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# Can Online Short Courses Foster Business Education for Sustainable Development?

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## Abstract

The COVID-19 pandemic challenged the practice of traditional higher education providers (HEPs) and highlighted the need for innovative approaches to education for sustainable development. This research note focuses on online short courses (OSCs)—micro-credentials geared at upskilling or reskilling learners with a competitive application process and cost. It conducts (a) a rapid bibliometric analysis of literature on the nexus between OSCs and sustainable development and (b) an environmental scan of OSCs offered in Australia with a lens of sustainable development. An exploratory approach was adopted to analyze publicly available secondary data on scholarly literature and the courses offered. Findings reveal two key trends: (i) the nascent nature of literature on OSCs and sustainable development globally and (ii) the limited availability of sustainable development related OSCs in Australia. This research note makes broad analytical contributions to posit OSCs as an e-learning innovation to advance business education for sustainable development.

*Keyword:* business education for sustainable development, COVID-19, e-learning innovation, environmental scan, rapid bibliometric analysis

## Introduction

The COVID-19 pandemic not only disrupted the operating environment of traditional higher education providers (HEPs) (Dhakal et al., 2022; Mavroudi & Papanikolaou, 2022) but also opened up new opportunities for developing flexible short-term education and training packages (Schleicher, 2020). For example, Pokhrel & Chhetri (2021) highlight the renaissance of specialized short-term online courses during the pandemic. In this context, two contemporary trends concern HEPs in Australia.

First, in the early months of the pandemic, the government announced a higher education relief package aimed at assisting university and non-university HEPs to design and deliver online short courses (OSCs) (DESE, 2020). OSCs are micro-credentials geared at upskilling or reskilling learners from all walks of life. They are similar to what Kaplan & Haenlein (2016) call short private online courses with a competitive application process and fees paid directly by the student or subsidized by the government.

Second, the need for higher education to contribute to the United Nations (UN) 2030 Sustainable Development Agenda has become critical in the current state of global affairs (see Miotto et al., 2020). For instance, leading accreditation standards such as the Association of Advanced Collegiate Schools of Business (AACSB) have been advocating for business education for sustainable development (BESD) to align courses with the United Nation's Principles of Responsible Management Education (UNPRME) in producing graduates capable of resolving broader societal challenges (Ulbrich, 2020; UNPRME Secretariat, 2021). However, the nexus between OSCs and sustainable development remains unexplored, and this research note responds to this gap with two specific objectives:

1. To conduct a rapid bibliometric analysis of literature on the nexus between OSCs and sustainable development.
2. To carry out an environmental scan of OSCs in Australia with a lens of sustainable development.

This research note uses an exploratory approach that is suitable in emerging areas of inquiry because (a) it allows researchers “to scope out the magnitude or extent of a particular phenomenon” (Bhattacharjee, 2012, p. 6) and (b) it does not require researchers to control the events being studied (Yin, 2009). While the outcomes of exploratory studies may not necessarily influence the education and training processes and products immediately, they help researchers make informed propositions (Parida et al., 2023). Publicly available secondary data on scholarly literature and courses being offered are analyzed to address the specific objectives outlined above. This research note makes broader analytical contributions to posit OSCs as an e-learning innovation to advance BESD.

## Background

This research relies on two theoretical foundations: BESD and e-learning innovation (e-LI).

### Business Education for Sustainable Development

According to the UN (2015), the 2030 Agenda, with 17 Sustainable Development Goals (SDGs), provides a shared blueprint for peace and prosperity for people and the planet, now and into the future (para. 1). The notion of sustainable development, often used as a synonym of sustainability, captures a balanced viewpoint and argues that “fragmented emphasis on economic gains, at the expense of social and or

environmental costs, is detrimental to the overall well-being of the society” (Dhakal, 2012, p. 8). This understanding drove the UN Decade of Education for Sustainable Development initiative (2005–2014) (Alonso & Dhakal, 2009; Buckler & Creech, 2014). More importantly, enabling reskilling and upskilling different types of learners are particularly pertinent to the fourth SDG (UN, 2015), which aims to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (p. 18) so that “all learners acquire the knowledge and skills needed to promote sustainable development” (p. 21).

