

Proceeding Paper

# Our Experiments with MOOCs: A Study on Using Blended Learning Pedagogy in Faculty Development Programs at IIMBx; Pilot Project: Strategy and the Sustainable Enterprise for Teachers <sup>†</sup>

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**Abstract:** Mainstream sustainability education in India is at a nascent stage, with a small and gradually growing number of institutes offering it at a graduate level. There is a need for a community of educators skilled to teach sustainability and who have the ability to utilize technological capabilities for the same. In this paper, we explore the journey of our pilot project—Strategy and the Sustainable Enterprise for Teachers (SSET)—a blended learning program. We detail the steps that went into designing this program to create a national community of sustainability educators. This program makes a case for the potential of using blended learning as an effective method to create a community of practice beyond physical boundaries. Our study will focus on the role this program’s design has in the current scenario, which calls for a keen focus on digital media.

**Keywords:** education for sustainable development; teacher education; community of practice; blended learning; sustainability for businesses; sustainable enterprises



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## 1. Introduction

Sustainability is one of the foremost challenges our world faces. By playing a central role in development, resource utilization, and job creation, businesses have the potential to channel growth in several Sustainable Development Goals’ parameters. With extreme events increasing pressure on the ecosystem, there is a growing relevance of sustainability education in the Indian context. Strategy and the Sustainable Enterprise for Teachers (SSET) enables teachers from anywhere in the country to teach sustainability in their own classes with a focus on business, management, and entrepreneurship. SSET had 14 weeks of online engagement and concludes with a face-to-face workshop on campus. The course content has learning components such as videos, interviews, webinars, simulations, and a research project, with the objective to promote collaboration, peer-learning, reflection, creativity, and mentoring.

This paper describes the journey of the pilot project in IIMBx—the digital learning department at Indian Institute of Management Bangalore—a blended learning program for management and business educators. We report the steps that went into designing this program and use a case study method to detail the steps that went into creating an international community of practice of educators passionate about sustainability. Our key questions were: How does a created national community of practice for Education for Sustainable Development shape business education in the country? What are the implications of the new knowledge created in combining online and offline spaces of interaction for the course design?

For faculty to easily take this up alongside their normal academic duties, SSE for Teachers spanned 14 weeks of online engagement and concluded with a face-to-face workshop on the IIMB campus.

The Indian Institute of Management, Bangalore (IIMB) has been promoting education and research in management since its inception in 1972. To meet the need for professionals skilled in the principles of Sustainable Development, IIMB has designed a course titled Strategy and the Sustainable Enterprise, which has been taught in the classroom for the last 20 years and adapted as a MOOC in the previous 5 years. In 2019, SSET—a blended learning program was created to reach educators in business institutions all over the country to promote ESD and create a teachers' community and resources to reach students across India. The teachers' version of the course was adapted from the earlier runs of a similar course that was successfully run multiple times over edX.org and Swayam, the Government of India's learning portal; several thousand students have completed the same. While the course had learning components typical of MOOCs such as video lectures, case studies, interviews with industry leaders, and exercises, this was supplemented by weekly webinars, group simulations, and a collaborative research project.

## 2. Relevance of the Study

Given the critical nature of India's ecological challenges, it is imperative for institutions of higher education to infuse sustainability-related topics urgently and proactively into their curricula. While the number of business schools in India exceeds 4000, sustainability education in India's B-schools has not been very effective due to the following reasons:

- Sustainability is still not seen as a mainstream functional area by B-schools. This has translated to the absence of a supportive infrastructure and incentive system and a reluctance to recruit specialized faculty at these institutions.
- Except in the case of a few specialized programs, sustainability courses are primarily driven by faculty interests. The effectiveness of these courses depends on continued faculty interest, something that is difficult to sustain given the wide variations in student interest and institutional support.
- Many schools suffer from a shortage of faculty, even in the traditional disciplines of management and business. Consequently, assigning/motivating faculty to teach courses such as environmental management has been doubly difficult.
- There is an absence of easily accessible and affordable teaching material, including cases, videos, articles, and books.
- General lack of industry support and recruiter interest translates to low levels of student interest in sustainability-related courses.

