

# INTEGRATING SUSTAINABLE DEVELOPMENT INTO THE CURRICULUM

# INNOVATIONS IN HIGHER EDUCATION TEACHING AND LEARNING

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INNOVATIONS IN HIGHER EDUCATION TEACHING AND  
LEARNING VOLUME 18

# INTEGRATING SUSTAINABLE DEVELOPMENT INTO THE CURRICULUM

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# CONTENTS

<i>List of Contributors</i>	vii
<i>Series Editors' Introduction</i>	ix
<i>Foreword</i>	xi
<i>Michael W. Mulnix</i>	

## PART I IN PRACTICE

<b>Introduction to Integrating Sustainability into Curriculum</b> <i>Enakshi Sengupta, Patrick Blessinger and</i> <i>Taisir Subhi Yamin</i>	3
<b>Chapter 1 Integrating Sustainable Development into Healthcare Curriculum</b> <i>Russell Gurbutt and Dawne Gurbutt</i>	15
<b>Chapter 2 Embedding Sustainable Development in the Curricula: Learning About Sustainable Development as a Means to Develop Self-awareness</b> <i>Louise Manning and Luis Kluwe de Aguiar</i>	25
<b>Chapter 3 A Comparative Analysis of Approaches to Integrating Sustainability into the Curriculum at a University in a Small Island Developing State in the Caribbean</b> <i>Alana Griffith and Winston Moore</i>	41
<b>Chapter 4 Integrating Sustainable Development into the Curriculum: A Case Study on the Developing of Sustainability Competencies in Industrial Design Students at a Bachelor Level in Mexico</b> <i>Martha Elena Núñez López, Robert Huddleston and</i> <i>Roberto Pablo Martínez Lozano</i>	57

## PART II INNOVATIVE APPROACHES

<b>Chapter 5 Programs, Workshops, Resources, and Other Supports for Post-secondary Sustainability Educators</b> <i>Alice Cassidy, Yona Sipos and Sarah Nyrose</i>	75
<b>Chapter 6 <i>Hortus in Urbe</i>: Building a Sustainable Development Curriculum in Chicago</b> <i>Euan Hague, Howard Rosing and Joseph P. Schwieterman</i>	91
<b>Chapter 7 An Interdisciplinary Teaching Module on the Global Clothing Industry: Lessons from Working Across Four Disciplines and Two Universities</b> <i>Niki Harré, Anis Azizi, Penny Brothers, Ties Coomber, Ellinor King, Andrea Michelle Mead, Sarah Saeckel, Manuel Vallée, Samantha Zi Lin Yeo and Yulun (Darren) Zhang</i>	107
<b>Chapter 8 Integrating Sustainability into a Freshman-Engineering Course Through an Institute-level Initiative: A Teaching–Learning Model with Authentic Activity and Context</b> <i>Raghu Pucha, Kata Dosa, Sunni Newton, Meltem Alemdar, Ruthie Yow and Jennifer Hirsch</i>	125
<b>Chapter 9 Integrating Sustainable Development into the Curriculum: Enacting “Scalar Shifting” in ESD Competencies</b> <i>Paul Benneworth, Renze Kolster, Martin Stienstra, Laura Franco Garcia and Ben Jongbloed</i>	145
<i>About the Contributors</i>	163
<i>Name Index</i>	175
<i>Subject Index</i>	181

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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 includes 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.

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PART I

IN PRACTICE

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# INTRODUCTION TO INTEGRATING SUSTAINABILITY INTO CURRICULUM

Enakshi Sengupta, Patrick Blessinger and  
Taisir Subhi Yamin

## ABSTRACT

*In this ever changing world, managing our ecosystem and creating a sustainable future seems to be one of the biggest challenges facing humanity. This challenge is further enhanced by ignorance or apathy of people toward the concept of sustainability. In most cases, students who are our future generation are left without any insight, commitment or even understanding their role and responsibility toward creating any meaningful beliefs and actions related to sustainability. Sustainability education is becoming crucial, mainly for young generation so that they have an understanding of concepts such as economic prosperity, resource equity, energy uses, and environmental health and concerns. While educating them on sustainability begins in institutions of education, it is important that sustainability education is well entrenched in the curriculum and everyday practice of their lives. This chapter introduces the volume series on sustainability where authors from different parts of the world narrate their own experience of imbibing sustainability into their curriculum and teaching sustainability to students.*