UNESCO (2017) has been particularly active in disseminating SDGs-related educational resources to inform offline and online courses offered by HEPs. Drawing on Storey et al. (2019) and Miller (2020), BESD can be characterized as purposeful teaching and learning initiatives of business and management faculties with a focus on ensuring the economic bottom line and simultaneously on commitment toward socio-environmental well-being. This characterization aligns with the sentiment that “business schools should do more to provide research and teaching for the next generation of students with a greater focus on sustainability, ethics, and social purpose” (Jack, 2019, para. 1). However, although the literature has highlighted the value of e-learning for sustainable development education (Azeiteiro et al., 2015; Zhang et al., 2020), e-learning innovations to foster BESD remain limited (Hueske et al., 2021).

### **E-Learning Innovation**

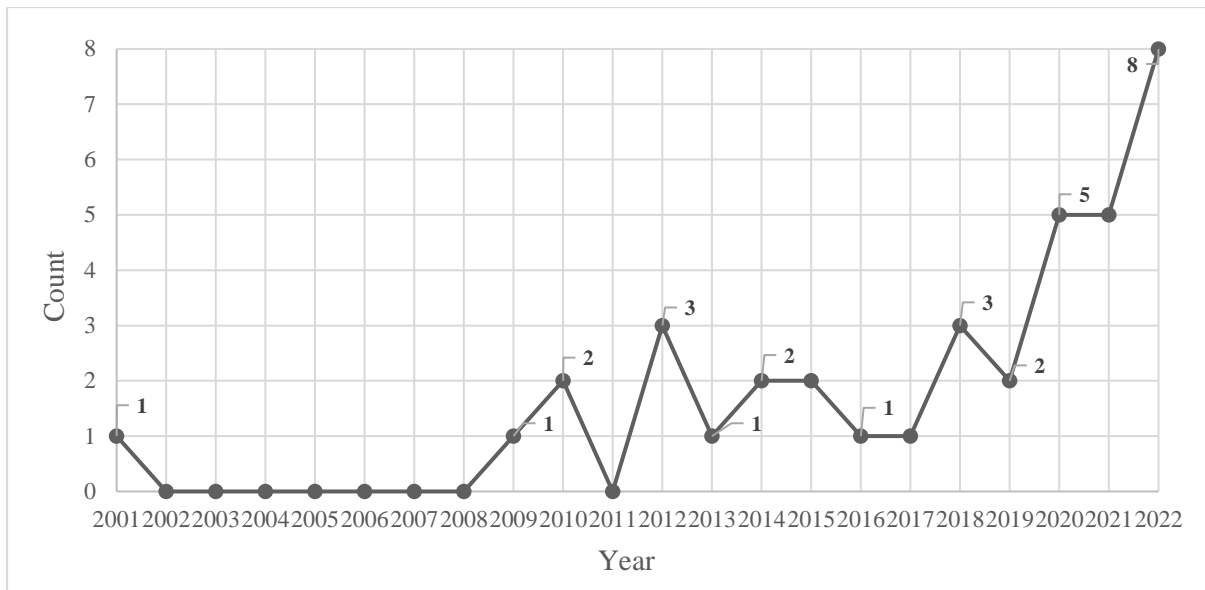
E-learning primarily uses information and communication technologies (ICTs) to connect teachers and students; that is, it enables teachers to design and deliver educational/training content and facilitates learning across multiple segments of learners (Castro & Zermeno, 2020). Therefore, learning technologies, instructional strategies, and pedagogical frameworks such as distributed learning are the three pillars of e-LI strategies (Oblinger et al., 2001; Dabbagh, 2005). Since e-learning concerns using educational ICTs to promote education and training (He, 2020), it relates to the construct of connectivism, which emphasizes how ICTs can mediate new teaching and learning opportunities. The central premise of connectivism is that in the digital era, ICTs must play a significant role in how e-LI occurs within HEPs (Utecht & Keller, 2019). Serdyukov (2017) points out that most contemporary learning and teaching innovations in higher education have been technology-based tools or learning systems. More importantly, HEPs have significantly invested in e-LI-related processes and products during the pandemic (Dhawan, 2022). Since innovation has two components—formulating an idea or an invention and harnessing an idea into purposeful applications (Dhakal et al., 2013)—this paper draws on Kim & Maloney (2020) and adopts a working definition of e-LI as the interplay between the ICT-mediated processes and products aimed at improving education and training opportunities with a specific purpose such as BESD.