## 3. Review of Literature

Some of the earliest discussions on sustainable development originated from an economic perspective—whether the Earth's limited natural resources would be able to infinitely support the increasing human population. This was supported by Malthus and his theory of population growth in the early 1800s, as reported by Dixon and Fallon [1]. If measures were not taken to check the rapid population growth rate, these finite resources could become exhausted. In 1972, the Limits to Growth study outlined new connections between industrial production, pollution, and population growth and emphasized that exponential growth would eventually result in a saturation. This was observed by Basiago in 1999 [2]. It is documented that the concept of sustainable development gained importance and momentum at the first Earth Summit. There was a consensus among the international community, which agreed to manage development and the environment in a mutually beneficial way, as stated by Mensah and Casadevall [3]. Since then, conversations have become more nuanced to go beyond population growth and include resource utilization, wealth distribution, and political and social structures. The process of resource selection has an impact on a firm's competitive advantage and longevity. The advantage depends

on its ability to manage the institutional context of its resource decisions, as reported by Oliver [4].

Given the context of mainstreamed conversations on sustainable development at the level of the firm and its ecosystem, corporate sustainability initiatives have flourished, driven by a desire to minimize costs and risks, maximize opportunities, and enhance reputation. Van der Waal and Thijssens observe that at the heart of corporate involvement in sustainability lies a need for a shift in corporate culture [5]. By playing a central role in development, resource utilization, and job creation, Bebbington and Unerman state that businesses have the potential to channel growth in several Sustainable Development Goals' parameters [6]. In this context, business education needs to redefine how students engage with societal and personal development. To situate India in global discussions on sustainability education, in the country there is an increasing urgency to embrace alternate forms of development that reduce negative impacts of climate change on economic and social systems. This is discussed by Sathaye, Shukla and Ravindranathan in 2006 [7].

Studies have posited that to contribute meaningfully to sustainable development and create related work environments, it is important for students to be able to effectively engage with society and be change agents. To train faculty for this future of education, they should be able to deliver courses aligned with social objectives [8,9].

Studies suggest that learning for educators can be empowering and innovative in a community of practice [10–13]. Jho and Song compare the community of practice model in two selected schools in Korea. They observed it created an atmosphere of innovation and open mindedness, and a vast document of shared resources [10]. In Portugal, formal and informal communities of practice for educators have helped promote sustainable development by developing educational resources, sharing innovative practices, and collating perspectives from multidisciplinary learners [11]. Grand Rapids, the first Regional Centre for Excellence, was created as a concept for social learning to build sustainable communities via structured interactions between actors such as institutions, schools, civil society, and enterprises [12]. At the University of Tasmania, a multi-stakeholder community of practice was established to bring together staff and the wider community and influencers to discuss the student experience, community engagement, and institutional leadership [13].

While there is work around communities of practice in sustainability education in other geographical contexts, the Indian context, especially higher education, needs substantial contributions to research on the role of educator communities of practice to further sustainability education. The identified gap in the literature points to the need to investigate the role of communities of practice for ESD in business education in India, using both virtual and offline spaces. The problem statement is that sustainability education in the business education ecosystem in India is conducted in silos by individual faculty with inadequate knowledge-sharing.

We designed the blended learning program for educators in India to address two pressing challenges: Can an effective faculty development program be designed to have the scalability to reach an audience across the country? Can the program be made as affordable as possible and scaled up easily to serve the broader agenda of mainstreaming sustainability education in the business education space and create a community of meaningful exchange?

To mainstream sustainability education in the business sphere, the program operated with the following objectives: Creating a national community of teachers who are passionate about sustainability in business education and can contribute to teaching and research in the field, developing a vast repository of knowledge, resources, activities, and cases to be used to teach sustainability to students of business and entrepreneurship; and designing an environment in B-schools to foster project-based learning in areas concerning the Triple-Bottom-Line, namely Society, Environment, and the Economy.

#### 4. Rationale and Research Objectives

Over the last decade, the introduction of new technological innovations addressed the setbacks of online learning with respect to face-to-face sessions. Guzer and Caner observe

that blended learning combines distributed learning environments [14]. This optimizes time, access, and reach and opens global channels of collaboration. Developments in technology encourage teacher educators to apply blended learning in their classrooms.

