

Development of Conceptual Framework to Bridge the Gap in Higher Education Institutions towards Achieving Sustainable Development Goals (SDGs)

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ABSTRACT

This article reports part of a bigger scale study aiming at investigating the current gap in Higher Education Institutions (HEIs) through whole institutional approach integrating sustainable development application and the relationship to achieving aim of Education for Sustainable Development (ESD) in Malaysia. The study that involves mixed-research method is intended to improve the role of HEIs as a vehicle towards Sustainable Development Goals (SDGs) of the nation by 2050 according to 12th Malaysian Plan. In this preliminary stage, only qualitative case study will be reported on how a conceptual framework is developed to bridge the gap of 'Education and Business' (abbreviated as E-B) with focus on the need to cultivate the practice of SDG in all disciplines including institutional management of HEIs. In the advent of digital era, globalization and digitalization are connecting the world. It is expected that the development of conceptual framework will serve as planning guide for the proponent or researcher of this study, university administrators and sustainability practitioners who are expected to explore appropriate ways to integrate sustainability into institutional missions, strategies, curriculum and daily operations.

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1. INTRODUCTION

Background and Overview

Higher education institutions (HEIs) play a critical role in shaping the future of societies by providing education and training to the next generation of leaders and professionals. However, in order to achieve sustainable development goals (SDGs), there is a need to bridge the gap between the education provided by these institutions as well as the skills and knowledge required for sustainable development.

This article presents a conceptual framework for addressing this gap, by providing a comprehensive approach to higher education that includes interdisciplinary curricula, experiential learning, and partnerships with industry and community organizations. The framework is intended to guide higher education institutions in their efforts to prepare students for the challenges of a rapidly changing world, and to contribute to the achievement of sustainable development goals (SDGs).

Rationale and Objectives

The achievement of SDGs is one of the most pressing challenges of our time, and higher education institutions have a critical role to play in this effort. However, many higher education institutions face a gap

between the education they provide and the skills and knowledge required to achieve sustainable development. This gap can be addressed through the development of a conceptual framework that guides higher education institutions in providing a more comprehensive approach to education. Such a framework can help to bridge the gap and prepare students for the challenges of a rapidly changing world.

The present educational system in Malaysia in particular the higher educational institution needs reorientation to be more adaptive in meeting the aim of ESD and SDG4. The challenge will be on how should related parties in the tertiary education system would support change to the present educational system towards more robust and conducive delivery of learning and teaching to achieve sustainability. It is undeniable that the need of higher education institutions to generate revenue as a business entity but on the other hand, nation building and sustainable needs as endorsed by UN by 2030 should be a road map of sustainable development in Malaysia.

The objective of this research is to develop a conceptual framework for higher education institutions to bridge the gap towards achieving sustainable development goals. Specifically, the research aims to identify the key components of such a framework, including interdisciplinary curricula, experiential learning, and partnerships with industry and community organizations. The research will also explore the potential impact of this framework on higher education institutions and their ability to prepare students for the challenges of a rapidly changing world. Ultimately, the research aims to provide practical guidance for higher education institutions seeking to contribute to the achievement of SDGs.

Research Questions

In light of the understudy on Education for Sustainable Development (ESD and the methods to institutionalize ESD as core focus of HEI performance determinant in Malaysia, the following research questions were developed focus of integrating sustainable development application and the relationship to achieving aim of Education for Sustainable Development (ESD) in Malaysia. Broadly, the research questions will be organized to investigate three main areas:

1. **Interdisciplinary Curricula:** How does interdisciplinary curricula support the need to achieving sustainable development goals(SDGs) in higher educational institutions in Malaysia? What aspect of interdisciplinary curricula contributing to education for sustainable development in Higher Education Institutions in Malaysia?
2. **Experiential Learning:** What is the implication of experiential learning towards achieving sustainable development goals (SDGs) in higher educational institutions in Malaysia? How could the experiential learning be combined with holistic learning and implemented to support education for sustainable development (ESD)?
3. **Partnership with Industry and Community Organization:** How would the intended partnership with industries and community organizations simulate the achievement of sustainable development goals in HEIs? What is the implication of partnership with selected external stakeholders contribute to Education for Sustainable Development (ESD)?

These questions will require consideration of the impact of sustainable development policies and practice in higher educational institutional towards the successful application of education for sustainable development in Malaysia.

Research Objectives

To undertake and complete a research is to build a puzzle according to the objectives of the investigation. It summarizes the outcome the researcher wishes to established through the comprehensive research study of achieving sustainable development goals in higher education institutions of Malaysia. These research objectives will also provide direction to the study.