## **Literature on the OSCS–Sustainable Development Nexus**

Bibliometric analysis provides an opportunity to gauge the scope and magnitude of a particular topic in a specific field. The literature on the nexus between OSCs and sustainable development was examined using a rapid bibliometrics analysis (RBA) approach. RBA “allows researchers to capture emerging research themes ... in an iterative and expeditious manner” (Dhakal et al., 2022, p. 357). A reproducible code “online short courses” AND “sustainable development” OR “sustainability”—was used to search literature in the Scopus database (01/01/2023). The search yielded a total of 37 research outputs between 2001 and 2022, with no outputs recorded between 2002 and 2008.

**Figure 1**

*Number of Research Outputs on Sustainable Development and Online Short Courses*

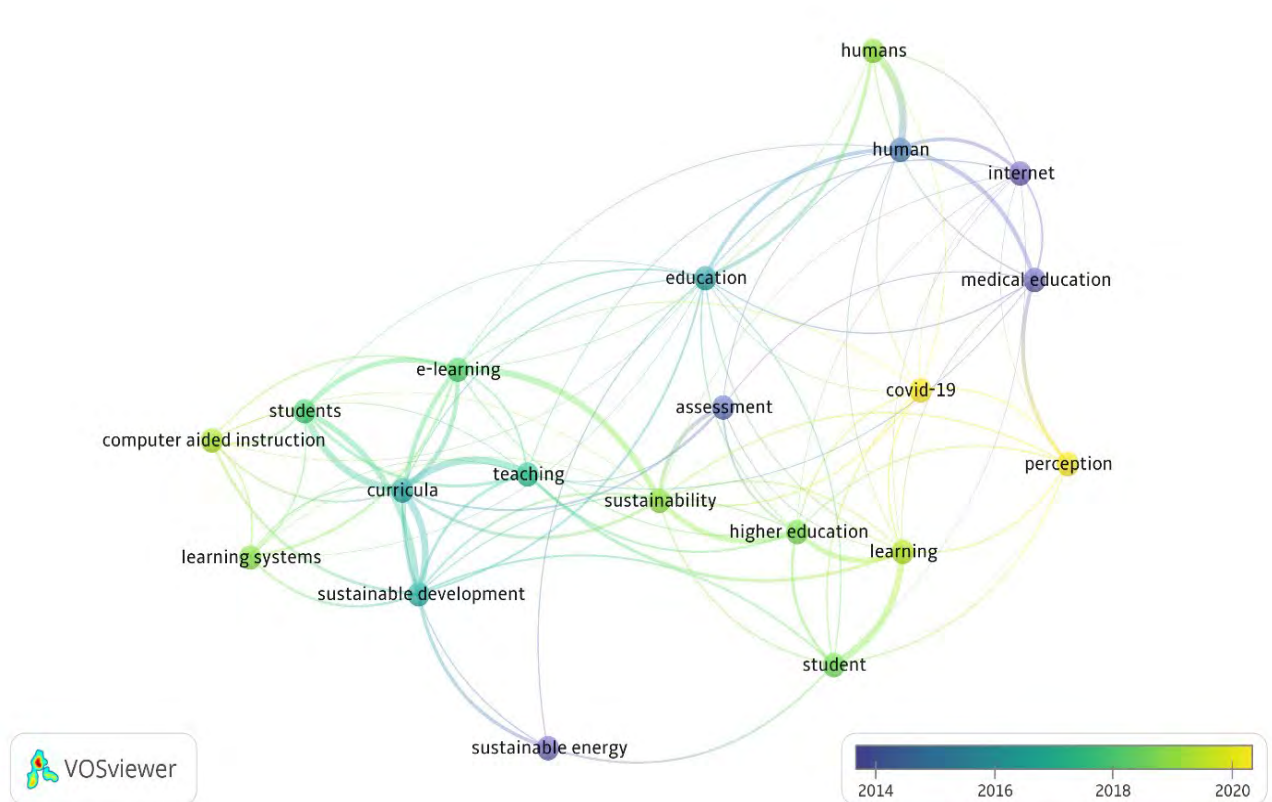


The RBA found approximately 1.6 outputs per year in the last two decades, indicating the slowly emerging nature of the research topic. Figure 1 shows the gradual output increase in the past 20 years, with noticeable growth after the onset of the COVID-19 pandemic. The two most dominant outputs were journal articles (62%,  $n = 23$ ) and conference proceedings (22%,  $n = 8$ ). In terms of disciplines, social sciences (62%,  $n = 23$ ) topped the list, followed by computer science (35%,  $n = 13$ ) and engineering (27%,  $n = 10$ ). The top keywords ( $n \geq 5$ ) were curricula, e-learning, and sustainable development ( $n = 9$  each); sustainability ( $n = 8$ ); and education, learning, higher education, human, students, and teaching ( $n = 6$  each).

Bibliometric data was exported to the VOSviewer software (van Eck & Waltman, 2019), and a total of 337 keywords were extracted. The software generated a network map (Figure 2) using the overlay visualization option to depict the emergence of specific topics over time. Items represented in a lighter color are embedded in more recent research outputs. For example, the internet and sustainable energy were the main focus during the mid-2010s, whereas computer-aided instructions and COVID-19 have received attention in recent years. The connections show the number of outputs in which the items appear in a cluster. For example, the diagram depicts keywords arranged in three clusters: (a) curricula, (b) higher education, and (c) medical education.

**Figure 2**

*An Overlay Network Map of the Literature on the Nexus between Online Short Courses and Sustainable Development*