Projects need to be outcome-focused, and well-structured and planned by paying attention to important details. These details should offer a clear path between understanding the context and finally establishing learning systems. Designing a program that was the first of its kind in the IIMBx portfolio called for structured communication and engagement between subject matter experts from teacher education, higher education, instructional design, and sustainability.

SSET was built using the principles of blended learning to augment a course that had been taught in the classroom for the last 20 years and online for the previous five. The design of the program and determining the appropriate blend ratio depended on several factors. Blending is experienced personally and individually by students. Much of what is defined as blended learning is blended teaching that reflects pedagogical arrangements.

Several papers identify components of the blend such as assessments, online mentorship, e-mail, computer laboratories, and other means of internet access such as mobile computers and phones, mapping and scaffolding tools, interactive presentations, collaborative portfolios, learning management systems, and other virtual and offline infrastructure [15–18]. Every blended learning program cannot be considered equivalent. For SSET, the premise was an online program with a 1-day workshop. The design and evaluation of the program was in the context of conducting a pilot with the intention of scaling it across disciplines taught at IIMB. In a format that makes the education more experiential and research-oriented, the course targeted educators, customized with classroom resources, interviews, articles on sustainability, case studies, simulations, and a collaborative research component, amongst other tools.

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SSE for Teachers was designed with the following objectives in mind:

- To create a national community of teachers who are passionate about sustainability in business education and can contribute to teaching and research in the field.
- To develop a vast repository of knowledge, resources, activities, and cases to teach sustainability to students of business and entrepreneurship.
- To provide teachers with the resources to create courses in their institutes relating to sustainable development or embed this lens in their existing courses.
- To design an environment in business institutes to foster project-based learning and action in areas concerning sustainable development.

Other factors that determined the course design included the following:

Digital access: Research on digitalization and development in the Indian context points out that the socio-economic benefits of digital technology often depend on a set of economic, social, and institutional dimensions. In India, policymakers have used digital interventions to address economic growth and social inclusion challenges. Universal digital adoption in the country can enhance productivity, integrate geographies, improve participation, and provide suitable investments in developing the requisite infrastructure and skills. India has the lowest mobile data prices in the world. The course is made available through a website and a mobile application, and fortnightly webinars can be accessed through the internet as well. The course, over its 14 weeks online, through a Massive Open Online Course and webinars, explores the emerging relationships between sustainability issues and competitive advantage.

A community for collaboration: Building on the basic concepts of sustainability and strategic management, academics can design courses for future managers to effectively deal with the sustainability challenges they will encounter. Each week of the online

course has a section for educators to contribute their classroom ideas and local research, which is discussed on the forum with the facilitators and peers. Having an online course often implies a static, one-way conversation that could end up having a one-dimensional narrative of sustainable development. We wanted this course to have ‘glocal’ perspectives (‘glocal’ as used in a book published in 2017 on multicultural education) [19], where we can draw from insights across the world and the local contexts of our participants as well. Each week, we have modules that invite teachers to share their research and classroom activities with the rest of the participants and us to make learning more collaborative. For example, we use digital tools such as discussion forums, games, and participant-led thematic activity creation.

**Scalability:** The traditional Faculty Development Program model at IIMBx reached about 14,000 faculty over five years. By going digital, the course opens up to a pan-Indian audience by reducing the costs involved. Our pilot program started with the small number of 39. With the appropriate Information Communication Technology (ICT), the program can scale up to educators across India and potentially the world for programs across disciplines.

**Pedagogy (design in Appendix A):** To explore innovation in blended learning pedagogy, the program integrated business simulations designed for sustainability by MIT Sloan School, covering clean energy, the solar industry, and climate change agreements. Instructors guided ‘learner’ participation and gameplay. These simulations were made accessible to learners to engage within their own classrooms. To leverage the open-source tools in educational technology, apps like Padlet, Flourish, and others were used to develop and visualize data. To encourage education for sustainable development, Harvard Business School Publishing provided cases, articles, and other curated reading material for free to the participating cohort.