1. To assess the factors supporting sustainable development goals in higher education institutions in Malaysia.
2. To evaluate the impact of interdisciplinary curricula to achieving sustainable development goals(SDGs) in higher educational institutions in Malaysia.
3. To determine the correlation between experiential learning towards achieving sustainable development goals(SDGs) in higher educational institutions in Malaysia.
4. To identify the implication of collaboration with industries and community organizations and their contribution to the achievement of sustainable development goals in higher education institutions in Malaysia.
5. To guide higher education institutions in providing a more comprehensive approach of critical reflection of learning to education for sustainable development.
6. To evaluate the proposed implementation of whole institutional approach explicitly linking research, educational, operational and outreach activities and engaging students to jointly involve in the practice and implementation of sustainability.

2. METHODOLOGY

Research Framework

The research framework for this study on the development of a conceptual framework to bridge the gap in higher education institutions towards achieving SDGs will involve several key steps of qualitative research methods [1] [2].

Firstly, a comprehensive literature review will be conducted to identify the existing theories and models related to sustainable development and higher education. This will be followed by an analysis of the current state of higher education institutions and their efforts to address the gap in sustainable development of education.

Based on the findings of the literature review and analysis, a conceptual framework will be developed, which will include key components such as interdisciplinary curricula, experiential learning, and partnerships with industry and community organizations. The framework will be validated through expert interviews and focus group discussions with stakeholders in the higher education community.

Finally, the potential impact of the framework on higher education institutions and their ability to contribute to sustainable development goals will be assessed through case studies of institutions that have implemented the framework. The research framework will thus provide a comprehensive approach to understanding and addressing the gap in sustainable development education in higher education institutions.

Literature Search

This section reviews literature related to the focus of this study.

The article by [3] explored the impacts of the United Nations SDGs on higher education curricula. The authors argued that an interdisciplinary approach is necessary to effectively address these goals. They discussed the importance of incorporating SDGs into higher education, and provide examples of successful interdisciplinary programs.

This edited volume by [4] examined the contribution of higher education institutions to sustainable development, with a focus on the role of social sciences and humanities. The book included contributions from leading scholars in the field, and covers topics such as sustainability education, institutional change, and the challenges of globalization.

The book authored by [5] provided a comprehensive overview of education for sustainable development, including challenges, strategies, and best practices. The authors explored the role of higher education institutions in promoting sustainability, and provide practical guidance for integrating sustainability into the curriculum. The book also includes case studies from around the world.

A recent publication by Mohammad Reza (2016) [7] indicating academic institutions have taken many initiatives to incorporate the themes of Agenda 21 within their academic syllabuses as well as campus-based activities. He iterated that numerous HEIs have introduced sustainable development application into their curricula for teaching, learning, and research. It was further indicated that sustainable base institutions and centres were initiated in different universities aiming to set the target to achieve sustainability. However, evaluation of the effectiveness of these teaching– learning programs, and their pedagogical approaches and endpoints towards ESD and SDG4 has not been done adequately nor researched.

3. ANALYSIS AND DISCUSSIONS

a. Illustrations on Framework Developed to Bridge Gaps of Achieving Sustainable Development Goals (SDGs) in Higher Education Institutions

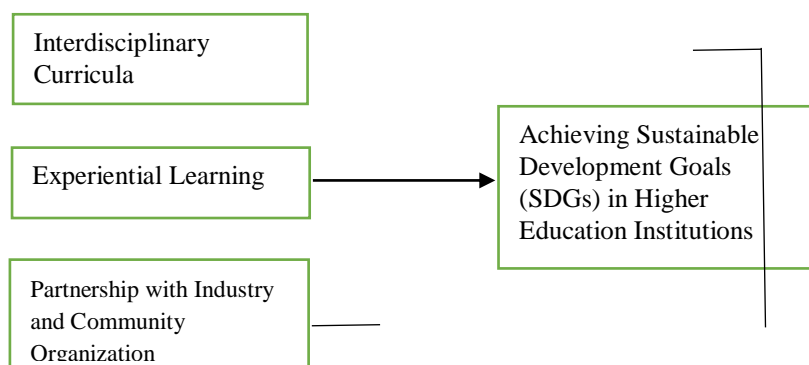


Figure 1. Conceptual framework of Achieving Sustainable Development Goals (SDGs) in Higher Education Institutions

b. Elaborations on how the framework bridge the gap in HEI towards SDGs

The conceptual framework developed for higher education institutions to bridge the gap towards achieving sustainable development goals can play a critical role in preparing students to address the challenges of a rapidly changing world. The framework addresses the gap in sustainable development education by providing a comprehensive approach that includes interdisciplinary curricula, experiential learning, and partnerships with industry and community organizations.

