

UBC Sustainability Scholars Program

Approaches for Integrating Sustainability Education Across the Undergraduate Curriculum: An Assessment of UBC and its Peers

Executive Summary

The intent of the project, entitled “Approaches for Integrating Sustainability Education Across the Undergraduate Curriculum: An Assessment of the University of British Columbia and its Peers”, was threefold; to develop a rationale for identifying the University of British Columbia’s key peer institutions across North America, to develop key criteria for assessing sustainability education initiatives at peer institutions, and to conduct a review of sustainability education initiatives at these institutions and identify parallels to the university-wide curriculum framework for sustainability at the University of British Columbia. The methodology for selecting peer institutions, the assessment of sustainability education initiatives at peer institutions, and the key findings of the review have been summarized below.

i. Selection of peer institutions

The method for identifying the University of British Columbia’s peer institutions entailed using several filters. The selection of the filters was informed by similar analyses conducted by other peer institutions, adapted by numerous internationally-recognized ranking systems (i.e. Shanghai Jiao Tong University’s Academic Ranking of World Universities, Times Higher Education World University Rankings, Quacquarelli Symonds World Rankings, AASHE Sustainability Tracking, Assessment and Rating System, and International Sustainable Campus Network), and guided by the University’s goals and values.

The first filter sought to identify North American institutions that were the top 100 players in the Times Higher Education World University Rankings and the Shanghai Jiao Tong University’s Academic Ranking of World Universities. The Times Higher Education (THE) World University Rankings ordered institutions according to teaching (perceived prestige of institutions in research and teaching), research (volume, income and reputation) and citations (research influence). Similarly, the Shanghai Jiao Tong University’s Academic Ranking of World Universities (ARWU) ranked institutions according to quality of education, quality of faculty, research output and the institution’s per capita performance. After identifying the top players in the two ranking systems, a comparison was conducted to identify duplicates in the rankings. The aggregate list was then categorized by sector. As the University of British Columbia is a public institution, and the purpose of the analysis is to identify comparable peer institutions, the analysis prioritized public institutions; however, a separate table was created for top institutions in the private sector for future reference and analysis.

Once the top public (and private) institutions were identified, the list was ranked by membership on the International Sustainable Campus Network (ISCN), the AASHE Sustainability Tracking, Assessment and Rating System (STARS), and the Quacquarelli Symonds (QS) World Rankings, which are annual university rankings published by British Quacquarelli Symonds. The publication is one of the three most influential and widely observed international university rankings, alongside the Times Higher Education (THE) World University Rankings and the Shanghai Jiao Tong University’s Academic Ranking of World Universities (ARWU), also included in the analysis. For the QS World Rankings, universities were ranked according to academic peer review, faculty-student ratio, citations per faculty, recruiter review, and international orientation.

The second filter entailed comparing institutions in relation to size. Specifically, this filter highlighted institutions with total enrollment figures exceeding 35,000 students in 2013/2014, which is comparable to enrollment figures at the University of British Columbia. The third, and final, filter sought to identify institutions comparable to the University of British Columbia in terms of various student and faculty attributes; namely undergraduate enrollment, undergraduate ratio and instructional faculty headcount.

The resulting list of comparable institutions, consisting of 14 public institutions and 5 private institutions (excluding the University of British Columbia), include the University of Toronto, Ohio State University, University of Texas at Austin, University of Minnesota at Twin Cities, Pennsylvania State University at University Park, University of Illinois at Urbana-Champaign, University of Washington, University of Michigan, University of Wisconsin-Madison, University of California at Los Angeles, University of Arizona, McGill University, University of California at Berkeley, Arizona State University, Harvard University, Stanford University, Massachusetts Institute of Technology, California Institute of Technology and Princeton University. A comprehensive analysis was then conducted to identify the institutions' respective sustainability programs related to curriculum and the overarching institutional commitments to sustainability education. The key findings are outlined below.

ii. Assessment of peer institutions and key findings

To assess the University of British Columbia's peer institutions, the high-level sustainability requirements, curricular sustainability requirements, and implementation mechanisms for integrating sustainability education was identified for each institution through a web-based search. As exemplified in the analysis, the institutions have implemented various mechanisms for integrating sustainability into the curriculum, including add-on courses related or focused on contemporary sustainability issues, major and minor degree programs at the undergraduate and graduate level, strategic committees and organizations that promote sustainability education and research throughout campus, funding programs for sustainability projects and initiatives, and faculty engagement on sustainability technologies and practices.

Though highly commendable for their comprehensive visions, values and practices for integrating sustainability into the curriculum, the analysis confirms that the University of British Columbia is in fact a leader in employing a university-wide curriculum framework for sustainability, specifically through the sustainability learning pathways. The sustainability learning pathways are loosely defined as any combination of curricular experiences that when combined equip undergraduate students with a firm understanding of four Student Sustainability Attributes, or key competencies in sustainability: Holism (ecological systems thinking), Sustainability Knowledge (working knowledge of fundamental, overarching concepts central to sustainability), Acting for Positive Change (change agency, leadership and strategic competence), and Awareness and Integration (interdisciplinary, cross-disciplinary and transdisciplinary understanding). Articulated in 2009, the University expressed that all students should have access to an education in sustainability, and in 2014, revitalized this institutional commitment by strategically embedding sustainability across all undergraduate teaching programs by 2035. This university-wide goal is therefore unique as it transcends disciplinary boundaries and aims to expose sustainability to all students, regardless of their disciplines.

This pathways vision is fundamentally a strategically and structurally different sustainability education framework than the models exemplified at peer institutions. On aggregate, the peer institutions generally have schools or faculties that offer sustainability curriculum as separate degree programs. Although not discrediting the developments and achievements of the sustainability visions, values and practices at peer institutions, none have identified an academic mandate to this calibre. The competence or outcomes-oriented framework at the University of British Columbia not only emphasizes student outcomes, instead of traditional didactic approaches that focus on professor inputs, but it also implicitly acknowledges the flexible and adaptable nature of sustainability education. In other words, it is purposefully designed to guide the integration of sustainability into all undergraduate teaching programs across a large and diverse academic institution by empowering faculty to create curriculum that works across disciplinary contexts.

Although the framework of the four student sustainability attributes has yet to be tested, early indications are that Holism, Sustainability Knowledge, Awareness and Integration, and Acting for Positive Change resonate with a variety of disciplines and contexts, and that flexibility in pathway implementation is key to success. The next few years will undeniably reveal the potential and effectiveness of this competence-oriented framework, and more importantly, inform and guide other university institutions seeking to embed sustainability across the full range of the undergraduate curriculum.