**Research and mentorship:** By designing a research project as part of the course, we created a network of researchers who otherwise would have never collaborated based on their subject areas. Learners had access to free material, classroom activities, and personalized mentorship. They presented papers, and some of these were published in reputed journals.

## 5. Analysis and Discussion

Addressing the challenges of infusing sustainability into traditional curriculum calls for a multi-pronged strategy, including enhancing institutional capacity. Efforts at building institutional capacity in terms of faculty skills, access to teaching resources, and creating a critical mass of interested faculty are urgently needed. This blended program attempted to overcome the barriers in two ways: one, by leveraging technology and external partnerships to provide inexpensive and accessible teaching material on sustainability in the business context; and two, by facilitating collaborative research on critical issues among participants from multiple institutions using a digital platform, allowing professional networks to develop and quickly transplant successful experiences between schools and help evolve collaborative curriculum development, case writing, and research efforts.

We faced challenges in achieving one of the objectives to co-create a repository of resources for educators. Every week, we had activities to encourage participants to create resources and share how they used them in class. Contributions to this section died out, and we have yet to investigate what to attribute this to, whether it is methods of engagement, time, learning nudges, or other reasons.

While the advantages of using MOOCs for student learning has been highlighted in the literature, the use of MOOCs for scaling up teacher training has not been explored adequately. This study highlights the potential for using MOOCs to fill the resource and capability gaps that continue to exist in several countries of the world.

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## Appendix A. Strategy and the Sustainable Enterprise FDP: Blended Learning Map

The tables below contain all the elements of the overall course design mapped to the learning objectives and expected outcomes.

**Table A1.** Legend.

Week Title
Online MOOC Content
Additional Readings
Weekly Webinars + Simulations + Guest Talks
Classroom Aid
Research Paper/Case: Group Activity
Faculty Project: Individual Activity

**Table A2.** Blended Learning Map.

Strategy and the Sustainable Enterprise FDP: Blended Learning Map				
Week 1	Week 2	Week 3	Week 4	Week 5
What is Sustainability and Why Should Strategists Care?	Managing Stakeholders	Managing Sustainability Risks	Transforming into the Sustainable Enterprise	The Anarchist Corporation
Introduction to Sustainability	Introduction to Stakeholder Management	Introduction to Risk Management	Introduction to Corporate Sustainability	Introduction
The Changing Landscapes of Business	The Stakeholder Theory of the Firm	Assessing Sustainability Risks	Tools and Techniques	New Business Models for Sustainability
New Rules of Doing Business	Managing for Stakeholder Value	Managing Issues	Green Supply Chain Management	The Anarchist Corporation
<b>Weekly Webinar:</b> Introductions of participants And Introduction to course design—Professor Jose				
<b>Additional Readings:</b> <ul style="list-style-type: none"> <li>• Systems Thinking: A Cautionary Tale</li> <li>• Planetary Boundaries</li> <li>• Limits to Growth</li> <li>• Our Common Future</li> <li>• The Skeptical Environmentalist</li> <li>• A Safe and Just Space for Humanity</li> </ul> + Cases courtesy Harvard Business School Publishing + Research papers for reference	Stakeholders and Non-Market Strategies	Managing Risks in a Global Context		
	<b>Weekly Webinars:</b> Webinar 1: Case for teaching sustainability—Professor Jose Webinar 2: Research propositions by participants	<b>Weekly Webinar:</b> Research Updates 2.0	Company Case Studies	Corporate Stories



Table A2. Cont.

