Is community-based sustainability education sustainable? A general overview of organizational sustainability in outreach education

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ARTICLE INFO

ABSTRACT

Educators recognize the ecological, economic, and social components of environmental sustainability. For community-based programs, there is another sustainability trio that, if neglected, will lead to a decline in program quality and function. To be sustainable over the long term, community-based programs must have superior educational quality, clear organizational structure, and continued financial stability. Many educational outreach programs that have neglected this sustainability trio have been weakened or eliminated as they are not seen as priority items during budget reductions. The Master Gardener Program exemplifies this premise, representing a cadre of tens of thousands of university-trained volunteer educators who deliver environmental education to their communities. Over the years, the vision for educational quality, use of clear organizational structures fitting an increased reliance on volunteers, and securing of outside funding for sustainability education have waned in many states, resulting in a lack of university leadership and programmatic devolution. We propose revising outreach education to align with the best practices in adult pedagogy and science by developing a centralized organizational structure and by looking outside traditional university resources for funding opportunities. These strategies can easily be adapted for other community-based outreach programs.

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1. Introduction

The theory and practice of environmental sustainability have been successfully integrated into academia worldwide. Academia itself seems a sustainable home for these efforts [1], even as course offerings and practices evolve with changing faculty, staff and student interests. Beyond the campus community, however, the survival of outreach sustainability education is more tenuous. Such efforts begin on campus, often with significant start-up monies, but their permanence can be threatened by failure to implement structures for sustainable organizational management and funding.

Budget constraints were identified in the scaling back of the World Library Partnership, which originally planned to develop libraries in South Africa, Honduras, and Zimbabwe, but now works only in South Africa [2]. Many organizations have utilized community volunteers as a way of reducing salary expenses; a community/university partnership between the University of Illinois at Urbana-Champaign and East St. Louis that addresses sustainable urban

development evolved to a volunteer-driven effort after its initial campus funding ended and outside funding efforts failed [3].

The lack of permanent university funding for community education programs often means that these efforts only survive with the help of local resources. This puts local policy decision makers into the position of deciding whether to continue programs, and if so how to fund them. An exacerbating circumstance is the public perception of higher education institutions as "arrogant, out-of-touch, and unresponsive to the needs of society" [4,5]. The combination of tighter local budgets and the perception of programmatic irrelevance undoubtedly contribute to the demise of community outreach efforts, especially environmental education [6].

Even if local resources are available to continue university-driven community education programs, the focus of these programs often shifts to address local issues at the expense of educational objectives. Volunteer programs are naturally seen as a source of free labor, so volunteers may be directed to activities that are unrelated, or even in opposition, to the mission and educational standards of the program itself. University faculty and staff who are nominally in charge of these programs find their hands are tied and thus the mortality spiral begins. The premise of this article is that organizational instability leads to educational instability, which eventually leads to financial

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instability. The standards of educational excellence and competence, once lost, are difficult to regain.

2. The devolution of university extension education

"Extension is in danger of ignoring the core elements that have made it what it's recognized to be throughout the world – the most effective informal adult education effort in history." Patton, 1985 [7]

Nowhere are the trends towards organizational, educational, and financial instability more keenly felt than in land-grant university Extension programs. Originally established by the Smith-Lever Act in 1914, the focus of Extension outreach efforts was to provide useful information to, and encourage application of that information in, the greater local (and global) community. By design, Extension has a decentralized structure so that local issues and interests can be addressed; for instance, an urban area may not be as concerned with new varieties of potatoes as a more rural area. Moreover, Extension has focused on informal educational delivery systems as a more practical way to work with community members as opposed to a traditional classroom setting. Both of these characteristics are logical and in theory successful – but 90 years later Extension still struggles with how to maintain university oversight of locally controlled offices. We will argue in this paper that some Extension educational functions should be centralized; specifically, curricular development (programs) must be a centralized activity. Delivery of curricula (programming) can then be locally determined, empowering local staff to tackle problems and create change at the local level.