**Keywords:** Sustainability; curriculum; future generation; environmental concern; education; economic prosperity; transformative education; interdisciplinary approach

## INTRODUCTION

United Nations Educational, Scientific and Cultural Organization (UNESCO) (2009) advocates imparting knowledge in sustainability to students through which it enables students to develop the attitude, skills, and knowledge toward sustainability and take firm and decisive actions in their everyday lives to help inculcate sustainability throughout society. Education in sustainability has been supported by global frameworks such as the United Nations' Decade of Education for Sustainable Development (2005–2014) and the Global Action Programme on Education for Sustainable Development (post-2014), both led by the United Nations Educational, Scientific and Cultural Organization (UNESCO) (Buckler & Creech, 2014; UNESCO, 2014).

Higher education institutions have a role and responsibility in promoting sustainability in young minds by developing students as change agents (Moore, 2005; Svanstrom, Lozano-Garcia, & Rowe, 2008), encouraging ideas which are expressed freely, challenging paradigms, and promoting creativity and growth of knowledge (Barth, Godemann, Rieckmann, & Stoltenberg, 2007; Cortese, 2003; Lozano, 2006). Sustainability is not a standalone concept, and it is reflected in various other subjects, being multidisciplinary in nature (UNESCO, 2014). The very nature of this subject can be a contested terrain, which is multilayered and multifaceted, thus creating scopes for debates and creative learning (UNESCO, 2014).

It is argued and agreed by educationists that there exists an urgent need to educate students and enable them to understand sustainability matters so that while growing up they assume the role of pro-sustainability citizens, caring for their planet and surrounding with a futuristic view toward conserving and preserving the planet for future generations. In spite of having a general consensus about the positive effects of sustainable education there lies a whole plethora of contradiction surrounding the nature of pedagogy and the right way to administer sustainability education. It is often perceived in colleges and universities that sustainability-driven courses are delivered with a banking concept of education where a lecture-driven class often deposit knowledge without a proper understanding of the concept and without facilitating a process to address curiosity and encouraging debates. In light of such methods, it becomes imperative that new methodologies and frameworks are developed by academics to facilitate the understanding of sustainability (Cervantes, 2007). A worldview should be imparted to students that encompasses different interpretations of sustainability so as to avoid educational disconnect. Goekler (2003) argues that the concept of sustainability cannot be learned by merely receiving lecture-driven notes. Students need to develop the ability to think multifaceted ways and be tolerant to differing and even paradoxical views from different corners of the world.

The aim of imparting education to understand sustainability is to empower students to make decisions that balances the need to preserve healthy ecosystems and ultimately promote vibrant economies with an equitable social system. Studies have shown that students who are given discourses in sustainability are more motivated, better behaved, and sensitive toward their environment.



Such curriculum provides connections between students and their local communities facilitating collaborative work in promoting healthy lifestyles. Sustainability education has not become mandatory in many institutions of higher education and is often neglected as a component of undergraduate curricula in most institutions. Hence, individual faculty members from their own initiative and interest becomes the primary drivers of integrating sustainability education into undergraduate courses (Matten & Moon, 2004).

Accreditation and advising bodies in higher education have urged the pressing need to impart education focused on corporate social responsibility (CSR) and sustainability mainly to train future leaders (e.g., The Association to Advance Collegiate Schools of Business [AACSB] International, UNESCO, and the World Business Council for Sustainable Development). Yet, many institutions fail to realize the need for such training and still remain a firm believer of “shareholder value oriented governance of capitalist organizations” model (Matten & Moon, 2004, p. 329). Battle to reconcile such views on one hand and on the other hand promoting concepts of sustainability and that of social responsibility remains a challenging aim for academics.

