

Sustainable Development in Higher Education

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Higher education institutions (HEIs) are not insulated from the challenges facing the planet and have been tasked as key stakeholders in sustainable development (SD). Over the last five decades, there has been a shift toward the categories of SD work that necessitate a collaborative culture that is not traditionally inherent in HEIs. It is offered that when HEIs align their institutional capacities with worldwide efforts to achieve sustainable development goals (SDGs) by 2030 and foster an intentionally collaborative culture, they will become better equipped to face their own unique challenges: becoming “changemaker” universities; collaborating with each other in the knowledge economy; placing students at the center of the teaching and learning process; and fulfilling their “third mission” to partner with external stakeholders and society.

Keywords: sustainability ; sustainable development goals ; higher education institutions ; Collaboration ; Third Mission of Higher Education

1. Moral Obligation

This category can be understood as the recognition of the ethical responsibility of universities to be leaders in contributing to local, regional, and global sustainability. Deeply entrenched patterns of thinking within higher education knowledge ecosystems and relationships are contributing to unsustainable development, but it is recognized that the formidable generative and scholastic power of HEIs could be (re)directed toward the pursuit of finding solutions to society’s urgent problems ^[1]. The UN’s Decade in Education for Sustainable Development (2005–2015) called for a reorientation of education toward more sustainable forms of living rather than merely tacking on sustainability content or siloing sustainability into its narrow field of specialization ^[2]. The consequence of taking on this moral obligation is the call to embed sustainability into the core business of universities and colleges.

HEIs can “undertake action-oriented research” that stresses research, pedagogy, and learning as a means of generating value and modifying action rather than as solely a way of generating data. However, “in addition to providing and enhancing outreach service to communities, [HEIs] can employ a scholarly approach to teaching and learning for SD” ^[3]. This can contribute to existing SD knowledge streams while also developing the HEIs’ own capacity to engage in transformative SD education and become models of sustainability in their own communities. This aligns operational practices, research, teaching, and networking capabilities for SD with community outreach and civic engagement ^[3]. Sharp ^[4] makes clear the urgency of taking up this obligation; universities will only survive the next century if this holistic and innovative approach is taken. However, in tackling this imperative, HEIs can become leaders of a deep transformation within broader society. The CCG has taken up this moral obligation and it is embedded within the vision of the CCG: to co-create a thriving community in eastern Union County. It is also enmeshed in the three cornerstones of the mission of the CCG: the triple bottom line; intergenerational focus; and participatory process.

2. Sustainable Physical Operations

This category (sustainable physical operations) encourages practical actions within the operation of universities to lower the unique carbon and resource impacts that universities have within their local, regional, and global ecosystems. It also invites HEIs to become models of sustainability in their own communities. This category is a popular choice for adoption by HEIs, especially in the North American and European context ^[5]. Reasons for this include the ability to precisely measure and report tasks (e.g., STARS), the technological nature of these practices (rather than value realignment and human behavioral change), and the direct financial benefits of adopting SPO (a rationale that all political groups affirm).

An analysis of the International Journal of Sustainability in Higher Education (IJSHE) reveals that during the first nine years of its existence (2001 to 2010), the majority of articles and research focused on this category and included the following: protecting biodiversity and natural space; greening university campuses; minimizing waste and energy consumption; developing low carbon buildings; sourcing sustainable goods and services; and reducing overall campus ecological footprints ^[6]. As other categories rose in significance, especially those focused on public outreach and

partnerships, sustainable operations were reimagined to include more partnerships and public scholarships in order to augment the learning of how this could be carried out in the broader society.

In line with our three tenants, the CCG is currently working on a strategic plan to make our campus more energy efficient and to lower our carbon footprint in partnership with Schneider Electric and a third-party lender. A CCG service-learning and community engagement course (SLCE) that is sponsored by the CCG was also developed in partnership with Wingate's operations team, in which freshmen and sophomore math classes measure and track energy usage on campus in order to achieve the learning outcomes that are associated with statistics and hypothesis testing (to learn more, visit the CCG website ^[7]).