Research outputs were associated with 27 countries, of which the United States was the leader, accounting for nearly one-third ( $n = 11$ ) of research outputs, followed by Australia ( $n = 5$ ). Canada, Germany, Iran, Italy, Saudi Arabia, and South Africa had two outputs each. The *Sustainability* (Switzerland) journal published the most outputs ( $n = 6$ ). Philip Jennings (Emeritus Professor, Murdoch University) had the most outputs ( $n = 2$ ). Aljohani et al.'s (2019) article, "Predicting at-risk students using clickstream data in the virtual learning environment," was a top-cited article (citation count in Scopus = 37). Although two outputs specifically addressed sustainability in the context of business (Robertson et al., 2020; Bai et al., 2022), both focused on strategic aspects of business viability and competitive advantage rather than the BESD.

## Environmental Scan of OSCs in Australia

Environmental scanning entails the process of seeking, gathering, and interpreting publicly available information (Zhang et al., 2010). According to Nagi et al. (2020), environmental scanning allows researchers to summarize existing data on a topic of interest.

First, OSCs can be characterized as formal as well as informal short-term study options. OSCs incur fees and are often designed to meet continuing professional development requirements, refresh knowledge, or reskill/upskill capabilities in specific targeted areas. For example, the Australian Institute of Management (AIM) offers one OSC titled “Manage Innovation and Continuous Improvement” with a price tag of AU\$570 that has no formal recognition: “Please note that the AIM online Short Courses are non-accredited and there is no assessment” (AIM, n.d.). The University of Adelaide (2020) describes OSCs as non-credit-bearing learning opportunities to address specific learning and professional development needs. The Open Universities Australia (OUA) frames OSCs as a micro-credential pathway for learners to upskill or reskill for their future and gain credible expertise from leading Australian universities, stating, “Open Universities Australia’s comprehensive range of OSCs includes undergraduate and postgraduate single subjects, micro-credentials, and continued professional development courses” (OUA, 2022: para. 1). Some OSCs are now formally recognized by the Australian Qualifications Framework (AQF). For example, according to the TEQSA (2022), an independent national quality assurance and regulatory agency for higher education in Australia, OSC qualifications “are not located at a particular level in the AQF; however, they cover AQF levels 5, 6, or 7” (para. 5).