Extension's relevance to the community both inside and outside the university has been questioned for decades [8], particularly in relation to the issue of control and accountability. It is the experience of the authors that certain tendencies plague the relationship of Extension to academia:

(1) The academic side of higher education tends to devalue outreach education and scholarship of a practical nature.

Despite the resources and expertise available on our campuses, higher education is not well organized to apply them to problems of vital significance in a coherent way [9]. In general, faculty hires at universities are driven by potential research funding and sometimes by teaching excellence – but rarely by educational outreach abilities. Furthermore, the science disciplines within universities are becoming more reductionist (e.g. focusing on genetic/molecular/cellular levels) and/or holistic (e.g. focusing on systems modeling) at the expense of organismal science – which is critical to outreach efforts that focus on applied life sciences. The result is an understaffed outreach system that is "poorly focused and not well internalized in the value system of the modern university" [4].

(2) Extension tends to separate itself and its method of educational delivery from the rest of the university.

In its efforts to work collaboratively with communities, Extension has abandoned not only the traditional academic learning structure but also the disciplinary framework that goes with it. Patterson [10] extols informal education in his description of two scenarios: a formal symphony orchestra that is tightly choreographed where "only obedient team players succeed" and a jazz ensemble with no conductor or score, where the music evolves with the players so that "flexibility, communication, and perceptiveness are key skills." What he fails to acknowledge, however, is that each scenario involves participants who are already trained

musicians – that is, they have followed a basic program to attain musicianship. Without a centralized, basic educational structure – a standardized core curriculum – there cannot be a successful concert or jazz session. This is inherent in the often strained relationship between Extension and the rest of the academic community.

Traditional Extension educational programs have focused on teaching techniques and delivery methods rather than the development of a dynamic, integrated body of knowledge (e.g. [11]). Furthermore, a decentralized organizational structure does not seamlessly allow an educational institution to provide quality control for its dispersed programs, to ensure that its program priorities are relevant and realistic, or to determine that program strategies are among the best available. Such oversight requires deliberate centralization efforts that are often met with local suspicion and resistance. However, it is only with this oversight that standards of excellence and competence can be maintained.

(3) The outside community (local, state, and federal) tends to label much of what universities do as irrelevant to their own interests.

Though Extension may perceive itself to be changing with the times, the widely held public view is that Extension continues to be unclear as to its relevance, accountability, and relationship to academia [8,9,12]. Reports over the last century "consistently stressed that the environment in which Extension operated was changing and that Extension programs and methods surely had to change" [8]. As recently as 1999 even communities where universities and colleges are located reported a lack of engagement with their higher education neighbors in regard to problems relevant to the community [9]. Since this can be logically construed as an obligation of outreach education by the university, it is not surprising that "many institutions have considered new ways to cut costs or generate revenues in their Extension programs, as federal money appropriated for university Extension programs has remained flat" [4]. The continued depletion of federal and/or university funds for adequate Extension staff and faculty has pushed these needs onto local resources, where they may or may not be restored. It requires a united effort by both the academic and outreach segments of universities to demonstrate relevance and to develop a superior educational product valued by the community.

3. Leadership and excellence in sustainable community education programs

"…Innovativeness for the sake of innovativeness is as nonsensical as doing the same thing over and over because 'we've always done it that way.' The issue is excellence, not innovativeness. The challenge is effectiveness, not change for the sake of change or tradition for tradition's sake." Patton, 1985 [7]

Before universities can more effectively deliver outreach education, the quality of that education must be ensured. This strongly argues for a centralized educational structure for community outreach rather than the scattershot approach that has unfortunately exemplified some efforts. An integrated, scientifically-sound curriculum will be of higher educational quality than a series of unconnected, and sometimes conflicting, independent units. "Information is cheap: knowledge is accurate, organized, and important information" [7]. Patton's excellent analysis also recognizes that though "problems will vary by program area and community, some basic macro problems exist that cut across program areas and states," and to match the public's expectation of university outreach efforts that the "emphasis needs to shift from

informational quantity to quality." Evidence of this need was highlighted in a survey of adult attitudes towards environmental issues at the University of Alberta. The survey revealed that participants felt there was no reliable leadership to enable them to distinguish between trivial and important issues [13]. This is the void that the educational outreach arms of universities must fill more effectively than they have to date.

