Integrating Sustainability in ELT

Dewi Sari Wahyuni, Yenni Rozimela(✉), Havid Ardi, and Mukhaiyar Mukhaiyar

Padang State University, Padang, Indonesia
`yenni.rozimela@fbs.unp.ac.id`

Abstract. Concern over sustainability is rising to the surface. It has lately taken center stage as a growing number of people understand how what were formerly considered normal, unsustainable activities in life have depleted our planet's resources and ripped society. As people lose touch with those two, the earth is forced to bear the consequences of local and global catastrophes. The planet is entering the Anthropocene epoch, which is thought to have begun with the Industrial Revolution when humans surpassed animals as the dominant force in the natural environment. In a nutshell, sustainability refers to the capacity of current generations to meet their own needs without jeopardizing the ability of future generations to do the same themselves. Three pillars characterize sustainability: the environment, society, and the economy, which are generally referred to as the 3Ps: Planet, People, and Profits (Planet, People, and Profits). This paper is discussed in three sections: 1) Education for Sustainability (EfS), 2) Sustainable Development Goals (SDGs), and 3) Education for Sustainable Development (ESD). The topic of sustainability is vital, and it should be addressed as an inherent element of education, particularly in language education such as ELT. The students learn something and become the agents of change for making the world a better place to live by integrating sustainability into their learning.

Keywords: Education for Sustainability · Sustainable Development Goals · Education for Sustainable Development

1 Introduction

Regarding numerous realms of life, sustainability denotes the capacity to undertake reasonably constant conduct over time. As used in the twenty-first century, this term resonates with the capability of humans to live in a well-maintained natural environment. Sustainable development has been defined as filling the present generation's requirements without jeopardizing subsequent generations' ability to meet their own needs. Many people describe sustainability as the interconnectedness of the areas of the environment, the economy, and society. The critical nature of increasing awareness about sustainability and the reality that every human activity contributes to sustainable living challenges can no longer be overlooked. Sustainable Development is commonly debated in the context of culture, technological advancements, economics, and politics [1–6].

Three pillars define sustainability: the environment, society, and economy, collectively referred to as the 3Ps: Planet, People, and Profits. The 1990s saw the emergence of a

new perspective on sustainability. Instead of viewing sustainability as a conflict between human ambitions for enhanced well-being and the restrictions imposed by the environment in this context, it is viewed as a systemic approach to these aspirations, which also considers environmental concerns. According to this view, sustainable development is defined by the interconnected areas or pillars of environmental, economic, and social well-being or sustainability. This viewpoint is simplistic, with the three dimensions seen to be equivalent, and the goal is to achieve a harmonious balance between them. In more complex versions, it is recognized that the economic dimension is subsumed within the social dimension, that the economy is a component of society, and that the environmental dimension constraints and influences both the social and economic dimensions. The three pillars are interdependent, and none can live without the others in the long term. Because of the rapid advancement of science and the evolution of public opinion, the term "sustainability" and its resulting definition are constantly changing and adapting [7–13].

Consciousness about sustainability is rising to the surface. It has recently become a primary focus as an increasing number of people recognize how what were once considered normal, unsustainable practices in life have consumed the earth and torn society apart. As people lose contact with those two, the earth is forced to suffer the costs of local and global calamities. The planet enters the Anthropocene period, which is thought to have begun with the Industrial Revolution when humans surpassed animals as the dominating force in nature. As a result of those seemingly regular daily activities concerning the 3P, the planet is extensively miserable due to the 3P. As an ecological concept, sustainability is used to view the world as a connected and interconnected system whose stability is contingent on the balance of its parts. Currently, the notion, as mentioned earlier, has broadened its scope beyond the confines of simple ecology to embrace all aspects of human activity [9, 12, 13, 14–21].

This paper aims to promote integration sustainability in ELT by discussing what has been done based on the time frames. Education for Sustainability (EfS), which mostly emphasized the ecological approach to ELT. Then, this sustainability issue rises into a wider scope known as global issues covered by Sustainable Development Goals (SDGs) issued by the United Nations. Subsequently, Education for Sustainable Development (ESD) has been implemented and continues to metamorphose as the key enabler to achieving all SDGs.

