Local Commitment and Global Reach: Advancing Sustainable Capacity Building in Higher Education

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Abstract: Universities play a crucial role in building the economic development capacity for their communities and regions. Their capacity building role is typically defined by contributions to the economic bottom line of the community and region where a university is located. This kind of capacity building may find itself in conflict with the long-term sustainable development needs of the region and with the responsibility of the university itself. Sustainable capacity building may require strategies that focus on the specific social, cultural, environmental, and physical context of a university's location beyond purely economic capacity goals. To achieve sustainable development outcomes, universities must advance an understanding of the context conditions within which they are located. At least three context systems are relevant to this view of development: the economy, society and culture, and the environment with its physical, biological, and ecological context conditions. Each of these context systems is characterized by distinct time frames, spatial configurations, rules, and success measures. A focus on economic development outcomes reflects only one subsystem's rules, behaviors, and success measures. By analyzing two case study examples from the United States and South Africa, we offer a framework for universities to advance sustainability objectives that correspond to their broader responsibilities. We argue that in order to meet these broader responsibilities, universities must first commit to giving expression to their own local context through the voices and lived realities of students and residents. Since universities build the brain trust of communities and regions around the world, they play an essential role in strengthening global sustainability goals by building the local capacity of their communities and regions.

Keywords: capacity building; social-cultural context; environmental-physical context; sustainable development; local expertise; heutagogy

1. Introduction

Universities have long played a crucial role in building the economic development capacity for their nations and regions [1–4]. This capacity building role is typically defined by their contributions to the economic bottom line expressed in the economic objectives to increase GDP per capita, create jobs, and reduce unemployment rates in the community and region where a university is located. Yet this definition of capacity building may find itself in conflict with the long-term development needs of a region, and by extension, the long-term educational responsibilities of the universities themselves. For example, global markets may seek a workforce with impeccable English language skills and universalizable knowledge about consumer preferences; local and regional markets on the other hand may require a workforce that has context specific knowledge about consumer behavior and speaks the language of the region; and the global community may need a workforce knowledgeable about how to meet human needs while mitigating climate change and protecting bio-diversity.

Long-term sustainable development, as opposed to short-term economic development, implies capacity building that is focused on the triple-bottom-line comprised economic,

social-cultural, and environmental objectives. It recognizes that a focus on economic outcomes alone may be counter-productive, and in conflict with the long-term health and resilience of the social-cultural and environmental context that supports all future economic activity. Whether supplying inputs for economic production or receiving its emissions and waste, the context of economic activity must remain healthy and productive for the economy to thrive.

While the triple-bottom line definition of sustainable development may offer some general representation, definitions of sustainability vary from temporal to spatial and capital theory based. The Brundtland report's temporal definition, for example, states that to be considered sustainable, economic development must meet the needs of present generations without endangering the welfare of future generations [5]; a spatial definition of sustainability are the "islands of sustainability" which define regions that stay within their bioregional carrying capacity as sustainable [6]; and a capital theory based notion of sustainability views the goal of sustainable development as "maintaining capital stocks—including 'natural capital stocks'" [7] whereby economic activity must generate a sufficiently large stock of capital to ensure the long term viability of nature's capital. All these definitions view economic activity as taking place within a larger social, cultural, and environmental context.

Sustainability thus recognizes the connections between the economic subsystem and its social-cultural and environmental context. To meet these context-specific obligations of sustainable development, a university must do more than focus on economic objectives. It must also understand and support the larger social-cultural, and environmental context systems within which all economic activity takes place, whether local, regional, or global. Each of the three systems—economy, society-culture, and environment—is characterized by distinct time frames, spatial configurations, rules, and behaviors. All subsystems have permeable boundaries and are interconnected. Economic activity impacts the quality and vitality of environmental and social context systems. A decline in environmental quality, for example, has economic and social consequences; and the health of the social-cultural context system has implications for both economic and environmental context systems. For example, water shortages, torrential rains, hurricanes, and wildfires, impact the health and quality of life of human communities as well as other species. For example, declining social context systems, like deteriorating social support networks, may result in increased stress and declining health, which in turn reduces economic productivity; declining environmental context systems, like increased heat and evaporation rates, may reduce the availability of freshwater and make it more difficult to grow crops and feed people at reasonable costs, which in turn reduces economic productivity as well as the ability to afford consumer products as more money must be spent on food.

Education for economic success may reflect only one subsystem's health, behaviors, and success measures, yet it may well undermine the health, behaviors and success measures of the social-cultural and environmental context systems which form its context. This undermines the long-term viability of the economic system itself. Addressing these complex systems dynamics and correcting the misdirected economic development path of purely economic considerations requires a correction that tracks social and environmental impacts and integrates economic outcomes into their social-cultural and environmental-physical context [8–10].

This article argues that universities cannot meet their global or local obligations to advance sustainable development objectives, without first paying attention to their own social-cultural and environmental context. By focusing solely on the requirements and needs of the economic marketplace as defined by economic capacity building goals, social-cultural and environmental context systems are undermined. Similarly, focusing on traditionally defined academic performance goals does not correlate with achieving sustainability performance goals. In fact, a recent analysis showed that universities who performed best in advancing sustainability objectives were largely absent from the top global rankings of university performance based on traditional academic standards [11]. We further argue

that the U.S. Land-grant University model may be uniquely suited to bring social and environmental context systems into focus as opposed to academic standards rooted within the university itself. Land-grant universities pursue a three-fold educational mission of (1) academic programs committed to experiential learning, (2) applied research informed by the needs of the community, and (3) community outreach to build capacity through practically focused workforce development, continuing education, and business advice. Since universities constitute much of the brain trust of communities and regions around the world, they play an essential role in building the sustainable development capacity of their communities, and by extension a global commitment to sustainability. A focus on universities' own context thus serves as an organizing principle that supports the broader capacity building role of universities. It is also reminiscent of a related capacity building focus, namely the role universities play in advancing sustainability education. Here a key focus has been on adopting systems thinking as a basis for understanding the dynamic balance between economic, social, and environmental systems to advance a sustainable future [12–15]. Our case study examples from the University of South Africa (UNISA) and the University of the District of Columbia (UDC) illustrate the dual commitments to local contexts and a global ethic of sustainable capacity building.