3. Public Outreach

The authors of international declarations saw public outreach by HEIs as key to SD because HEIs “situate themselves within the larger community in which they reside” ^[8] and are called to be “a contribution to society” ^{[1][9][10]}. Increasingly, there is a greater demand placed on HEIs to be accountable to the communities that they inhabit. As economic crises deepen due to market downturns and pandemics, governments and shareholders are rethinking the value and impact of university activity on economic and social development. There is an emphasis on the farther-reaching benefits of university activities beyond those experienced by those who go to university, as noted in the abovementioned Moral Obligation section.

Since 2000, universities have realized that to achieve SD goals, they must reach beyond university walls to address SD within their communities ^{[1][11]}. HEIs are seeking to become “engines that contribute to the social, economic and cultural development of the regions in which they operate, by transferring knowledge and technologies to industry and to society at large” ^[12]. Since SD requires the leveraging of all assets of society and an integration of this knowledge, HEIs hold a privileged position in SD work due to their unique potential in both areas to foster a collaborative knowledge democracy.

From the first iteration offered by the President to its unveiling, the desire to serve Wingate University's greater community has been inherent to the CCG and its mission statement: “The CCG uses a project-based approach to address economic, social and ecological issues in eastern Union County. Our goal is to transform our local region by focusing on creating neighborhoods where people, places, and economies can thrive and prosper. We work with partners on and off campus, aligning resources, talents and expertise with community needs, while providing opportunities to advance various academic pursuits” ^[7].

In addition, the third core tenet of the CCG is a participatory process that involves faculty, staff, students, and community stakeholders in reporting the impact of the projects and initiatives that are undertaken. A commitment to surveying all stakeholders, tracking the collected data, and using diverse methods of communicating ideas, contributors, methods, and impact (e.g., social media, open-sourced public scholarship (CCG white papers), traditional scholastic presentations, journal articles) allows the CCG to create a knowledge democracy and live the motto of a participatory process: “We do not do for or to; We work with others to co-create change” ^[7]. The CCG is also aptly placed to contribute to Wingate's newest strategic plan for our university to be a “regional solution engine.” Due to our commitment to meaningful public outreach, the CCG stands as the infrastructure best aligned to co-create, direct, and track the experiential learning on campus that is in service to the region.

4. Ecological Literacy

Education that leads to ecological literacy, or the knowledge of and caring for human–ecosystem interactions ^[13], is multidisciplinary and holistic, and it views humans as part of nature, not separate from nor superior to nature ^[14]. This category is frequently called for by international declarations and at institutional levels, as seen in **Figure 2**. Since the developments in sustainable programming in the 1990s (see the Talloires Declaration, 1990 or the Halifax Declaration, 1991, for example), this area has become more nuanced to include the idea of “interpretation” ^[15]. This vision of literacy includes the learner and the landscape as educators and interpreters, and it involves the maximization of the learner's ability to better understand, observe, and make sense of the natural world. This is a constant process of meaning making for the landscapes around the learner and demands that educators offer opportunities to “evoke an ecological narrative” in the mindscape of the learner ^[15]. Thus, a modern understanding of this category extends beyond the enhancement of the teaching of environmental science to become an overarching perspective for education.

Cultivating ecological literacy in this holistic way is how the CCG approaches its first tenet: the triple bottom line. Every project, initiative, and event must appreciate the intersectional nature of economic, social, and ecological well-being. This

does not demand a rigid equality of approach; rather, each aspect is appreciated in its own way. For example, a service-learning class that is dedicated to calculating the economic impact of our university on our local community is also encouraged to spend time looking at landscapes and how they impact the social and economic aspects of life. The CCG projects, contracts, and podcasts communicating different projects and initiatives also include questions that focus on articulating how ecology, economics, and social dimensions intersect. This intentionality allows for innovation and new perspectives and helps to dismantle the silos of learning while fostering a holistic vision of education for SD.