2 Discussion

2.1 Education for Sustainability (EfS)

Globally, communities are becoming more aware of climate change's impact. Sustainability is a contentious issue that successive generations debate. As such, ELT should integrate this topic into the classrooms. Teachers can affect change in their classrooms, preparing students to thrive in a future world that has improved. Sustainability is critical in education; it is crucial for everyone because education plays an essential role in society.

Sterling says that it is vital for learning to evolve into a more expansive environment that promotes sustainability because learning is a system capable of preserving and

adapting itself to the environment in which it takes place [22, 23]. Because education is for everyone and learning is a lifelong process, Education for Sustainability (EfS), which later evolved into Education for Sustainable Development (ESD), is intended to assist in the change toward sustainability in all aspects. It also highlights that in formal education, the responsibility for learning is shared by all parties and stakeholders involved in the process. The ability of students to build and maintain sustainability may depend on them. Being a part of society, these students should not have been forced-fed with knowledge and disconnected from their roots in nature [15, 23–31]. Universities all over the world have integrated education for sustainable development into their curricula [32–37]. Some have even created a specific course or major on this issue.

Bowden [15], in agreement with Sterling, recommended including the sustainability concept within ELT. Because English is a global language, it is no longer exclusive to countries where people speak it. One can use this language as a medium to tell stories about global communication and as a tool to develop thoughts, communicate across borders, work with assumptions, and create new information using it. When English brings together multilingual people in specific situations and societies, it helps to alter perceptions and opportunities. Research and development, education, and training are all facilitated by using English in worldwide trade and industry. Because English is such a widely used language, it has evolved. It is constantly under worldwide compromise, so the word gets out. In his opinion, English teachers must reveal any implicit or inferred assumptions when teaching and using this language and must promote critical thinking, creativity, collaboration, and communication (4C) in their students. The process of learning a language or literacy is not neutral.

Digging deeper into Bowden's perspective, the researchers believe that students, not only teachers, would be better equipped to select tools that align with this goal and engage them in the process if they had an orientation in EfS that addressed both the technique and content of ELT. It would also be possible to work across sectors, such as with the United Nations or conservation organizations, or establish their organizations if EfS was implemented through English education in the classroom. Teachers and students alike would be inspired by it. An open discussion about real-world challenges on campus, learning real-world skills, and making genuine changes is possible. Both teachers and students would benefit from a more personal understanding of the sustainability debate, motivating them to participate in conversations at all levels.

A bit different from Bowden's idea, the researchers consider that the emphasis should be placed on students rather than teachers when it comes to enhancing the sustainability focus of an ELT course.

- Students should be encouraged to engage in broader debates about sustainability and society and to draw connections between education and their classrooms.
- Students' autonomy is enhanced when they are given the ability to pick, produce, and acclimatize actions and knowledge relevant to their contexts.
- It is essential to restructure curricula to reflect an ecological worldview. The goal should be to integrate disciplines and teach skills and competencies such as learning to learn, critical thinking, creativity, managing change, and dealing with challenges,

rather than reductively separating fact-based subjects. The importance of collaboration, producing and using the language, and responding to the actual language are all emphasized.

- Instructional materials should be personally and locally relevant and linked to broader topics.
- The importance of skills like critical thinking from a systems perspective, creating meaning rather than simply imparting it, and collaborating should be emphasized.
- Increased connection to the local and global issues
- The goal is to develop unambiguous policy statements concerning learning and social transformation in collaboration with the larger learning institution. It would align curriculum and organizational practices with the vision and assist in transforming learning organizations.

2.2 UN Sustainable Development Goals (SDGs)

On September 25, 2015, all member states of the United Nations signed into law a series of solutions to the world's most pressing challenges. The Sustainable Development Goals (SDGs) are a collection of answers to the world's most pressing problems. They were established in 2015. In particular, climate change and the environment are the most critical areas in which people must act immediately and raise awareness of the importance of sustainable living. United Nations member countries agreed in 2015 that they could make a positive difference around the globe. Their governments, corporations, and media will collaborate with higher education institutions and local non-governmental organizations to better the lives of the people in their countries by 2030, which will be accomplished through international cooperation.