2. Methodology—A Case Study Approach to Capacity Building

We use a case study approach to illustrate the linkages between the commitment of universities to their own local context and its implications for global sustainability goals. As institutions of higher learning, universities represent the capacity building, innovation, and economic development potential of their communities, regions, and nations. As a result, they impact not only their own communities and regions, but also global capacity goals. Our case study examples from the University of South Africa (UNISA) and the University of the District of Columbia (UDC) illustrate these linkages and their implications for the global contributions universities must make through a commitment to their own local communities and regions. Our two case study examples are rooted in the two distinct approaches to sustainability education universities have adopted. One approach views the university itself as a learning laboratory for sustainability whereby the curriculum and co-curriculum can be effective in advancing sustainability education [16–18]. The other approach focuses on the local community as learning laboratory for sustainability education [19,20]. Based on our case study examples, we analyze gaps and needed expansions to the prevalent view of capacity building as economic development rather than economically, socially, and environmentally sustainable development, and the educational commitments required to position universities to meet broader sustainable development objectives. Our expanded capacity building view also recognizes the deficiencies of earlier, definitions of sustainable development which focused largely on the environmental context of development. Our view stresses the importance of social- and cultural context systems for building sustainable development capacity [21].

2.1. The UNISA Curriculum Project

A curriculum reform project that brought the broader economic, social, and environmental contexts of its learners into focus was the signature curriculum initiative undertaken by the University of South Africa (UNISA) [22]. UNISA is a mega university that offers certificates, associate, bachelor's, master's, and doctoral degrees to over 320,000 students via distance learning. To advance its strategic objectives, UNISA worked with the lead author of this article over a three-year period to develop and implement a curriculum reform project. Chief among the project's strategic objectives was the commitment to improve the University's engagement with local communities and regions, and with its students. The approach, developed in close collaboration with the academic leadership of UNISA, was to design six signature courses, one for each of the six UNISA colleges. These signature courses were to be offered as first semester courses and would introduce students to their chosen field while also engaging them in their own communities and regions. As

distinct from experiential learning, students would not only be actively engaged in their communities as hands-on learning spaces, but they would also serve as experts of their own learning contexts. Therefore, students would be engaged right at the outset of their learning experience not only as leaners, but also as local experts who are called upon to make their own unique contribution to the overall learning experience. Given the role UNISA plays as a distance learning institution not only in South Africa, but also on the African continent, it was important for the University to prepare students for their future contributions to their local communities and to global development outcomes [23].

Heutagogical strategies were the logical choice for the six signature courses. The process of designing the signature courses was led by the corresponding author who brought together faculty members from six different institutions in the United States and teams of educators from UNISA. All six courses were expressly designed to engage students as co-instructors and context experts of their own lifeworld contexts while also ensuring that student learning outcomes would meet top quality instructional standards [24]. For example, students were given assignments to collect specific data in their home communities to identify a pollution problem in their region; use clearly structured instructions to write a case study about a development issue in their own community; post information gathered in their local secondary school and comment on the information collected by at least three fellow students. These localized and personalized assignments engage students with each other and with their own context as it relates to demographics, social, cultural, historic, economic, environmental, and spatial characteristics. As a result, students become more aware of their own communities since they are called upon as experts of their lived reality and world views. More importantly, the assignments amplify the diverse voices of the learners and bring the differences in their learning environments to the attention of the course instructors. This challenges persistent assumptions about a students' learning environment and background and provides opportunities for adjusting assumptions and goals.

Following the implementation of the six signature courses, UNISA expanded its commitment to heutagogy by introducing a community engagement focus in all of its colleges. UNISA's commitment to community engagement and outreach is closely linked to its aspirations of becoming "the African university shaping futures in the service of humanity" [23]. Community Engagement (CE) became the vehicle through which engagement with local communities and learners is actualized. CE refers to initiatives and processes which place the expertise of the university at the service of local communities to address relevant issues. CE partnerships acknowledge the parity between the university and its local communities in defining project objectives, and designing, shaping, and delivering the CE projects.

CE initiatives are orchestrated by the CE directorate of each college. In the case of the College of Human Sciences (CHS), the CE office aims to promote the principles of mutuality, generosity, reciprocity, and equality with a heavy focus on education and communication. The CE projects in turn shape the research agenda and pedagogical approaches of the college. Given this understanding of mutuality, CE is defined as " . . . a multi-faceted and complex activity that benefits the university and the community alike. It requires a wide range of skills which include collaboration, communication, and project management. It broadly involves (but is not exclusive to) the communication of knowledge and the enrichment of cultural life; engagement in dialogue and the provision of service to the public and communities" [25].

In the College of Law CE projects are aligned with the Millennium Development Goals of UNISA and aim to build safer communities, build a capable and developed state and nation characterized by social cohesion, and grow social capital within communities [26]. CE initiatives in the UNISA College of Agriculture and Environmental Sciences (CAES) focus on food security [27]. The Food Resilience Flagship Project (FRFP) of the City of Johannesburg is an example. The project registers and commissions ad-hoc community engagement projects intending to launch profitable agricultural production projects. Se-

lected projects are supported by CAES with equipment, technical expertise, supervision, and mentoring. FRFP projects provide training for approximately 20 UNISA students per year. Ideally the projects are geared toward serving community centers of the City of Johannesburg. To date, Region A (Diepsloot & Ivory Park), Region B (Waverly & Westbury), Region C (Tshepisong & Roodepoort), Region D (Diepkloof), Region E (Alexandra), Region F (Betroms & Pioneer Park), Region G (Orange Farm) and the Eikenhoff Empowerment Zone have all been collaborators in successful CE projects. Since 2016 the project has also registered community members in short, skill-building and workforce development courses in the Plant Sciences, Food Security, Agricultural Economics, and Animal Sciences. CAES also launched a successful radio program which provides information on agricultural production related topics through the university wide radio station, UNISA Radio [28].