Calhoun and Cortese [1] discuss the criteria needed to attain campus sustainability, stating that "Presidents, Provosts, and Planners have the opportunity to add their personal leadership vision… in support of sustainable development on the campus and in the surrounding community." Surprisingly, this otherwise thorough article does not mention outreach education, even as it highlights university interactions with the local community. This omission once again underscores academia's general lack of understanding of Extension and other outreach educational efforts. Therefore, it is crucial for university administration to ensure integration of academia with Extension and/or outreach departments within their own institution before they attempt to work with the local community.

4. What university leaders can do to ensure sustainability of sustainable education efforts

"Studies suggest that centralized outreach structures or those housed in a president's office are more effective than decentralized structures because they help research universities track, coordinate, and communicate its service to the state and local communities" Weerts, 2005 [4]

Centralize organizational structure: In two well-written articles, Weerts [4,5] discusses how institutions of higher education can more effectively engage with community members to be more responsive to societal needs. Not surprisingly, he identifies organizational structure as one of the most important criteria in creating sustainable education efforts. Though emphasis on the relevance of education to local needs has been the hallmark of traditional Extension programs, the fact remains that lack of a centralized program structure can result in uncertainty regarding leadership and accountability. Educational programs need to have a qualified leader with responsibility for and authority over curricular development, and with accountability to both the university and the community audience.

Centralization will necessitate increased efforts to ensure inclusive involvement of all interested faculty, staff, and community members and this can be accomplished only through frequent, open communications both internally and externally. Centralization of communications has been often noted as crucial to the sustainability of community outreach programs [4,5,14].

Establish reciprocal relevance: Academia must be relevant and practical to the local community, but community programmatic needs must also be relevant to university mission and goals. Reciprocal relevance can be established during needs assessment, whereby community sustainability needs can be matched to educational efforts supported by the university. This can be particularly important when budget reductions threaten program sustainability. "Sharing early findings from outcome-related studies or evaluations helps particularly with programs that are in danger of being cut, as this information may illustrate to the funders the impact the program is having on the community [14]."

Ensure inclusion, participation, and valuation of all possible partners: As the earlier comment about the Calhoun and Cortese article [1] illustrated, potential partners from Extension or other relevant departments are often excluded from sustainability efforts. Whether this exclusion is deliberate or accidental is unimportant: its impact

will be negative. If volunteers are an essential part of the program, consider volunteers outside the traditional college student pool. In particular, consider senior community members. This demographic has been found to be an increasingly important source of volunteers who also want a quality educational experience in tandem with their service activity. Seniors are interested and involved in environmental affairs, and thus can help create and maintain sustainable communities [15]. For all partners involved in the program, define partner relationships, expectations and responsibilities. Again, this structural organization will clarify and strengthen partnerships which can otherwise devolve in its absence.

5. Case study: the WSU Master Gardener Program

5.1. Origins of program

The Washington State University (WSU) Master Gardener Program was founded to create citizen scientists who, guided and trained by faculty from land-grant universities, could informally educate local community members in the application of horticultural science for the sustainable management of landscapes and gardens. While the program embraces all of the principles embodied in Extension education, two of them – linking research to practical application and lifelong active learning – are especially relevant to informal education. Packaged in a non-threatening, apolitical format and presented by volunteers who are relatives, friends, and neighbors, the information available from the WSU Master Gardener Program allows individuals to make small but meaningful improvements in areas including water conservation and quality, reduction of the economic and ecological damage by invasive species, pesticide and fertilizer reduction, carbon dioxide sequestration by planting more trees, and habitat restoration. Increasingly, Master Gardener volunteers are becoming involved in urban landscape management as presented at the 2002 EMSU conference [16,17].