Second, the Australian Government’s initiative to support the university and non-university HEPs after the onset of the pandemic has enabled nearly 50,000 students to complete various OSCs since 2020 (DESE, 2023). OSCs currently offered in Australia are listed on the Course Seeker (2023) website (accessed January 1, 2023). The initial query yielded a total of 292 OSCs across 10 disciplines. About one-tenth ( $n = 32$ ) of OSCs were associated with the business (i.e., management and commerce) discipline offered by 13 different institutions (Table 1). The graduate certificate (GC) courses ( $n = 17$ ) that were under offer outnumbered the undergraduate certificate (UGC) courses ( $n = 15$ ). The nature of OSCs ranged from GC in professional accounting to UGC in professional development (PD). The University of New England (UNE) had the highest number of offered courses ( $n = 11$ ), which reflects UNE’s track record in offering flexible and specialized courses that meet contemporary demand (Eggleton, 2022).

However, it is essential to note that 11 OSCs offered by UNE are different specialization streams under the one PD umbrella. UNE also underscores the pathways for students completing the UGC in PD to articulate into bachelor level courses such as bachelor of business (UNE, 2020). This OSC has a price tag of \$3,950 and allows students to select two core and two specialization units within one or two trimesters (UNE, 2020). Table 1 also shows that only one OSC related to sustainable development was offered within the business discipline—at Charles Darwin University. It contrasts with the PRME commitments of 33 Australian universities to draw attention to the SDGs and equip current business students with the understanding and ability to deliver change in the future (UNPRME, 2023).

**Table 1**

*Commerce and Management Graduate Certificates (GC) and Undergraduate Certificates (UGC)*

<i>SN.</i>	<i>Course Title</i>	<i>Institution</i>
1	GC: Accounting	Australian National Institute of Management & Commerce
2	GC: Agribusiness	Marcus Oldham College

3	GC: Business	Australian National Institute of Management & Commerce
4	GC: Business (Sport Management)	Deakin University
5	GC: Business Administration	Torrens University
6	GC: Business Administration	Le Cordon Bleu Australia
7	GC: Commerce	Deakin University
8	GC: Data Analytics	Australian National Institute of Management & Commerce
9	GC: Digital Financial Technologies	Australian National Institute of Management & Commerce
10	GC: Digital Financial Technology Management	Australian National Institute of Management & Commerce
11	GC: Health Administration	Australian Catholic University
12	GC: Hospitality Decision Making	Le Cordon Bleu Australia
13	GC: Hospitality Leadership	Le Cordon Bleu Australia
14	GC: Hospitality Management	Le Cordon Bleu Australia
15	GC: Professional Accounting	Griffith University
16	GC: Professional Accounting	Deakin University
17	GC: Project Management	University of South Australia
18	UGC: Introduction to Sustainable Business	Charles Darwin University
19	UGC: Business Essentials	University of Technology Sydney
20	UGC: Professional Development (PD) Business Studies	University of New England
21	UGC: PD Community Welfare and Well-being	University of New England
22	UGC: PD Creative Industries	University of New England
23	UGC: PD Culture and Communication	University of New England
24	UGC: PD Educational Studies	University of New England
25	UGC: PD Event Management	University of New England
26	UGC: PD Science	University of New England
27	UGC: PD General Agriculture	University of New England
28	UGC: PD Information Technology	University of New England
29	UGC: PD Sports Equine Management	University of New England
30	UGC: PD Sports Science	University of New England
31	UGC: Data Analytics	LaTrobe College Australia
32	UGC: Information Technology in Marketing	LaTrobe College Australia

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Source: Course Seeker (2023). <https://www.coursesseeker.edu.au/courses>