2.2. The CAUSES Urban Food Hubs Initiative

Our second case study examples from the University of the District of Columbia (UDC), is focused on urban food systems and green infrastructure. Formed in 2010–2011, the UDC College of Agriculture, Urban Sustainability and Environmental Sciences (CAUSES) represents the unique mission of UDC as the only public university in Washington DC, and the only exclusively urban land-grant university in the United States. The United States land-grant university system originated in 1862 and established a network of public universities in all fifty U.S. states. These universities have a three-pronged mission of offering academic programs, conducting applied research, and sharing new knowledge with local communities to strengthen their economic development capacity. As the only exclusively urban land-grant college CAUSES has a unique niche. Its mission is to offer research based academic and community outreach programs that improve the quality of life and economic opportunity of people in Washington DC, and by extension the quality of life of urban communities across the nation and around the world [29].

To achieve its mission, CAUSES offers bachelors, masters and Ph.D. programs through its academic departments, and community outreach programs through its Land-grant Centers. The community outreach and applied research objectives of the Land-grant Centers are anchored in the National Institute for Food and Agriculture (NIFA) of the United States Department of Agriculture which sets the direction for all Land-grant Universities through the U.S farm bill. To establish its local focus CAUSES regularly holds listening sessions in all of the 8 Wards of Washington DC. Table 1 illustrates the significant disparities between the 8 Wards, which comprise the administrative structure of Washington DC.

Table 1. Demographics of Washington, D.C. by Ward [30].

Demographics	Ward 1	Ward 2	Ward 3	Ward 4	Ward 5	Ward 6	Ward 7	Ward 8
Total population	82,859	77,645	83,152	83,066	82,049	84,290	73,290	81,133
Children under 18	12%	5%	13%	20%	17%	14%	24%	30%
People over 65	2%	6%	13%	3%	2%	3.3%	0.3%	0.2%
Black (non-Hispanic)	33%	10%	5.6%	59%	77%	43%	95%	94%
White (non-Hispanic)	40%	70%	78%	20%	15%	47%	2%	3%
Hispanic	21%	9%	8%	19%	6%	5%	2%	2%
Asian	5%	10%	8%	2%	2%	5%	0.3%	0.5%
Life expectancy	78 yrs.	86 yrs.	85 yrs.	78 yrs.	75 yrs.	77 yrs.	73 yrs.	70 yrs.
Household Income	$113,972	$209,147	$257,224	$123,353	$82,425	$140,853	$56,759	$45,239
Unemployment	5.1%	3.8%	3.7%	9.8%	14%	6.2%	19%	22%

During her tenure as the founding Dean of CAUSES, the corresponding author of this article conducted a comprehensive assessment of the social and economic conditions of the 8 DC Wards around five areas which she defines as the Five Pillars of economic devel-

opment. If indicators in the five pillar areas improve, sustainable development outcomes also improve. If they deteriorate, so will sustainable development outcomes. The five pillar areas are: (1) education, (2) health, (3) social and cultural amenities, (4) environmental quality, and (5) access to information and transportation [30].

The research revealed disparities between the eight Wards in all five pillar areas. For example, household incomes in the highest income Ward are 5-times that of the lowest; college educated populations range from a high of over 80 percent to a low of less than 15 percent; unemployment rates range from less than 4 percent to more than 20 percent; and life expectancy differs by 15 years between the healthiest and the least-healthy Ward. The observed disparities follow clear racial lines whereby over 70 percent of the population residing in the best performing Wards are non-Hispanic white, and over 90 percent of the population in the lowest performing Wards are non-Hispanic black.

Food access was identified as a significant contributor to the observed disparities. For example, of the approximately 520 food retailers in D.C., 88 percent do not offer fresh fruits and vegetables; 19 percent of DC households experience food hardship and do not have enough food for themselves or their family; 37 percent of households with children are unable to afford enough food [30]. Among the damaging effects of food insecurity are impaired cognitive development, reduced school readiness, lower educational attainments, and slower physical, mental, and social development [31,32]. On the environmental impact side, food transportation contributes an estimated 25 percent of global CO_2 emissions, and 65 percent of methane emissions; close to 70 percent of freshwater is allocated to food production; and an average 30 percent of the food produced is wasted [33,34]. By producing more fresh food in urban and peri-urban areas, where most food consumers live, several of these negative social and environmental impacts can be improved. Focus groups in the Wards with the highest needs (Wards 7 and 8) confirmed the importance of food and articulated a desire to shift agency from receiving food to achieving food self-sufficiency [30].

Consistent with these findings CAUSES established its Urban Food Hubs initiative. The Urban Food Hubs consist of four integrated components: (1) urban food production, (2) food processing, (3) food distribution, and (4) closing the loop through waste and water management [35]. Each of the four components offers opportunities for business development, education, and training. Food can be produced though bio-intensive growing methods, on roofs and in small hydroponics and aquaponic systems where food grows in nutrient enriched water rather than soil. Commercial kitchens and food truck can serve as business incubators for food processing and other 'value added' activities, but also as sites for nutrition education and preventing food related illness. Food distribution models include farmers' markets, direct marketing to restaurants and grocery stores as well as cooperative models and CSAs (Community Supported Agriculture) where members receive weekly deliveries of fresh food. Strategies to 'close the loop' include waste and water management strategies, and the training programs necessary to support them. This includes job training and certification programs in rain garden design, installation and maintenance, green roof maintenance, composting food, and yard waste, and generating energy from food waste through bio-digestion (see Figure 1). Community based cooperative extension programs offer training certificates in all four Food Hubs components including gardening classes, hydroponic and aquaponic certifications, food safety training, nutrition education, cooking classes, rainwater collection, stormwater management, and green infrastructure certificates. CAUSES also supports its urban food systems and green infrastructure focus through applied research.