5. Sustainable Research

Research into sustainability is an asset that HEIs have to offer to SD and can take many forms. This category emerged more recently in international declarations, as is demonstrated in **Figure 2**, and has been underappreciated, along with public outreach. Nevertheless, these new criteria for HEI research offer alternative academic frameworks for public scholarship and outreach and are slowly making their way into more high-profile assessment systems, influencing the type of sustainability research being carried out and the funding available ^[16]. Vaughter et al. ^[17] indicate that there are three predominant areas of research occurring beyond the knowledge acquisition in natural sciences, social sciences, and humanities concerning SD: (1) research comparing curricula across institutions (within disciplines and across disciplines); (2) research comparing campus operational policies and practices across multiple institutions; and (3) research on how to best measure or audit the approaches to and outputs of sustainability in programming for sustainable education.

Since 2000, there has been a movement toward more complex forms of research due to the nature of HEIs themselves. The institutions of higher learning are able to transect geographic boundaries as not only knowledge generators, but also employers and consumers ^[1] that transform and impact their larger social surroundings ^[16]. Research is also transitioning to be understood as an interpersonal process, not something only carried out by scholars but is carried out in ways that recognize the role of research in propagating the exploitation of people and ecologies and expose the power, politics, and participatory relations that can ground SD research in HEIs. Thus, the emergent sustainability and SD research landscape today is asking new questions about research itself while placing more emphasis on practical, evidence-based, concrete projects that create systemic change in larger communities. Thus, the contributions to the SDGs that emerge from inter-, multi-, and transdisciplinary research that has a social impact and is transformative demand the cultivation of an ethos of collaboration within all levels of HEIs.

The CCG at Wingate was intentionally designed to facilitate this type of research, and this is highlighted in our third tenet: the participatory process. Research and public scholarship that is being carried out to support SD encourage a participatory process within inquiry techniques so that research is undertaken “with” HEI stakeholders rather than “on”, “for” or “to” others ^[16]. This approach resonates at all levels: collaborative research; SLCE fellowship program; the design and implementation of ROOTS Summits with community stakeholders; the pitching of CCG proposals; cultural leadership interns co-selecting their mentors; weekly CCG coordinator update meetings with co-created agendas and cross-pollination of projects/events; and project contracts that allow faculty, staff, and students to negotiate timelines, incentives, and return on investments together. Finally, intensive research is being conducted throughout the year to monitor and track all work that carried out by the CCG, including: tracking hours; membership and attendance at any and all events; focus groups; research and scholarly development; public and scholarly presentations; and survey data. The data are then used by the CCG to track both our impact to ensure that we are achieving our goals and missions and, of course, that students are fulfilling their contracted requirements and developing skills, such as those specifically outlined through their contracts, course learning objectives, and student learning outcomes in their academic courses. All research is administered by the CCG while simultaneously being overseen by the CCG Advisory Board and is available to the public as a tool to help to understand the further impact of our participatory process. Community members have disclosed that these data have helped their progress and capacity building and have contributed to their grant applications

6. Partnerships

Most declarations and international commitments speak of the need for partnerships and connections with several other categories (e.g., public outreach, research, etc.). These partnerships are often with organizations that are outside of the formal sphere of education and are not visible or prevalent at the institutional level ^[18]. Historically, HEIs have seen themselves as self-contained educational ecosystems; however, a reciprocal process of knowledge co-creation or a knowledge democracy is now being called for. Breaking down the walls between campus (formal research centers) and community (non-formal knowledge related institutions) is vital to achieve the SDGs ^[1]. HEIs can play a vital role in overcoming the compartmentalization of knowledge and promoting knowledge democracy via a “local/regional knowledge base” that is connected to the sound scientific evidence being offered in normal HEIs. Thus, global and local intersect, and theory and practice/action intersect within local contexts to drive solutions to real world problems. These types of

partnerships are locally driven, culturally relevant, diverse, and co-constructed to meet the real needs of the community while still embracing the overarching strategy to promote global well-being and the SDGs ^[1].

