge, and capacities necessary for individuals and institutions to achieve the goals of sustainable development. Capacity building requires an integrated approach that includes strategic planning, training and professional development, partnerships and international collaboration, and the use of technology. Policies to promote sustainable education: Policies play a pivotal role in promoting sustainable education by providing an institutional and legislative framework that supports educational initiatives and programs that focus on sustainability. These policies include government interventions, institutional policies, legislation, and laws that aim to achieve the goals of sustainable education.

#### **8.4 Government policies**

A-Integrating sustainable education into national policies: National education policies should include clear and specific goals to promote sustainable education. This requires integrating sustainability concepts into curricula at all educational levels, from basic education to higher education.

B-Allocating adequate funding: Governments should allocate adequate financial resources to support initiatives and programs that promote sustainable education. This includes financing educational infrastructure, providing educational resources, and supporting research and development in the fields of sustainability.

C-Training and professional development: Government policies should adopt training and professional development programs for teachers and administrators to enhance their capacities in applying the principles of sustainable education. These programs may include workshops, training courses, and continuing education programs.

D-International cooperation: Government policies should encourage international cooperation with international organizations and educational institutions in other countries to promote sustainable education. This may include the exchange of expertise, research partnerships, and academic exchange programs (OECD, 2018).

### **8.5 Institutional Policies**

A-Integrating Sustainability into the Institution's Vision and Mission: Educational institutions should adopt a vision and mission that focuses on sustainability.

B-Developing Sustainable Curricula: Curricula should include topics related to sustainability, such as climate change, natural resource management, and sustainable economic development. This can be done by integrating these topics into existing curricula or developing new materials dedicated to sustainability.

C-Promoting Scientific Research: Institutional policies should support scientific research in the areas of sustainability. This can include providing funding for research, encouraging collaboration between different academic departments, and organizing research conferences and seminars.

D-Promoting Community Participation: Institutional policies should encourage students and faculty to participate in community initiatives that focus on sustainability. These initiatives can include volunteer work, community projects, and partnerships with non-governmental organizations.

#### **C. Supporting Legislation and Laws**

A-Environmental Laws: Governments should adopt strict environmental laws aimed at protecting the environment and promoting sustainability. These laws may include legislation on waste management, conservation of natural resources, and the promotion of renewable energy.

B-Educational laws: Education laws should include provisions that support sustainable education. These provisions may include requirements to integrate sustainability into curricula, provide funding for sustainable education programs, and develop criteria to evaluate the performance of educational institutions in the field of sustainability.

C-Financial incentives: Governments should provide financial incentives to educational institutions that achieve outstanding performance in the field of sustainable education. These incentives include additional funding, tax exemptions, and financial support for sustainable programs and projects.

D-Monitoring and evaluating policies

A-Key performance indicators (KPIs): Policies should include mechanisms to monitor and evaluate performance using key performance indicators. These indicators include the extent to which sustainable education goals are achieved, improving the quality of education, and increasing awareness of sustainability among students.

B-Progress reports: Policies should include the preparation of periodic reports on progress made in achieving sustainable education goals. These reports should include quantitative and qualitative data on the performance of educational institutions and sustainable initiatives.

T- Periodic review and updating: Policies should include mechanisms for periodically reviewing and updating policies based on continuous assessments and changing needs. This contributes to improving the effectiveness of policies and adapting them to new developments in the field of sustainable education. (World Bank, 2019).

### **8.5 Strategies followed by European countries to develop sustainable education**

- Develop curricula that include environmental and social sustainability topics.
- Provide ongoing training programs for teachers to enable them to apply sustainable education.
- Encourage scientific research in the fields of sustainability and allocate the necessary funding for this.
- Increase students' awareness of the importance of sustainability and enhance critical thinking skills.
- Improve the quality of education and achieve advanced positions in international educational assessments.
- Develop innovative environmental projects with the participation of students and the local community.
- Integrate sustainable education into national education policies.
- Cooperate with the private sector to provide advanced educational resources.
- Use technology to promote sustainable education, such as digital educational platforms and virtual reality.
- Cooperate with international organizations to exchange experiences and improve educational practices.

### **8.6 Lessons learned from successful experiences:**

**Integration and comprehensiveness:** Integrating sustainability concepts into educational curricula and policies at all levels, has had a significant positive impact. Sustainable education should be an integral part of the entire education system.

**Collaboration and partnerships:** Partnerships and collaboration between educational institutions, governments, the private sector, and international organizations have played a major role in achieving success. These partnerships have contributed to the exchange of expertise and resources, and enhanced joint efforts to achieve sustainable goals.

**Innovation and technology:** Technology and innovation have played a pivotal role in improving the quality of education and expanding access to it. Technological tools such as learning management systems, digital libraries, and e-learning have helped provide interactive and innovative educational experiences.

**Training and professional development:** Successful experiences have shown that investing in teacher training and developing their skills has had a significant impact on promoting sustainable education. Ongoing training programs have helped enable teachers to effectively apply sustainability concepts in the classroom.

**Learner-centeredness:** Focusing on learners' needs and providing interactive and stimulating learning environments have been important factors in the success of sustainable education. Educational programs should be designed to be flexible and adaptable to the different needs of learners.

**Enhancing community engagement:** Successful experiences have shown that enhancing community engagement in sustainable education initiatives enhances the effectiveness of these initiatives. This can be achieved by encouraging the active participation of students, parents, and the local community in sustainable programs and projects.

**Continuous evaluation and adaptation:** Continuous evaluation and adaptation based on results have played a major role in improving the effectiveness of sustainable education. Policies should include periodic evaluation mechanisms to identify strengths and weaknesses and adjust strategies based on the data obtained.

**Lifelong education:** Experiences have shown that encouraging lifelong education and providing continuous learning opportunities for teachers and students has had a significant positive impact. Continuous education can contribute to enhancing the skills and knowledge needed to adapt to future challenges and achieve sustainability.

**Financial and material support:** Adequate financial and material resources have been a critical factor in the success of sustainable education initiatives. Financial support from governments, the

private sector, and international organizations has contributed to financing educational infrastructure, developing curricula, and providing training for teachers.

Effective strategic planning: Successful experiences have shown the importance of having clear and specific strategic plans aimed at integrating sustainable education into educational curricula and policies. Strategic planning has helped direct efforts and resources toward achieving the set goals effectively.

### **9.Results:**

The results showed that comprehensive and integrated strategic planning, provision of financial and material support, effective partnerships, use of technology, and continuous training of teachers are critical factors in achieving sustainable education.

### **10. Recommendations**

- Develop comprehensive national policies for sustainable education
- Allocate sufficient financial resources to support sustainable education initiatives, including infrastructure development, provision of educational resources, and funding of training and professional development programs for teachers.
- Encourage cooperation with international organizations and educational institutions in other countries to exchange experiences, resources, and best practices in the field of sustainable education.
- Develop and update curricula to include sustainable education topics such as climate change, natural resource management, and sustainable economic development.

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