Figure 1. The UDC CAUSES Urban Food Hubs Model [36].

Since the food hubs can form a network of urban sites, they can ultimately create a web of skills, jobs, and local businesses based on the specific needs and conditions of the local neighborhood and the context expertise of local residents and collaborating experts. Beyond their implementation in Washington DC, the Urban Food Hubs can serve as a model to address local needs while generating a positive global impact. As urbanization continues to increase globally, food security and green infrastructure solutions must focus increasingly on urban communities and reimagine them as Hubs for comprehensive, sustainable food systems close to where most consumers live. In addition to the Urban Food Hubs, CAUSES also implemented heutagogical strategies in several of its academic courses. These include engaging students in the community-based land-grant programs of CAUSES and as local experts to assess and improve program outcomes [37].

In addition to its CAUSES programs, UDC also conducts community engagement programs through its David A. Clarke College of Law and it's School of Business and Public Administration. Both offer long-standing capacity building programs including a free tax preparation clinic for low-income residents, and legal advice through the acclaimed law clinics available to residents who face legal challenges from eviction to discrimination, violence, and immigration issues to possible deportation [38].

The two case study examples form the basis for analyzing the distinct benefits of heutagogical strategies. In both examples, learners are able to express themselves and contribute their expertise to the knowledge formation process rooted in the characteristics of a specific local community. This local knowledge forms the basis for advancing sustainable development objectives in local communities while encouraging such possibilities in other contexts. This creates space and possibilities for human agency in a world that is very unequal. Local communities and students can contribute to more relevant learning experiences that empowers learners, and creates a more realistic narrative for capacity building.

3. Building Global and Local Capacity through Local Heutagogy

The knowledge and skills a university generates ideally contribute to the betterment of the community and region where it is located, and by extension to the global community at large. This implies that the knowledge generated will contribute not only to short-term local and regional objectives but will accrue benefits in the long-term and beyond any one local community. This long-term capacity building role of universities is reminiscent of the temporal definition of sustainability which holds that sustainable development must meet

the needs of present generations without endangering the welfare of future generations [5]. The linkages between the local capacity building role of a university and its pan-regional and global benefits are reminiscent of the spatial definitions of sustainability [6]. Our two case study examples offer some insights into where such knowledge formation can take place and how it can be actively supported and strengthened.

Both case study examples affirm that abstract knowledge is not enough. It must be complemented by the concrete temporal and spatial knowledge local experts bring from their own lived reality to the overall knowledge creation process. Universities must therefore develop the capacity to place the concrete knowledge of community experts, and the knowledge of credentialed experts into dialogue. For example, what are the bioregional boundaries of a community? What watersheds, ecosystems, and precipitation patterns characterize a region? Is there plenty of freshwater or are droughts prevalent? Is the vegetation lush with plant activity emitting high levels of oxygen and mitigating heat island effects or is the vegetation sparse? Are natural resources plentiful or in short supply? Decisions about a region's capacity building needs and development objectives are inextricably linked to such context conditions. Similarly, the best laid plans may not be actionable without enough knowledge about a community's history, social and cultural conditions, institutions, and accepted decision patterns. Do residents make a decent living or are wages low and unemployment rates high? Are preventable illnesses prevalent and lifespans short, or are health outcomes strong and life expectancies high? Abstract knowledge about the availability of natural resources, workforce skills, and climate vulnerabilities will not be enough to advance local and regional capacity building goals. Instead, concrete information about the realities of local, regional social and environmental context conditions will be needed to advance actionable capacity goals.

Yet too often, decisions about what resources to allocate and how to define desirable outcomes are determined solely by focusing on economic outcomes defined by credentialed experts. If labor is plentiful and wages are low the production recipe will include a high percentage of labor with little regard to the social and educational needs of the labor pool. After all, if workers are dissatisfied, there are others to take their place. And if fresh water is plentiful, it will comprise a large component of the input mix used in the food production process regardless of the emissions released, or the future water needs of the region. When social and environmental outcomes are made visible in local relationships and impacts, the costs associated with a low-wage labor pool and the overuse of freshwater resources may be more readily included. As regions comprise ultimately the global commons, local decisions, and the social-cultural and environmental contexts they represent will ultimately be indispensable to meet global sustainability goals. This calls for the inclusion of local knowledge to determine the right product mix and the right mix of resources and expertise used. Without the engagement of local experts in addition to the credentialed experts represented in universities, local and regional contexts may be misrepresented, or are altogether ignored [39–41].

Globalization often posits the reverse. It suppresses local and regional social, cultural, and environmental perspectives and demands instead that all meet the logic of a global marketplace that seeks to minimizes costs and maximize profits in pursuit of individual utility rather than the common good. The pitfalls of this logic became visible most recently during the global COVID-19 pandemic when global supply chains were disrupted. Migrant workers from central America, for example, were unable to reach their destinations on U.S. farms due to travel restrictions and crops rotted in the fields. Meat packing plants, where workers stand shoulder to shoulder in damp and cool working conditions, saw skyrocketing COVID outbreaks and were forced to shut down or reduce production [42,43]. And Cape Town was forced to curtail water use as unprecedented droughts reduced groundwater reservoirs and imperiled critical water needs of households and the agricultural sector [44]. Other cities have since had to adopt similar restrictions.

This is not to suggest that global learning is irrelevant. Learning globally relevant technical skills, communication skills, and cultural literacy skills will always have an

important place in the curriculum of universities and the training needs of an economy shaped by multinational corporations. Universities have long focused on these universally applicable skills intended to make students more successful and regional businesses more competitive in a global marketplace. Yet universally applicable knowledge, which renders some regions to supplying resources and absorbing emissions and waste byproducts while others reap the benefits of a consumption driven global marketplace exacerbates disparities and unsustainability. Sustainable capacity building recognizes that global knowledge and skills must be complemented by local ones that are aware of specific environmental, social, and cultural conditions of a region. Contributing the specific knowledge of specific context conditions may therefore be equally as important as contributing globally relevant skills.