Sustainable development adheres to environmental responsibility and energy savings guidelines when developing new projects and maintaining and retrofitting existing ones. In new construction, it can include the use of environmentally friendly materials, the design of projects that can generate their energy to reduce the load on a power grid, and the incorporation of natural areas to counterbalance the loss of natural areas due to the construction of onsite facilities. Maintenance and repair are prioritized to keep the initial development in good condition for as long as possible, increasing a facility's lifespan. Sustainable development is the organizing concept for achieving human development goals while preserving natural systems' capacity to supply the natural resources and ecosystem services that the economy and society rely upon. The targeted outcome is a state of society in which living conditions and resources are utilized to meet human needs in a way that does not jeopardize the natural system's integrity and stability. Sustainable development is progress that satisfies current needs without jeopardizing future generations' ability to meet their own (https://sdgs.un.org). A brief explanation of the 17 goals of the Sustainable Development Agenda is as follows:

Maley & Peachey [38] recommended that the SDGs incorporate global issues into various types of English language classrooms. Afterward, Bekteshi & Xhaferi [39] and Kwee [40] introduced the concept to students from the Faculty of Education. They link SDGS with English Language Learning (ELL) and English Language Teaching (ELT). The SDGs have favorably influenced English Language Learners' ability to function as responsible citizens in ELT settings [41].

2.3 Education for Sustainable Development (ESD)

Education has played a role in society for centuries, adapting to the available knowledge, circumstances, and needs of the time. Education institutions must teach about the world to prepare students to enter it with the values and skills they require, which includes responding to the world as it is at the time. There has never been a more pressing need for society to address the environmental crisis than there is now. Students will become aware that they can contribute to and shape a sustainable future by incorporating sustainability. It will instill confidence in them in their ability to begin implementing those changes and have an impact.

This perspective holds that sustainable development can be characterized by the interdependent domains or pillars of environmental, economic, and social well-being or sustainability. This perspective is overly simplistic as all three dimensions are treated as being on an equal footing, and the aim is to strike a balance that is both harmonious and effective between them. In more complex formulations, it is acknowledged that the social dimension encompasses the economic dimension, that the economy is an element of society, and that the environmental dimension constraints and influences both the social and economic dimensions. The three pillars are interdependent; over the long term, none of them can function properly without the others. The concept of "sustainability" and the definition that follows are continuously evolving and redefining themselves as a result of the rapid development of scientific knowledge and the shift in public opinion [7–13].

According to the UNESCO Framework [42], Education for Sustainable Development (ESD) equips learners with the information, skills, values, and attitudes necessary to make informed choices and conduct responsible actions that promote environmental integrity, economic viability, and social justice. It is a process that continues throughout

one's life and is a necessary component of a high-quality education. It facilitates learning at cognitive, social, emotional, and behavioral levels. It is comprehensive and transformative, including learning content and results, pedagogy, and the physical learning environment. ESD is acknowledged as a critical facilitator of Sustainable Development Goals and accomplishes its mission via social transformation. ESD enables individuals of all genders, ages, and generations to work together while recognizing and respecting cultural differences.

From 2005 to 2014, ESD focused on quality education with four thrusts of ESD: 1) access to quality basic education, 2) reorienting existing education, 3) public awareness and understanding, and 4) training programs for all sectors. Meanwhile, the Global Action Program (2015–2019) focuses on generating and scaling up action for SDGs. ESD for 2030 emphasizes achieving SDGs to increase the contribution of education to building a more just and sustainable world.

ESD equips learners with the information, skills, values, and attitudes necessary to make informed choices and conduct responsible actions that promote environmental integrity, economic viability, and social justice. It is a process that continues throughout one's life and is a necessary component of high-quality education. It facilitates learning at cognitive, social, emotional, and behavioral levels. It is comprehensive and transformative, including learning content and results, pedagogy, and the physical learning environment. This kind of education is acknowledged as a critical facilitator of the SDGs and accomplishes its mission via social transformation. ESD enables individuals of all genders, ages, and generations to recognize and respect cultural differences [42].

According to Drew [43], there are seven principles of Education for Sustainability or Education for Sustainable Development (ESD):

1. Transformation and Change

    To be sustainable, ESD must go beyond simply delivering information. If long-term sustainability is to be achieved, people need to be trained with the ability and drive to propose and cope with transformation in implementing long-term sustainable actions. People should be able to influence their circumstances and those of their families, schools, and communities. In other words, it is not a purely arbitrary concept. Its mission is to work toward taking concrete steps toward a more environmentally friendly future.