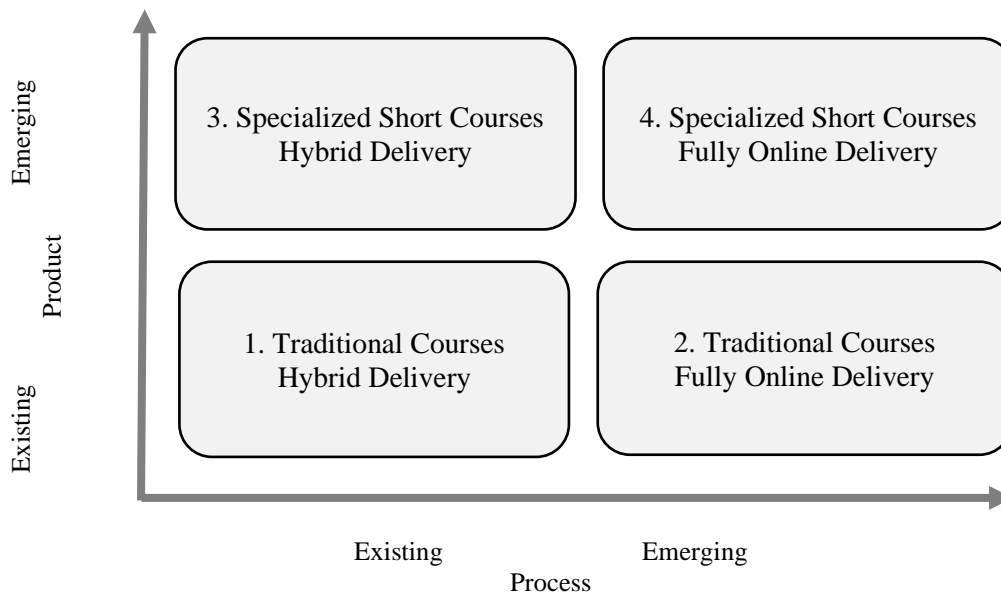
## Discussion

The findings reported above indicate the globally emerging literature on the nexus between OSCs and sustainable development and the growth of OSCs with limited interest in BESD in Australia.

Notwithstanding the process-oriented constraints associated with the modus operandi of traditional HEPs (Ong & Dhakal, 2023) and the genuineness of intent and desire of business faculties/schools to create products that contribute to PRME (Daniel, 2019), the framework (Figure 3) posits OSC as e-LI processes and products to advance BESD.

**Figure 3**

*Online Short Courses as e-Learning Innovation to Advance Business Education for Sustainable Development*



The first quadrant (existing versus existing) represents the business-as-usual approach in which faculties/schools use existing processes to offer traditional generic courses to mostly traditional students in a hybrid setting. The status quo approach is where HEPs continue to use traditional processes and products. The second quadrant (existing versus emerging) represents an analog-to-digital approach in which traditional courses are offered entirely online. Faculties/schools deliver traditional products but use new ways to deliver them. The third quadrant (existing versus emerging) represents changes to the business-as-usual approach. Faculties/schools develop specialized courses but deliver using a process that relies on existing hybrid modality. The fourth quadrant (emerging versus emerging) represents innovation in terms of processes as well as products, where specialized courses are offered in response to emerging needs, such as sustainable development-related education and training in a fully online mode. For instance, Hendy (2022) reports that HEPs have paid increasing attention to OSCs in recent years primarily to meet the demand of non-traditional learners, such as education and training towards continuing professional development or executive education that allows learners to acquire specialized skills with reasonably low investment in terms of time and resources.

As with any exploratory study, the analysis presented here has limitations. First, although the RBA captures research trends and patterns in the scholarly literature, shortcomings associated with reliance on a single search code and one database must be considered (Mahmood & Dhakal, 2022). Second, an environmental scan of OSCs currently offered in Australia does not reveal whether HEPs will continue offering these micro-credentials when government assistance ceases. For example, the disclaimer of



UGC in Sustainable Business offered by Charles Darwin University (CDU) hints at uncertainty and states, “On current advice, the Undergraduate Certificate must be completed by the end of 2025” (CDU, 2023, para. 5). Future research should build on this analysis and comprehensively evaluate OSCs-related processes and products for BESD.

## Conclusion

This research note posited OSCs as an e-learning innovation geared at upskilling or reskilling learners. However, although most business faculties/schools in Australia have made PRME commitments and acknowledged the significance of BESD (Grant, 2022), the potential of OSCs to foster BESD remains largely untapped. Since micro-credentials like OSCs offered by HEPs represent disruptive forces to traditional processes (see Hood & Littlejohn, 2018) and innovative products (Gedeon, 2020), this research note makes broader analytical contributions to posit OSCs as e-LI. Given that HEPs in advanced economies are increasingly focused on ensuring the relevance of courses under offer in response to emerging socio-environmental challenges (Dhakal et al., 2019), the prospect of OSCs to advance BESD in Australia and beyond cannot be overlooked.

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