One might argue that experiential learning has long recognized the benefits of engaging with real-life situations to benefit both learners and local communities. Experiential learning is by definition engaged with the community contexts in which it takes place and engages its learners in this context. In fact, experiential learning is a process by which learning and knowledge formation take place through action and engagement. As an educational approach, experiential learning dates back to the 1970s and the work of David Kolb [45] who drew heavily on the work of John Dewey [46], and Jean Piaget [47]. As an educational model experiential learning moves away from the 'sage on the stage' and relies instead on the 'guide on the side' as learning becomes an experience that moves beyond the classroom and into the community. This has significant benefits including the ability to motivate [48]. To be successful, learning and knowledge formation must meet with motivated learners who have the desire to learn [49,50]. Yet while experiential learning engages its leaners actively in the learning process, it does not necessarily engage them as experts of their own learning context. Agency for the learning process remains firmly with the designer of the experiential learning experience. Experiential learning seeks to motivate through learning by doing. Heutagogy seeks to motivate by shifting agency for the learning process. By acknowledging the expertise of both the learner and the teacher. both become both learners and teachers based on their own distinct life context and expertise. All who are engaged in the learning and knowledge formation process are therefore credentialed experts and context experts to varying degrees.

Heutagogy expressly highlights the contributions of students as context experts and co-teachers. The term signifies an educational philosophy that continues the evolution of learning theory along the continuum from pedagogy through andragogy to heutagogy. A heutagogical strategy views the instructor not simply as the person who transfers information to the student, but as the person who develops learning skills in their learners to prepare them to take responsibility for the overall learning process as co-instructors. In pedagogy, the teacher determines what is learned; in andragogy, the adult learners and the teacher jointly determine the learning process; in heutagogy, the learning process shifts to the learner as expert of their own life- and learning context [51]. Heutagogical strategies therefore lend themselves uniquely to bringing the multiple contexts, experiences, and perspectives of diverse learners into the learning process. This can meaningfully expand the learning experience overall by moving beyond the insights that can result from engaging individual learners with the instructor. Instead, learners become co-creators of knowledge as they bring not only their cognition into the learning process, but also their meta-cognition and epistemic cognition that is shaped by their diverse life-worlds [52]. This enhances the overall learning experience since the contexts and perspectives of the participating learners invariably expand and diversify the insights that even the most informed instructor can offer.

In a course that is designed according to heutagogical principles, the role of the instructor is to facilitate learning and to design the course in such a way that the selected learning activities make optimal use of the diverse experiences and perspectives of the participants. Rigidly structured learning environments are therefore not conducive to heutagogy. Instead, heutagogy requires creativity as it shifts responsibility of the learning process to a mutual commitment to achieving learning goals [53]. A heutagogical learning

environment can be created in any setting including face-to-face, on-line, and blended modes of instruction [54]. Given the level of responsibility it places on the learner, it is also uniquely suited for graduate and professional studies that can benefit significantly from the experience and expertise of the participants.

Research also suggests that learning outcomes in general improve when students can relate the material they encounter in the curriculum to their own lived reality [55,56]. This would suggest that engaging students in learning about and reflecting on their own social-cultural and environmental context may improve learning outcomes overall. In recent years, universities have given more attention to a learning process that brings students' lifeworld into focus. Learning strategies associated with this shift include 'upside down' and 'flipped' classrooms [57–59]. These strategies ask students to contribute actively to their own learning experience by bringing their own context and expertise into the learning process. For example, rather than using abstract data, an assignment will ask students to collect data from their own local community. Case studies may draw on local or regional businesses and labor markets. Local resource management issues, such as water quality management and food security may form the core of a data collection and research assignment for a course or for a thesis project. Rather than reading case studies about the impact of local initiatives, students may be asked to interview their local school, social service provider, or municipality to evaluate local assets and deficits and their local implications. As our case study example from UNISA shows, the implementation of heutagogical strategies in the six signature courses improved information about local context conditions overall and led to the development of a broad range of community engagement (CE) projects defined in collaboration with local communities.

This does not mean that global contexts should be excluded, but it invites the assessment of linkages and feedback loops between local and global context systems. In a diverse learning environment, the diverse experiences and insights student bring to the learning experience can create a comparative studies platform that investigates commonalities and differences in the environmental and social context of the different locations and backgrounds represented. This can result in important new insights about characteristics that may be location- and context specific and those that are more generally applicable regardless of location and context; and about conditions that can be influenced more easily versus those that require significant effort or evade control altogether. Most importantly, the shift in focus from the learner as learner to the learner as expert shifts agency. Human agency is critical in diverse and unequal environments to create possibilities for shifting the status quo. Agency, like expertise, is an important empowerment tool.

4. Opportunities and Barriers for Heutagogical Strategies

Sustainable development is not an abstract concept. It depends on the ability to communicate concrete context conditions, and especially the conditions the weakest links in a social and environmental context system face. These most vulnerable links are least able to absorb the environmental burdens of emissions and waste, or the social burdens of stress and ill health. The weakest links in a system may thus render the overall system to collapse. As a strategy that deliberately engages local expertise, heutagogy invariably highlights disparities and weaknesses in the context conditions. Students and community members bring these context conditions to the fore and in doing so challenge persistent universal assumptions. This provides opportunities for adjusting mainstream perceptions and definitions of existing strengths and weaknesses, desired learning outcomes and capacity building goals. Heutagogy therefore highlights not only differences, but the disadvantages some encounter as their experiences and perspective are rendered invisible while others qualify as 'mainstream' or 'common' experience. In a world of growing inequality, global capacity building will not be possible without paying attention to the assets those who are most disadvantaged can bring to the process of redefining capacity building needs and priorities.