2. Lifelong Learning for All

    An ESD approach triggers a far-reaching understanding of learning that embraces people from all walks of life and all possible learning environments, both official and informal. It should not be limited only to a formal institution of learning. It occurs everywhere, in official and everyday learning situations, such as workplaces, community meetings, sports groups, and other organizations. It caters to people of all ages, from newborns to the elderly. Moreover, the quest to understand more about it will never end.

3. Systems Thinking

    System thinking refers to the fact that humans are all interconnected. One should not overthink it as it is just a simple statement. Environmental, economic, social, and political systems are all intertwined, and education seeks to make individuals aware

of these links. People's lives and the world around us are interlinked and may fly or fall as a community.

4. A Better Future

As humans, everyone should strive for a future in which they coexist peacefully with the rest of nature. When people are educated about sustainability, they are more likely to work together to establish an overall vision for a sustainable future.

5. Critical Thinking

As a result of climate change, the globe is on the verge of an all-out disaster. Developing critical and lateral thinking skills is essential to regaining sustainable footing in today's world. Education for sustainability emphasizes the ability of individuals and groups to reflect on their worldviews and challenge commonly accepted methods of interpretation and communication.

6. Participation

Every human being has a role in making the world a better place. Since ESD is all about doing, inquiry-based and project-based learning are promoted. For sustainability education, participation is key to enticing organizations and individuals to participate.

7. Partnership for Change

ESD relies on the use of true partnerships to achieve these aims. Everyone needs to work together to make a difference. We must all work together to ensure a sustainable future for our children and grandchildren by collaborating with educational institutions, governments, and community organizations.

The definition and application of skills for ESD have been addressed and discussed extensively in the literature over the last ten years. Those skills refer to competencies, a way of explaining what students should be able to do when they finish their education. The dimensions encompass cognitive, functional, ethical, and personal measurements and bind detailed information, abilities, and attitudes together in meaningful ways. Competence-based education emphasizes students' abilities to acquire critical knowledge, values, aptitudes, and attitudes that will prepare them to deal with the complex difficulties they will face in their personal lives and professional jobs in the future. Repetition and indoctrination are opposed to competency-based education. Previously, Lozano [44] synthesized competencies for ESD into twelve; (1) Systems Thinking, (2) Interdisciplinary Work, (3) Anticipatory Thinking, (4) Justice, Responsibility, and Ethics, (5) Critical Thinking and Analysis, (6) Interpersonal Relations and Collaboration, (7) Empathy and Change of Perspective, (8) Communication and Use of Media, (9) Strategic Action, (10) Personal Involvement, (11) Assessment and Evaluation, (12) Tolerance for Ambiguity and Uncertainty.

The implementation of ESD in ELT is conducted by adopting all, some, or even just one of "What Needs to be Done" from ESD for 2030; Pedagogy and Learning Environment, Societal Transformation, Learning Outcome, and Learning Content.

3   Conclusion

In ELT, Bowden [15] proposed including the sustainability concept. As English is spoken worldwide, it does not belong to merely English-speaking countries anymore. This

language is a medium to convey different perspectives and stories about global communication. It is also a tool for evolving concepts, transnational communication, working on suppositions, and recreating information. In involving people in particular circumstances and societies, English's existence assists in changing thoughts and chances. In gaining access through research and technology, education and training, global trade, and industry, English is usually the main communication medium. Because English is a widely used communication medium worldwide, it has become diverse. It experiences constant compromise of a global one, so the message is delivered beyond. Bowden believes that English teachers should be able to uncover, place, and defy previous assumptions. When teaching and using this language, they must reveal any beliefs, whether implied or inferred, and promote their students' critical thinking, creativity, collaboration, and communication (4C). Acquiring language and literacy skills is certainly not neutral in its process.

The ELT perspective has shifted from seeing the language manifesting the goal to simplify the point of language, growing into its function as a medium to communicate and convey messages in a specific atmosphere. Sterling [22, 23], and Bowden [15] have also shifted the education paradigm from mechanics to ecology. How ELT experts think about learning and teaching English has also changed greatly. Instead of being systematic, English has been introduced as a practical adaptation to the place and time it uses. The shift also places its learners at the core, and the real usage of the language has been the main concern that, recently, many courses have been designed as authentic as they can be.