Master Gardener volunteers work directly with populations least likely to encounter or seek formal environmental information, such as families on welfare, tribal groups, and at-risk youth. The language of gardening reaches all citizens and serves to introduce the more globally important values of sustainable living in a palatable fashion. Furthermore, studies have demonstrated that people prefer to get information from people like themselves; Master Gardeners are effective in the sense that they will reach informal audiences of relatives, friends, and neighbors in addition to their more formal roles as educators. This effectiveness in public outreach has been demonstrated repeatedly in the last 30 years in Washington State [18].

Using a science-based training manual developed by faculty specialists, the WSU Master Gardener Program provides university-trained volunteers with expertise in subjects such as plant biology, soil science, plant disease and disorder diagnosis, and integrated pest management. Each Master Gardener receives at least 50 h of training and returns a minimum of 40 h of free public service in horticultural assistance to his or her community. In 2005, WSU Master Gardeners volunteered 204,593 h and helped over 350,000 citizens with their gardening problems; their volunteer time alone was valued at $3.53 million [19]. Operating in most of Washington State's 39 counties, Master Gardeners staff plant clinics in 105 communities at 167 locations. The WSU model has successfully been repeated in all 50 states, several Canadian provinces, and in several other countries.

5.2. Devolution of program

With increasing success and visibility of the fledgling Master Gardener Program came increased needs for staffing and support.

Each county was assigned a program assistant who worked with volunteers and regional staff, most especially with the Plant Clinics. As needs quickly outpaced WSU resources, informal non-profit organizations were formed by volunteers in many localities to raise additional funds. Most harmful to program stability was the lack of faculty and staff resources to support increasing local Master Gardener educational needs.

Ultimately, the decentralized Extension model of providing informal education to volunteers could not adequately address the need for a current, accurate curriculum, for vetting continuing education, and for quality assurance mechanisms (e.g. certification standards and exams). The historic organizational informality resulted in unclear educational standards and enabled the drifting of the movement from its solid science foundation. The absence of a tighter linkage between the academic departments and Extension at universities has resulted in a disconnection between the rapidly evolving science of landscape horticulture (critical to the increasingly urban audience) and its dissemination to volunteers. The transference of organizational authority to volunteers and locally formed non-profit organizations has hastened drift from best practices science education to locally developed education, often with little or no connection to current best practices. Nationally, the result of this drift is still evident in growing numbers of Master Gardener-related web sites and publications that are not only dated in their information but often promote products and practices that have no documented basis in plant or soil science. *Thus, the lack of a centralized organization to address curricular needs contributed to the destabilization of the educational quality of the program.*

In addition to the reduced quality of education, the absence of state oversight for Master Gardener Programs led to a loss of central identity and increased organizational confusion among staff and volunteers. Subsequent feelings of resentment were directed towards the University for its lack of vision and support. Most troubling has been the devolvement of many local programs across the state and country into volunteer-run organizations sometimes perceived by others as glorified garden clubs. This observation, accurate or not, is especially damaging when made by local or state government agencies with the ability to fund – or not fund – Master Gardener Programs. Master Gardener Programs in Washington State and across the nation have been cut or eliminated as irrelevant to local needs (e.g. [12]). *Thus, the lack of educational quality and perceived relevance to the community contributed to the financial destabilization of the program.*