A World Bank report examines the growing global and regional inequalities and concludes that the Southern African Customs Union (SACU) countries of Botswana, Eswatini, Lesotho, Namibia, and South Africa, represent the world's most unequal region [60]. Namibia and South Africa exhibit distinctly higher inequality than the rest of the region. An Equal Education Report focusing specifically on South Africa finds that "80% of schools are dysfunctional, and most of these schools serve black and coloured learners. Coloured was a term used in South Africa during the Apartheid era" [61]. Shortages in study material, poverty and violence are some of the adverse conditions the report highlights [62]

While South Africa has made significant improvements in basic and tertiary education, the country still suffers from significant challenges in the quality of educational achievement by almost any metric. This is even though South Africa's education budget is comparable to OECD countries as a percentage of GDP and exceeds that of most sub-Saharan African countries in per capita terms [63]. South Africa's young democracy after the history of apartheid requires an approach to capacity building that addresses these persistent educational disparities, but also extends to every other facet of life. Universities in South Africa thus have an added obligation to focus on their social, cultural, and environmental context and to bring it to the fore in identifying successful capacity building strategies and measures of development success.

To succeed in bringing local context expertise to bear across prevalent under-represented contexts, universities must play a role in understanding not only the implications of race, but also the implications of the fabric of working-class society. The data summarized in Table 2 illustrates the positive impact of educational attainment while also showing the significant unemployment rates that continue to plague South Africa despite gains in educational preparedness.

Table 2. Employment and educational attainment in South Africa.

	Employment Rate			
Educational Characteristics	**25–34 yr. Olds**	**35–44 yr. Olds**	**45–54 yr. Olds**	**25–64 yr. Olds**
With bachelor's degree				77%
With some tertiary education	63%	78%	64%	73%
With secondary education	45%	59%	58%	53%
Without secondary education	34%	48%	46%	40%

This points to a two-pronged problem whereby a large segment of adults lacks adequate formal education. In addition, another segment lacks the skills to attain consistent employment with and without formal education. Despite the substantial investment in education on part of the South African government, the education system has not been able to address either of these two deficits and remains highly bi-furcated [62]. One of the reasons for these persistent deficits is that the added access to education has not adequately addressed inequalities. There is therefore a need to revisit the elusive search for an understanding of the life world context of disadvantaged learners following the example of Marsden and Jackson and their work on working class learners in Britain [64].

And South Africa is not alone in facing persistent disparities in educational outcomes [65–67]. The United States too has not resolved its racist history and its reflection in educational, economic and health disparities. In Washington DC, for example, disparities between the 8 Wards which form the administrative structure of the city, remain high. As Figure 2 illustrates, educational attainments have improved overall, yet the gap between Wards remains and follows racial lines [30]. Even though Washington DC ranks as one of the best educated cities in the United Sates overall, some of its Wards have educational outcomes below the national average. Wards 2 and 3 for example, have high school drop-out rates below the national average, while all other Wards have drop-out rates adove the national average of 7 percent [30].
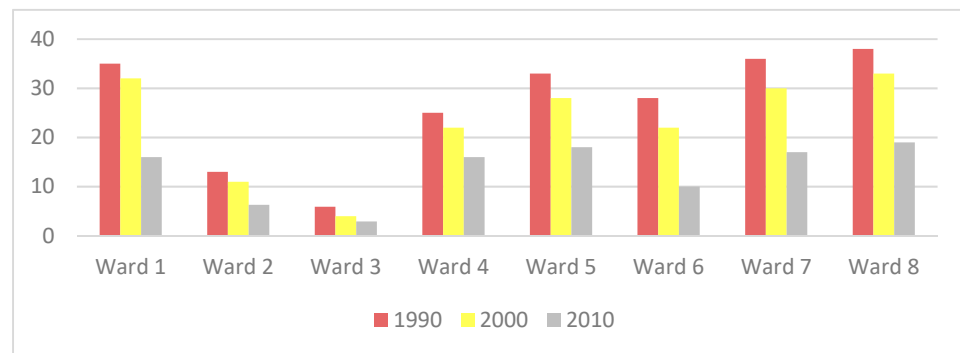
Figure 2. Percentage Washington DC population without high school diploma [30].

Table 3 summarizes the educational attainment gap across racial and ethnic groups in the U.S. [68]. An analysis of the implications of class remains largely absent [69,70]. This is even though both income and wealth gaps between the richest and poorest U.S. households have widened. Most of the increase in household incomes occurred between 1970 to 2000 at a rate of approximately 1.2 percent per year; between 2000 and 2018 the growth slowed to an average 0.3 percent per year. At the same time, the gap between high- and low-income households has widened steadily, while the share of income held by middle-income households has declined.

Table 3. Educational attainment in the U.S. by race and ethnicity [68].

Educational Attainment as % of Population	Highschool Completed	College Completed
White	90.2	35.2
Non-Hispanic Black	87.9	25.2
Hispanic	71.6	18.3
Asian/Pacific	90.5	56.5
U.S. Total	89.8	35

One of the reasons for this shift was the great recession of 2008 when many low-income households lost their homes. Household incomes have rebounded overall, yet the wealth gap between the richest and poorest U.S. households remains and the share of U.S. adults who live in middle-income households has decreased from 61 percent in 1971 to 51 percent in 2019 [71,72]. As the wealth gap has widened, those on the lower rungs of the economic ladder experience diminished economic opportunity and mobility. This phenomenon is referred to as the Great Gatsby Curve [73]. This disconcerting phenomenon suggests that it may become increasingly more difficult to address persistent disparities once a tipping point of inequality has been reached. This offers tremendous opportunities for heutagogical strategies as they can bring the unique lifeworld contexts of diverse learner into focus, and especially those whose views are generally marginalized. Pierre Bourdieu articulated the importance of including the unique perspectives of marginalized groups [74]. He argued that instead of blaming working-class underachievement on flawed working-class culture, capacity building must focus on the contributions of working-class learners and alleviate the dominance of middle-class culture. According to Bourdieu, middle class learners are more likely to succeed because the education system is run by the middle class and views its own culture as superior while those with less-familiar views are marginalized and end up underachieving. Others have confirmed Bourdieu's views and have pointed to the impact of self-image and confidence as major limitations for working-class children and their educational success.