The CCG at Wingate University was designed to be a hub on campus for innovative ideas to grow and create the vertical, lateral, and horizontal linkages that would allow them to succeed. The goal of the CCG is to harness the synergies of campus knowledge generation pathways, intra-university/college cooperation, and local community partnerships that are vital for successful SD work. It is impossible to achieve these alliances without intentionally working to cultivate an ethos of collaboration both on and off campus. The evidence of this success is in the over 110 partners and stakeholders with whom we collaborate in our courses, projects, and initiatives. Our commitment to partnerships translated into the CCG's first concrete initiative: a shared workspace that was designed based on the evidence collected from all stakeholders at our first ROOTS Summit (2019) ^[7]. A "neutral" shared workspace that was inviting for all participants was designed and implemented in January 2020. The result of this first initiative was impressive: collaboration within our university (several campuses) and within our community buy-in alongside new purchasing partnerships allowed 77% of the funding for the space to be used to obtain repurposed, reused, and sustainably sourced materials. Our commitment also reaped financial benefits; we saved tens of thousands in equipment and furniture costs, and this promoted the vision and mission of the CCG in a unique and concrete way.

7. Inter- and Intra-University Cooperation

This category connects to the previous and emerged in the 1990s, yet became more prevalent in declarations in the 2000s (for examples, please see Tilbury ^[5]). It is a specific form of partnership or cooperation within and between formal education centers and requires the earlier categories to be more fully developed prior to its manifestation. Again, as with partnerships, this is called for in national and international declarations and at policy levels, but it is hard to create at individual HE institutional levels ^[18]. However, in the early part of the 21st century, more partnership platforms emerged that brought universities together to share resources and build alliances (see, for example: Copernicus Alliance; Pacific Network of Island Universities; Association for the Advancement of Sustainability in Higher Education in the US; or the Mexican Consortium University for Sustainable Development). There is a recognition of the need for these cooperative partnerships because formal educational institutions share common issues, desire to learn best practices, and need to combine scarce resources.

The CCG recognized this need for cooperative intra-university infrastructure and during its development phase, researchers became members of two main cooperative organizations and associations: COPIL (a group of service-learning scholar-practitioners in North Carolina called Community of Practice, Inquiry and Learning) and AASHE (the Association of the Advancement of Sustainability in Higher Education). This allowed the CCG designers access to top scholars, ideas, language, and research to build the mission, vision, and participatory process that grounds the CCG. Concurrently, there was a focus on building internal capacity for inter-university cooperation; faculty, staff, and student focus groups were held to judge capacity for interdisciplinary buy-in; ROOTS Summits were hosted to provide opportunities for diverse disciplines to engage with one another and community stakeholders; and a service-learning and community engagement fellowship program was designed to encourage faculty and staff from all disciplines, programs, and departments to apply.

8. Inter- or Transdisciplinary Curriculum

Developing inter- and transdisciplinary curricula is necessary to promote an environmentally sustainable future ^[19]. Literature reviews point to: shifts in curriculum development for SD toward innovation for sustainability within existing curricula, rather than just adding new courses and separate modules about sustainability ^{[6][20]}; reframing curricula to be asset-based and their people to be change agents ^{[21][22][23]}; and adding in opportunities for reflection, negotiation, and participation in the SD learning process ^{[20][24]}.

To develop curricula for SD learning, outcomes must align with eight key competencies: (1) competency in foresighted thinking; (2) competency in interdisciplinary work; (3) competency in cosmopolitan perception, transcultural understanding, and cooperation; (4) participatory skills; (5) competency in planning and implementation; (6) capacity for empathy, compassion, and solidarity; (7) competency in self-motivation and in motivating others; and (8) competency in distanced reflection on individual and cultural models ^[25]. These competencies enable active and reflective cooperation, which enables students to cultivate a forward-looking ability to "assess and apply the findings of future research in the drafting of sustainable development processes with regard to ecological systems, social justice, economic developments and political action" ^[26]. The CCG was designed to address all of these key competencies in a myriad of ways. Our three tenets capture several of these competencies (2, 3, 4, 6) while our Cultural Leadership Intern program, DEI Gateway

module development, budgeting practices, SLCE course development and support, our project management toolkit, recruitment practices, podcast series, research, and ROOTS Summit work address many others (1, 2, 4, 5, 6, 7, 8). These key competencies help to direct the many activities and commitments of the CCG.

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