Research into the subject of teaching sustainability investigated deans and directors at the top 50 global MBA programs (2006 Global MBA rankings, by *Financial Times*) revealed that a majority of them are required to teach ethics, CSR, and sustainability topics and have included them as a part of their curriculum (Christensen, Peirce, & Hartman, Hoffman, & Carrier, 2007). These topics and others subjects associated with them have seen a significant rise in incorporating them into mainstream curriculum in Western European countries and the United States. An institution can prepare its leaders for tomorrow to lead toward sustainability only after the students have been given a full exposure to the subjects with the help of their curriculum. “Undergraduate curriculum should be modified so every student in all academic departments has knowledge of the subject” (Kaifi, Khanfar, Noor, & Poluka, 2014, p. 40).

Higher educational institutions while creating future leaders for tomorrow “need to have a proactive strategy in shaping the perspectives of business leaders through sustainability related management education, research, management, and training programmes” (Park, Sarkar, & Bunch, 2012, p. 4).

Education has the capability of being a catalyst in changing and preparing students with capabilities to promote sustainability. In order to respond to these challenges, higher education institutions should undertake adequate steps in transforming not only their curriculum but also their teaching and learning techniques (Barth, 2014). Academics should develop programs and modules catering toward imparting lessons on sustainability and CSR and use innovative teaching methods that integrate topics like sustainability, sustainable development, CSR into their courses and curricula (Parkes et al., 2017).

Academics in the past have conducted studies to find out about courses on sustainability that are offered in universities. Their study revealed that a limited number of universities have imbibed these courses into their curriculum. Rundle-Thiele and Wymer (2010) had examined standalone courses in New Zealand and Australia and found that only 27% of universities in Australia offered a dedicated

course in ethics, CSR, or sustainability. Exploration of both European and US-based institutions found that CSR and sustainability (CSRS) are offered as compulsory standalone courses or modules (Moon & Orlitzky, 2011). The data from these studies showed that more than 75% of undergraduate programs and more than 55% of MBA programs offered CSRS courses.

The importance of such courses is emphasized by accreditation bodies such as AACSB International through its Resource Centre for Business Ethics, as well as by the establishment of an ethics commission. While the center is focused on business ethics, the stated mission of the resource center is to impart a comprehensive source where information can be gathered on tools and frameworks and discussions can be made regarding ethics, sustainability, and CSR in business schools (AACSB International, 2013). AACSB International explicitly ties three concepts of ethics, CSR, and sustainability in one chain and advocates the three areas be integrated in all disciplines. Yet, no comprehensive study has been conducted to find out how individual topics have been presented and its impact on the learning outcome of the students.

## LITERATURE REVIEW

Bridges and Wilhelm (2008) suggested three E's approach to teaching sustainability which includes ecology, equity (social), and economic (financial). Academics while teaching the concept was urged to consider that business success will depend on ecological and social success and a negative impact on either of them will show financial outcome in poor result.

AACSB, the accreditation board, has proposed a new standard while elaborating the teaching of sustainability and CSR and has explicitly stated that an institution of higher education must exhibit its commitment to emerging CSR issues. It should have an inclusive policy where the institution practices diversity, sustainable development, and environmental sustainability across cultures. These concepts should be further embedded in its procedures, curricula, research, and other activities.

Education for sustainability is understood differently by different faculty members. This ever evolving subjects with various dimensions and definitions requires academics who are keen on transformative education urging a personal transformation if required (Wooltorton, 2002). While working on students' comprehension of their learning about sustainability, Segalàs, Ferrer-Balas, and Mulder (2010) found that student's comprehension of the term sustainability is confined to technology and discovered minimum relevance in social and attitudinal aspects.

A second finding in this field showed that a student only exhibited knowledge and understanding about sustainable development which applied a more community-oriented and constructive approach (Myers & Beringer, 2010). In a more recent study, Segalàs, Mulder, and Ferrer-Balas (2012) discovered a "mismatch" that lies among the "experts" and students' understanding of sustainability. Students either perceive sustainability as unrelated to social and institutional aspects or they barely perceive sustainability as a complex issue; hence, a general

apathy can be seen in studying or trying to understand the subject. Researchers in this field have urged on systems and multidisciplinary thinking, with a greater focus toward, “reorientation of the pedagogy and the learning processes” (Segalàs et al., 2012, p. 302).