This suggests that not all heutagogical strategies are equally as promising in bringing persistent capacity building needs to the fore. Instead, successful heutagogical strategies may have to level the playing field by amplifying the voices of those whose contexts

are less familiar, less articulated, and less reflected in standard definitions and measures of successful outcomes. Heutagogy thus offers the unique opportunity to address not only persistent capacity gaps, but to possibly ameliorate the Great Gatsby Curve effect. As the local expertise of previously marginalized views increases in value, self-image and confidence limitations may be reduced, and mobility opportunities may shift. As John Dewey asserted: "It is the office of the school environment . . . to see to it that each individual gets an opportunity to escape from the limitations of the social group in which he was born, and to come into living contact with a broader environment" [75].

The fuller and more accurate a picture heutagogical strategies can paint of existing divergent life world contexts, the more successful they may be at also facilitating a shift in the value associated with the contributions of marginalized learners. Assessments of the signature courses of UNISA are still out. Similar initiatives, however, should consider at the outset how the learning contributions and achievements of sub-cohorts of learners can best be assessed. This may include sub-cohort definitions based on geography, class, race, ethnicity, and other relevant factors. The contributions of these sub-cohorts can then be differently weighted in recognition of the essential contributions of previously neglected context perspectives. Heutagogical strategies can therefore do more than make marginalized contexts visible. Ideally, they will also make underlying mindset biases visible.

5. Closing the Gap through Discourse

Our case study examples from the University of South Africa and the University of the District of Columbia illustrate that heutagogical strategies must stretch beyond the walls of the university. Given their location in local communities, universities can assume the role of facilitating a local and regional discourse about locally relevant sustainable development goals and the capacity building pathways to achieve them. The starting points for these context focused heutagogical strategies, however, may differ. In the case of UNISA, the task of making community context expertise visible started in the classroom. The six signature courses used heutagogical strategies that encouraged students to make their own diverse life world contexts visible. Following the creation of the signature courses UNISA developed its Community Engagement (CE) initiatives. These CE initiatives were able to build on the context information that came into focus as the six UNISA colleges developed and implemented their respective heutagogical signature courses. While the CE initiatives of the six colleges share a commitment to community partnerships, they also differ as each college brings it distinct disciplinary perspective to bear. Each college thus developed CE initiatives that place the credentialed expertise of its faculty, staff, and students in dialogue with the local expertise of local communities, organizations, and learners.

In the case of the University of the District of Columbia (UDC), the starting point was the community. Given its unique mission as the land-grant College of UDC, the College of Agriculture, Urban Sustainability and Environmental Sciences (CAUSES) had an established process of providing services, offering non-credit bearing certificate programs, holding listening-sessions, and organizing stakeholder meetings. These community outreach initiatives served as a platform for engaging with local neighborhoods to assess local needs, assets, and opportunities. As a second step, CAUSES established a focus on community engagement for its academic programs, whereby the community serves as an important extension of the classroom. Many UDC students are also DC residents, which makes their local expertise all the more valuable for both the land-grant and academic programs of the University.

Yet not all community engagement and not all student engagement meets the standard of heutagogy. Neither experiential learning nor the active participation of students, residents and community organizations in university-based community initiatives is necessarily enough. A truly heutagogical process must identify undervalued and generally excluded knowledge perspectives and insights and commit to making them count [76–78]. If only large private and public sector players are included in a stakeholder process, for example, or if only some feel empowered to speak out while others remain silent, the pro-

cess is flawed and does not meet the goal of bringing neglected context knowledge to the fore. Giving marginalized groups a seat at the table is therefore not sufficient. Universities committed to heutagogical principles must also ensure that all at the table are heard and marginalized voices are amplified.

This places special demands on those conducting community listening sessions, designing collaborative community projects, and implementing heutagogical class assignments. A model that can provide guidance is the discursive ethics standard defined by the sociologist Juergen Habermas. Discursive ethics refers to a process of uncoerced and undistorted communicative interaction between individuals in an open discourse [79–81]. This may take the form of a participatory project design, assessing trade-offs between different development scenarios, resolving land-use conflicts, identifying programming priorities, or any number of other participatory processes. Discursive ethics presupposes no norms other than accepting the potential for a reasoned, reflective, and practical discourse and the mutual recognition and acceptance of others as responsible subjects. This mutual recognition and acceptance are what constitutes its ethical quality. Reason thus is seen as linked to and informed by the human experience of a social, cultural, and environmental life world which forms the context for all decision making whether individual or collective. Some have criticized the reliance on reasoned communication as naïve or biased in itself [82,83]. Yet as Dryzek [84,85] argues, we may reach agreement on practical issues even if we disagree on fundamental moral principles. A rational discourse simply provides a procedural framework for how arguments might be resolved, and goals established; it does not determine any outcome per se. Dryzek writes:

> "··· consensus on *what* is desirable based on a reciprocal understanding of the accepted legitimate (if different) opinions and conceptual frameworks of other actor(s) is possible in the absence of a shared commitment to the ultimate reason *why* it is desirable.... Even failing this kind of consensus, simple compromise between different views is defensible to the extent it is reached under communicatively rational conditions" [84].

A community engagement process thus can give expression to the opportunities and limitations of the realities of local social, cultural, and environmental context systems not simply by virtue of who comes to the discourse table, but by how the contributions of participants are evaluated. The assessment of contributions as relevant/irrelevant, educated/uneducated, knowledgeable/ignorant etc. can be used to exclude the voices of women, working class, black and brown people, and other marginalized groups even when they have important contributions to make based on their lived reality and life world context. Leveling the playing field must also include awareness of the implicit biases of language. Language holds the danger of perpetuating expectations of verbal facility. An ethical discourse process must therefore give voice to those considered outside of the accepted mainstream of language facility. This is not an easy task for universities who so heavily rely on the language of credentialed experts as the accepted validation of a position. The facilitator of a discourse process that affirms the heutagogical principle of engaging local expertise must therefore make room for non-credentialed local experts who do not speak the language of credentialed experts [76,78]. This includes giving up established distinctions between human-human and human-non-human needs that have long shaped social power and control, and giving voice to those local experts who speak for nature itself.

