

# INTEGRATING SUSTAINABLE DEVELOPMENT INTO THE CURRICULUM

**Edited by** Enakshi Sengupta,  
Patrick Blessinger and Taisir Subhi Yamin

INNOVATIONS IN HIGHER  
EDUCATION TEACHING AND LEARNING

**VOLUME 18**

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# INNOVATIONS IN HIGHER EDUCATION TEACHING AND LEARNING

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# **SERIES EDITORS' INTRODUCTION**

## **INNOVATIONS IN HIGHER EDUCATION TEACHING AND LEARNING**

The purpose of this series is to publish current research and scholarship on innovative teaching and learning practices in higher education. The series is developed around the premise that teaching and learning is more effective when instructors and students are actively and meaningfully engaged in the teaching-learning process.

The main objectives of this series are to:

- (1) present how innovative teaching and learning practices are being used in higher education institutions around the world across a wide variety of disciplines and countries,
- (2) present the latest models, theories, concepts, paradigms, and frameworks that educators should consider when adopting, implementing, assessing, and evaluating innovative teaching and learning practices, and
- (3) consider the implications of theory and practice on policy, strategy, and leadership.

This series will appeal to anyone in higher education who is involved in the teaching and learning process from any discipline, institutional type, or nationality. The volumes in this series will focus on a variety of authentic case studies and other empirical research that illustrates how educators from around the world are using innovative approaches to create more effective and meaningful learning environments.

Innovation teaching and learning is any approach, strategy, method, practice or means that has been shown to improve, enhance, or transform the teaching-learning environment. Innovation involves doing things differently or in a novel way in order to improve outcomes. In short, Innovation is positive change. With respect to teaching and learning, innovation is the implementation of new or improved educational practices that result in improved educational and learning outcomes. This innovation can be any positive change related to teaching, curriculum, assessment, technology, or other tools, programs, policies, or processes that leads to improved educational and learning outcomes. Innovation can occur in institutional development, program development, professional development, or learning development.

The volumes in this series will not only highlight the benefits and theoretical frameworks of such innovations through authentic case studies and other empirical research but also look at the challenges and contexts associated with

implementing and assessing innovative teaching and learning practices. The volumes represent all disciplines from a wide range of national, cultural and organizational contexts. The volumes in this series will explore a wide variety of teaching and learning topics such as active learning, integrative learning, transformative learning, inquiry-based learning, problem-based learning, meaningful learning, blended learning, creative learning, experiential learning, lifelong and lifewide learning, global learning, learning assessment and analytics, student research, faculty and student learning communities, as well as other topics.

This series brings together distinguished scholars and educational practitioners from around the world to disseminate the latest knowledge on innovative teaching and learning scholarship and practices. The authors offer a range of disciplinary perspectives from different cultural contexts. This series provides a unique and valuable resource for instructors, administrators, and anyone interested in improving and transforming teaching and learning.

**Enakshi Sengupta**

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# FOREWORD

I have spent more than three decades in the field of education founding new universities and setting up their curriculum across the globe. I have found that in recent years the concept of sustainability has garnered interest among educators, mainly being associated with the field of business in relation to the practices of corporations. In most institutions of higher education, sustainability is not yet a mandatory requirement for undergraduate courses and is mainly imparted at the behest of individual faculty members who become the primary drivers of integrating corporate social responsibility and sustainability into undergraduate courses. As it is common in business practice, any sustainability initiative should be linked and defined with its outcomes and it is only then that the success factors can be measured. Deliverables of a course whether it is a module, or a workshop becomes the vehicles by which sustainability is evidenced and communicated to its target audience.

Why has it become necessary in recent years to impart sustainability education to the young learners and at times to the corporate world? If we are to analyze some simple choices in life, we realize that all human beings at any given point are consumers of products and services. Knowledge in sustainability helps individuals in their consumption and disposition choices. By imparting knowledge in sustainability, students are made aware of the subject and it potentially increases the students' future influence over the business community.

The world has seen unprecedented examples in the recent past of global warming in the form of cyclones and other atmospheric disasters. Global agencies concerned with the issues of energy-related climate change have emphasized ethics and sustainability education in curricula. Similarly, other global advising bodies have called for greater focus on sustainability in training and educating future business leaders. Sustainability practices emphasize the long-term “triple bottom line” (Elkington, 1998) as opposed to short-term shareholder view of profitability. While teaching sustainability issues to students, one needs to emphasize that the curriculum doesn't advocate charity giving or is opposed to profitability of an organization but an opportunity to revitalize companies and the economy through preserving and saving, rather than exploiting the environment and human social systems (Bradbury, 2003). The triple bottom line perspective helps an institution of higher education to integrate itself in the big picture view of the business value chain.

A “sustainable university” as noted by Ferrer-Balas et al. (2008) is beyond campus greening or tree plantation drives. Some of the notable features of a sustainable university include transformative education, indulging and promoting transdisciplinary research, an approach toward solving societal issues and a university leadership and vision that promotes proactive responses to societal

needs. In its societal problem-solving approach such universities need to inculcate in their curriculum active engagement with industry and other organizations where students can be involved in real problem solving. Such experiential learning should be included in the curriculum of sustainability which should involve active research along with engagement and partnership.

Sustainability paradigm requires to examine the values, beliefs, and assumptions of both educators and students and how we impact the environment and our economy. We try and inculcate in our young learners the respect for the planet and the resources that it gives us to survive. The process may not be simple and will be fraught with challenges. Yet, we all agree that the curriculum on sustainability can only be rendered through transformative learning practices using concrete case studies and global examples. This book will help expose the students to diverse viewpoints, understand the best practices in the world, and formulate viable solutions to complex problems.

The book talks about examples ranging from a postgraduate curriculum development to teach integrated care to clinical staff in UK to case studies exploring the comparative analysis of approaches to integrate sustainability into the curriculum in an university in the Caribbean. These case studies will help the readers understand the various approaches undertaken by educators to integrate sustainability into their curriculum. There is no one size fit all approach to it and designing a successful curriculum depends on ongoing learning and learning by doing which actively involves all stakeholders of the institution of higher education.

**Dr. Michael William Mulnix**

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## REFERENCES

- Bradbury-Huang, H. (2003). Sustaining inner and outer worlds: A whole-systems approach to developing sustainable business practices in management. *Journal of Management Education*, 27(2), 172–187. <https://doi.org/10.1177/1052562903251414>
- Elkington, J. (1998). *Cannibals with forks: The triple bottom line of 21st century business*. Stony Creek, CT: New Society Publishers.
- Ferrer-Balas, D., Adachi, J., Banas, S., Davidson, C.I., Hoshikoshi, A., Mishra, A., ... Ostwald, M. (2008). An international comparative analysis of sustainability transformation across seven universities. *International Journal of Sustainability in Higher Education*, 9(3), 295–316. <https://doi.org/10.1108/14676370810885907>