Sustainability teaching is not confined to books and lecture slides but requires both educators and students to understand their own values, hidden assumptions, motivations, beliefs, and actions (Holdsworth, Wyborn, Bekessy, & Thomas, 2008). Teachers cannot merely teach the subject without being involved in it and reflecting how their own work, their knowledge, and their teaching may impact the environment and economy of the region they belong to, especially if it is a growing and transforming economy. Active and reflective learning with transformative and participative approach with the usage of case studies developed locally and globally help to expose the students to various viewpoints and urge them to think critically in solving complex global issues and consider the consequence of their acts and accept responsibility for creating a sustainable future for their next generation (Scott, 2009).

While presenting his case on sustainability in higher education, Sterling (2004) puts forward three approaches that an educational institution can adopt while teaching sustainability:

- (1) Educating about sustainability – an accommodative response.
- (2) Education for sustainability – a reformative response.
- (3) Capacity building – a transformative response.

The first and the most basic level is to offer modules on sustainability with the rest of the curriculum designed for the school. The next level is more advanced which talks about the institution transforming itself as a sustainable organization. The third level is more comprehensive in dealing with students who can be transformed by adopting the skills of sustainability. Starik, Marcus, and Clark (2010, p. 377) criticize the “incrementalism reform approaches that most individuals, organisations and societies have employed to address critical global sustainability issues...” and demand more transformative sustainability results in higher education, mainly while teaching management education.

Stubbs and Schapper (2011) advocated interdisciplinary course content while including sustainability education into the curriculum. Beijing Normal University in China and Aalborg University in Denmark added another dimension toward sustainability education by adopting interdisciplinary and cross-cultural content in a project-based learning approach toward sustainability (Du, Su, & Liu, 2013). Chhokar (2010) pointed it out that most institutions of higher education lacks interdisciplinary skills of staff and students which is needed to integrating sustainability into the curriculum.

## CONCLUSION

Promoting sustainability with the help of curriculum is by no means an easy task as one needs to incorporate the take-away factor of the student while designing

the course. System and consistent framework to assess the learning experience and learning outcome has to be kept in consideration at all times while designing such courses. The syllabus, learning modules, assessment protocol are vehicles through which sustainability is communicated and imbibed into the learners. While designing a curriculum with modules on sustainability the faculty members have to keep in mind the trends that impact a learner's success. The instructor's knowledge and passion about the subject shall determine the instructor-learner relationship and the outcome of the delivery of the modules. This relationship often transcends the content-specific competencies and results in sustainability in action where the instructors have observed the learners keenness to apply sustainability in everyday life.

## CHAPTER OVERVIEWS

"Integrating Sustainable Development into Healthcare Curriculum," by Professor Russell Gurbutt and Professor Dawne Gurbutt, sets the scene for the need of sustainable development in the healthcare curriculum by discussing the contemporary context of healthcare provision and its associated challenges. Set within the context of the developing contemporary healthcare agenda in the UK, the chapter focuses on an exploration of the drivers for integrated care and the impact this has on curriculum development. An example of post-graduate curriculum development to teach integrated care to clinical staff guides the reader through the issues presented by the context and the need for sustainability in both content and design. The challenges of barriers and enablers to integrated care is considered and the extent to which a cultural mind-set transition might occur among participants to align initiatives to sustainable development goals (SDGs). The curriculum required participants to critically understand the political, economic, social technological, and ethical contexts driving service redesign and apply critical thinking to navigate development paths through the changing health and social care landscape. A leadership dimension championed innovation applied to reimagining integrated responses to wicked problems.

Promoting sustainability veered away from accepting short-termism in favor of interventions that equip participants with the agility to address wicked problems and anticipate the rapid role change and development which is inherent within the service. The role of collaborative education in relation to embedding cross-cutting themes and patient voices as well as securing multiple gains in interdisciplinary themes, building networks, role modeling, and creativity thereby supporting a way of working that supports sustainability has been discussed in this chapter.

"Embedding Sustainable Development in the Curricula: Learning About Sustainable Development as a Means to Develop Self-awareness," by Louise Manning and Luis Kluwe de Aguiar, addresses the extent to which sustainable development can be taught as part of the curricula at a university in the United Kingdom (UK). Since the topic tends to be shrouded in complexity (Al Rawahy, 2013, p. 400), sustainable education is generally a difficult concept to explore in