The interdisciplinary curricula component of the framework encourages higher education institutions to develop courses and programs that integrate multiple disciplines and perspectives, such as environmental science, economics, social justice, and policy. This approach ensures that students gain a comprehensive understanding of the complex challenges facing society, and are equipped with the skills and knowledge necessary to address these challenges. To review this from pedagogical perspective, integration of subjects and specialization are well argued for because the proposed approach appears to stimulate student interest and desirable by providing strong links to 'real-world' problems [7]. Achieving the objectives of interdisciplinary curricula may result into transformative learning whereby students are challenged to identify, question and develop critical thinking while reflecting upon their own deep-rooted cultural assumptions or 'frames of reference', while developing conscious shifts towards sustainability[8].

The experiential learning component of the framework provides students with hands-on opportunities to apply their knowledge and skills in real-world settings. This may involve internships, community service projects, or other experiential learning opportunities that allow students to work alongside professionals in their chosen field. One of the key assumption by the scholars is learning is a holistic process of adaptation to the world. Not just the result of cognition, learning involves the integrated functioning of the total person—thinking, feeling, perceiving, and behaving.

The partnerships with industry and community organizations component of the framework encourages higher education institutions to collaborate with local businesses, non-profit organizations, and community groups to address real-world sustainability challenges. This approach ensures that students are able to apply their knowledge and skills in meaningful ways, while also contributing to the achievement of sustainable development goals in their communities.

Overall, the conceptual framework provides a holistic approach to sustainable development education in higher education institutions, and is designed to bridge the gap between the education provided by these institutions and the skills and knowledge required for sustainable development.

4. CONCLUSION**a. Summary and Implications/Significance**

The development of a conceptual framework to bridge the gap in higher education institutions towards achieving sustainable development goals is of great significance as it recognizes the crucial role of higher education institutions in preparing students to tackle the sustainability challenges facing society today. The framework provides a comprehensive approach to sustainable development education, which includes interdisciplinary curricula, experiential learning, and partnerships with industry and community organizations.

By implementing this framework, higher education institutions can equip students with the necessary knowledge, skills, and experience to contribute to the achievement of sustainable development goals in their communities and beyond. The interdisciplinary nature of the framework ensures that students gain a broad understanding of the complex issues surrounding sustainability, while the experiential learning and partnerships components provide them with opportunities to apply their knowledge in practical, real-world setting.

Furthermore, the framework has significant implications for the future of higher education institutions. As the demand for sustainability-focused education continues to grow, institutions that fail to adapt and integrate sustainable development education into their curricula may face reduced enrolment and negative effect in reputation. Conversely, institutions that implement the framework and provide students with the knowledge, skills, and experience necessary to address sustainability challenges will be well-positioned to attract and retain students and contribute to the achievement of sustainable development goals.

b. Limitations and Recommendations

Despite its potential benefits, there are limitations to the development of a conceptual framework to bridge the gap in higher education institutions towards achieving sustainable development goals. One limitation is the challenge of implementing the framework in practice. While the framework provides a comprehensive approach to sustainable development education, there may be challenges in integrating it into existing curricula and institutional structures. This may require significant changes to institutional culture, policies, and practices, which can be difficult to achieve.

Another limitation is the need for further research to assess the effectiveness of the framework in achieving its intended outcomes. While the framework is theoretically sound and draws on existing best

practices, it has not yet been rigorously tested in practice. Future research should evaluate the impact of the framework on student learning outcomes, community engagement, and the achievement of SDGs.

To address these limitations, there are several recommendations for future study. First, research should be conducted to identify effective strategies for implementing the framework in practice. This may involve case studies of institutions that have successfully integrated sustainable development education into their curricula, as well as research on the barriers and facilitators to implementation.

Second, further research should be conducted to evaluate the effectiveness of the framework in achieving its intended outcomes. This may involve quantitative and qualitative research methods, such as surveys, interviews, and focus groups, to assess the impact of the framework on student learning outcomes, community engagement, and the achievement of sustainable development goals.

Finally, future research should focus on the scalability and sustainability of the framework. While the framework is designed for higher education institutions, it has the potential to be applied in a range of contexts, such as K-12 education, vocational training, and community development. Further research is needed to identify effective strategies for adapting the framework to different contexts and ensuring its long-term sustainability strategies for adapting the framework to different contexts and ensuring its long-term sustainability

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