## Strategy and the Sustainable Enterprise FDP: Blended Learning Map

<p><b>Activity 1:</b> <u>Classroom Aid:</u> The ‘Systems Thinking: A Cautionary Tale’ video you watched illustrates the importance of systems thinking. It is a reminder that when we don’t understand the inter-relatedness of things, solutions often cause more problems and simple questions often require complex and reflective thinking if good solutions are to be found. Faculty can ask their class to come up with an example of systems thinking. Students will need to present a sustainability challenge and then a solution for the same, using systems thinking.</p>	<p><b>Additional Readings:</b></p> <ul style="list-style-type: none"> <li>• 30 years after Union Carbide</li> <li>• Power/Interest stakeholder grid</li> <li>• HBO Chernobyl</li> </ul>	<p><b>Additional Readings:</b></p> <ul style="list-style-type: none"> <li>• Unilever: Internal Risks and Engagement</li> <li>• HUL: External Risks and Engagement</li> <li>• Corporate Political Responsibility</li> <li>• Tata Factory in Singur, Kolkata</li> <li>• Woke-Washing</li> </ul>	<p>Sustainability Reporting</p>	<p>Synthesis and Summation</p>
<p><b>Activity 1.1:</b> <u>Classroom Aid:</u> <i>‘What role do businesses play in influencing the planetary boundaries?’</i> <b>OR</b> <i>‘The Skeptical Environmentalist was published in 1998, what would look different now?’</i> Class students could come up with past and future roles, and suggestions for their line of work.</p>	<p><b>Activity 1:</b> <u>Classroom Aid:</u> Faculty can use the Bhopal case study in their classroom.</p>	<p><b>Activity 3:</b> <u>Classroom Aid:</u> The material on HUL talks about risks in the company and various stakeholders affected by this. Risks cannot be viewed in isolation and not dealing with them can affect the company’s reputation. Students could design one stakeholder engagement activity for a ‘risky’ stakeholder. For example, a focus group discussion, a round table, etc.</p>	<p><b>Weekly Webinar Series:</b> <u>Simulations:</u> 5 days, 8 faculty per day, 3 simulations from MIT.</p> <ol style="list-style-type: none"> <li>1. CleanStart</li> <li>2. Solar PV Industry</li> <li>3. WorldClimate</li> </ol> <p><b>Additional Readings:</b></p> <ul style="list-style-type: none"> <li>• Kalundborg Corp</li> <li>• Costs and Benefits of Sustainability Certifications</li> <li>• Tool: True Value</li> <li>• Integrated Reporting</li> <li>• Mindtree’s Integrated Report</li> </ul>	<p><b>Weekly Webinar:</b> Talk by John Ehrenfeld on flourishing vs. sustainability</p> <p><b>Additional Readings:</b></p> <ul style="list-style-type: none"> <li>• Alibaba and Sustainability in E-commerce</li> <li>• Patagonia and clothing design</li> <li>• Uber and the ethics of a sharing economy</li> <li>• Transport in Denmark</li> </ul>



Table A2. Cont.

Strategy and the Sustainable Enterprise FDP: Blended Learning Map				
<b>Group Activity 1.2:</b> <u>Research Interest:</u> Faculty collaborate according to their research interest and begin to work on a paper during our engagement.	<b>Activity 2.1:</b> <u>Classroom Aid:</u> Students in teams could come up with a Stakeholder Engagement Grid for various organizations like a local municipality, FMCG business, an eco-tourism cooperative, etc.	<b>Activity 3.1:</b> <u>Classroom Aid:</u> Students can design a video advertisement for a company that implements sustainable practices and present it in class.	<b>Activity 4.1:</b> <u>Classroom Aid:</u> Students could create a video of a self-designed closed loop system like the industrial symbiosis explained in the video.	<b>Activity 5:</b> <u>Classroom Aid:</u> Students could design one aspect of what they imagine to be a smart city: transport, waste management, ecosystem conservation etc.
<b>Activity 1.3</b> <u>Design your Activity:</u> Faculty can come up with their own activity to illustrate any of the learnings from Week 1 and share it with us to be made part of a repository of classroom activities. Note: Encourage faculty to explore activities in their classroom and share videos with us.	<b>Activity 2.2:</b> <u>Faculty Project:</u> Faculty are encouraged to could come up with a Stakeholder Engagement Grid for various organizations like a local municipality, FMCG business, an eco-tourism cooperative, etc. They can present this grid in the following weekly webinar.		<b>Activity 4.2:</b> <u>Classroom Aid:</u> Students could come up with parameters to design their own tool to evaluate sustainability in a system.	Example: Reference Video This video explains how bus ridership jumped by more than 70% between 2012 and 2017 in Kingston, ON. Dan Hendry discusses all about how they achieved that. He was part of this success story.

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