Universities have a crucial role to play here. As our two case study examples suggest, heutagogical strategies are a step in the right direction. Heutagogy recognizes the unique development of capacity represented by those whose views are typically excluded. The Office for Standards in Education, Children's Services and Skills (OFSTED) for example, recently confirmed the need for an increased focus on cultural capacity building and the engagement of cultural knowledge [86,87]. This recognizes the value of unique cultural perspectives that do not conform to standard expectations of knowledge but are shaped by unique social and environmental knowledge systems. Teachers and researchers will be called upon to express the value of this cultural intelligence, and recognize the contributions

learners and community members can make to improving sustainable capacity building overall. It is against this background that universities must revise their research, community outreach, and academic programs to address the contemporary problems facing local communities and their broader global implications.

Our two case study examples illustrate two possible pathways. UNISA started with a curriculum-based initiative and expanded its commitment to local capacity building. UDC started its initiative in the community and linked its capacity efforts to student expertise through internships, and project-based clinics that place the expertise of students at the service of the community. Both universities, however, must expand their assessment efforts to capture not only their community engagement but the explicit contributions attributable to local expertise, and especially to those whose views are typically marginalized.

In both the UNISA and the UDC case study examples, it remains unclear how prevalent marginalized perspectives are in the community or classroom initiatives. One of the reasons this important aspect is not explicitly included in the assessment process is that common assessment strategies are not sufficiently familiar with the concept of heutagogy. Heutagogy is distinct from experiential learning and community engagement although it shares the element of engagement with both. In order to provide further insights into the effectiveness of heutagogical strategies, it will be important to include the notion of agency in the assessment process of both community engagement and instructional programs. For example, the level of community engagement from lip-service to active engagement has been documented. Yet the only measure of shifting agency to local community experts appears to be a 'doing-with' rather than 'doing-for' approach. Similarly, it is unclear whether and how student expertise as agency is assessed beyond the engagement of students in experiential learning initiatives. Much work thus remains to ensure that both learning outcomes and the learning process itself are more fully reflected to provide a more robust assessment of the agency of learning and capacity building. This must include the assessment of the learning/engagement process, and the reflection of local agency in the identified capacity building outcomes and goals themselves.

While our analysis focuses on the United States and South Africa, we note that the problem of exclusion of marginalized context systems and knowledge is a global problem which hampers sustainable development solutions worldwide. The local expertise of marginalized experts is especially critical in reducing local and global vulnerabilities. Universities must therefore engage the expertise of students and residents in marginalized black/brown and working-class communities far more effectively to highlight the unique contributions these local experts can make to stabilize vulnerable systems overall. Universities can and must play an active role in shifting the capacity building process and its sustainability outcomes.

6. Conclusions

Universities have long played an important role in advancing the capacity building needs of their communities, nations, and regions to advance economic development objectives. Universities conduct research, educate a competitive workforce, and create direct and indirect economic benefits for the communities they serve. Yet it has also become evident that universities must do more than advance the competitive edge of their countries and regions in a global marketplace. They must use their capacity building role to advance long-term sustainability objectives rather than short-term economic gains. This requires a commitment to a triple-bottom-line of improving economic, social-cultural, and environmental conditions. This triple-bottom-line focus recognizes that the economy is a subsystem nested within a larger social-cultural and environmental context within which all development activity takes place.

To advance such a commitment to sustaining local and regional context systems universities must first bring their own local social-cultural and environmental context into view. This implies a commitment to advancing their own understanding of the complex connections and feedback loops that exist between economic decisions, the quality of life

and social equity of their communities, and the environmental health of their regions. Such an understanding rests not within the community of credentialed experts alone who typically comprises the university community. It also requires the perspectives of the non-credentialed community experts who are more keenly aware of the connections and feedback loops that impact their livelihood, quality of life, and the health and vitality of their living environment. For universities to advance much needed local context knowledge they must effectively engage those whose local expertise has long been neglected and unrecognized, namely those living in marginalized communities. By giving voice to these non-credentialed community experts, knowledge gaps can be addressed and knowledge capacity can be advanced overall.

The U.S. American model of the land-grant university is in principle well suited for this kind of deliberative interaction with local stakeholders whose views are underrepresented. Implementing this model effectively must include the engagement of local stakeholders and students, and a commitment to shifting the agency for expressing specific social, cultural, and environmental contexts conditions and capacity building needs to those who uniquely represent them. Heutagogical strategies that engage students and residents as experts and co-teachers of their own lived reality and life context are well suited to meet these objectives. Ideally, this will also shift both the content and process of sustainability education as the perspectives of local experts can identify persistent perception gaps of credentialed experts [88].

As our two case study examples from the University of South Africa (UNISA) and the University of the District of Columbia (UDC) illustrate, viable initiatives exist that bring the social, cultural, and environmental contexts of local experts and their capacity building needs and assets into focus. The examples also illustrate two distinct starting points for heutagogical strategies. UNISA's initiative originated in the academic curriculum and learning experience, and evolved into Community Engagement (CE) initiatives. The UDC initiative started with community engagement and capacity building efforts focused on urban food systems, and subsequently incorporated a community engagement focus into the student learning experience.

Both heutagogical models, however, also illustrate that engagement alone may not be enough to overcome the long-standing barriers to accepting the contributions of marginalized community experts and learners. By engaging its learners as experts of their own learning context, heutagogy also shifts the agency for the learning and capacity building process. To be effective in bringing missing essential contribution into focus will require that those facilitating heutagogical community engagement and learning strategies also level the playing field and give attention to the expert contributions of those who do not meet long established standards of expertise. Bringing these contributions to the fore may be essential not only for building the sustainable development capacity of local communities and regions, but for the long-term sustainability of the global community overall.

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