Education for Sustainable Development (ESD) is now taken a role as a medium to manifest the 17 SDGs as a form of education that equips students with the necessary knowledge, expertise, and value systems. The SDGs require us to address interconnected global challenges and achieve the SDGs. By incorporating Within ELT, students will understand their ability to contribute to and build a sustainable future in the English language. Additionally, students must be prepared for employment that does not yet exist and for conditions and difficulties that their predecessors never encountered. Understanding it will give students the confidence to make the necessary adjustments and immediately impact their present lives.

References

1. E.M. Clarke, E.A. Emerson, Design and synthesis of synchronization skeletons using branching time temporal logic, in: D. Kozen (Eds.), Workshop on Logics of Programs, Lecture Notes in Computer Science, vol. 131, Springer, Berlin, Heidelberg, 1981, pp. 52–71. https://doi.org/10.1007/BFb0025774

2. J.P. Queille, J. Sifakis, Specification and verification of concurrent systems in CESAR, in: M. Dezani-Ciancaglini and U. Montanari (Eds.), Proceedings of the 5th International Symposium on Programming, Lecture Notes in Computer Science, vol. 137, Springer, Berlin, Heidelberg, 1982, pp. 337–351. https://doi.org/10.1007/3-540-11494-7_22

3. C. Baier, J-P. Katoen, Principles of Model Checking, MIT Press, 2008.

4. M. Kwiatkowska, G. Norman, D. Parker, Stochastic model checking, in: M. Bernardo, J. Hillston (Eds.), Proceedings of the Formal Methods for the Design of Computer, Communication and Software Systems: Performance Evaluation (SFM), Springer, Berlin, Heidelberg, 2007, pp. 220–270. https://doi.org/10.1007/978-3-540-72522-0_6

5. V. Forejt, M. Kwiatkowska, G. Norman, D. Parker, Automated verification techniques for probabilistic systems, in: M. Bernardo, V. Issarny (Eds.), Proceedings of the Formal Methods for Eternal Networked Software Systems (SFM), Springer, Berlin, Heidelberg, 2011, pp. 53–113. https://doi.org/10.1007/978-3-642-21455-4_3

6. G.D. Penna, B. Intrigila, I. Melatti, E. Tronci, M.V. Zilli, Bounded probabilistic model checking with the muralpha verifier, in: A.J. Hu, A.K. Martin (Eds.), Proceedings of the Formal Methods in Computer-Aided Design, Springer, Berlin, Heidelberg, 2004, pp. 214–229. https://doi.org/10.1007/978-3-540-30494-4_16

7. E. Clarke, O. Grumberg, S. Jha, et al., Counterexample-guided abstraction refinement, in: E.A. Emerson, A.P. Sistla (Eds.), Computer Aided Verification, Springer, Berlin, Heidelberg, 2000, pp. 154–169. https://doi.org/10.1007/10722167_15

8. H. Barringer, R. Kuiper, A. Pnueli, Now you may compose temporal logic specifications, in: Proceedings of the Sixteenth Annual ACM Symposium on the Theory of Computing (STOC), ACM, 1984, pp. 51–63. https://doi.org/10.1145/800057.808665

9. A. Pnueli, In transition from global to modular temporal reasoning about programs, in: K.R. Apt (Ed.), Logics and Models of Concurrent Systems, Springer, Berlin, Heidelberg, 1984, pp. 123–144. https://doi.org/10.1007/978-3-642-82453-1_5

10. B. Meyer, Applying "Design by Contract", Computer 25(10) (1992) 40–51. https://doi.org/10.1109/2.161279

11. S. Bensalem, M. Bogza, A. Legay, T.H. Nguyen, J. Sifakis, R. Yan, Incremental component-based construction and verification using invariants, in: Proceedings of the Conference on Formal Methods in Computer Aided Design (FMCAD), IEEE Press, Piscataway, NJ, 2010, pp. 257–256.

12. H. Barringer, C.S. Pasareanu, D. Giannakopolou, Proof rules for automated compositional verification through learning, in Proc. of the 2nd International Workshop on Specification and Verification of Component Based Systems, 2003.

13. M.G. Bobaru, C.S. Pasareanu, D. Giannakopoulou, Automated assume-guarantee reasoning by abstraction refinement, in: A. Gupta, S. Malik (Eds.), Proceedings of the Computer Aided Verification, Springer, Berlin, Heidelberg, 2008, pp. 135–148. https://doi.org/10.1007/978-3-540-70545-1_14