5.3. Revolution of program

Washington State University initiated a process to overcome the organizational instability that resulted in decreased program quality and funding. The challenge was to balance the centralization of certain goals with decentralization of certain actions. Central coordination and organizational clarity of the WSU Master Gardener Program were assigned to a statewide program coordinator. The coordinator conducted numerous interviews, used surveys of staff and volunteers and created an assessment tool (see Appendix) to determine current program conditions. Recognizing the need for educational excellence, WSU administration hired a faculty Extension Urban Horticulturist with responsibility for curricular development and standardizing certification standards. A new text, *Sustainable Landscapes and Gardens* [20], was collaboratively written by several expert authors to provide sustainability education based on current best practices. This textbook represents a basic curriculum that all Master Gardener volunteers statewide should master. A series of optional chapters are available as local supplements, thus creating unique, relevant programs for specific

locations. Thus, both centralized standards and local flexibility are maintained.

The increased emphasis on organizational clarity and educational excellence now poises the WSU Master Gardener Program for improved credibility and financial support at local, state, and national levels. Once these improvements are implemented, our volunteers will be better equipped to provide information on more sophisticated topics such as invasive plants, wetland restoration, and sustainable management of urban greenspaces in addition to traditional gardening topics. In fact, the appearance of *Phytophthora ramorum* (the fungal agent responsible for Sudden Oak Death) in the United States has placed Master Gardeners nationally in the position of First Responders to this and other potential biological threats.

Historically, external funding for Master Gardener Programs has been difficult. The decentralized structure of most state Master Gardener Programs does not lend itself well to obtaining funds from large national NPOs, who are concerned with organizational clarity and uniform standards. With improved organizational structure, Master Gardener Programs could seek increased financial support at local, state, and national levels. Despite its recognition as the most successful master volunteer program throughout Extension nationwide [11], Master Gardeners receive little in terms of Extension support. Even a publication that cites the importance of Master Gardeners in Extension [11] only allocates eleven lines of text to this program in its 288 pages. Lack of stature internally translates to insufficient funding, and supports our observation that Master Gardener educational materials nationwide have not kept pace with volunteer needs or the newest developments in plant and soil sciences.

This new paradigm for the WSU Master Gardener Program is only a few years old. The willingness of WSU Extension to radically modify its traditional approach to program development and the collaboration of university and local program faculty and staff will be crucial in reaching these benchmarks. It is the hope of the authors that these desired changes for the Master Gardener Program will be implemented, improving the program's organizational sustainability and allowing it to continue its science-based mission for years to come.

6. Conclusion

Volunteer programs have a long history of participation in outreach education. Programs such as Extension Master Gardeners have provided community-based education on topics highly relevant to sustainability for more than three decades. In this time of budget shortfalls, volunteer programs can be seen as a source of free labor for continuing sustainability outreach, yet the example of the Extension Master Gardener program illustrates that a decentralized or volunteer-driven organizational structure often leads to (1) a drift from the best practices of applied science, (2) reduced quality of sustainability outreach programs, and (3) impaired ability to demonstrate programmatic consistency needed to secure outside funding. Those who wish to encourage sustainability outreach must resist the allure of "free labor" unless they are prepared to provide organizational clarity, to implement a mechanism to ensure curricular excellence, and to explore avenues for outside funding. These three principles are essential for making community-based sustainability education sustainable.

Appendix. Organizational sustainability assessment tool

The assessment process can facilitate positive change and benefit both an organization and those it serves. Here we describe some of the organizational assessments used to evaluate the Master

Gardener Program. The items mentioned are not assumed to be exhaustive but they should serve as guides to discovering the sustainability of an educational organization. The reader may elect to involve an outside agency or attempt self-assessment, but in either case assessment that is brutally honest will be the most beneficial in achieving organizational sustainability.

Identify internal organizational structure

Internal organizational structure must be very clear to those within and outside of an organization. Program staff and volunteers must understand organizational structure and relationships, with the corresponding interplay of responsibility, authority and accountability. This organizational clarity is also crucial to the ability of funders and decision makers outside the agency to understand, and thus support, the organization [21].

Regardless of how long an organization has existed, if it lacks an updated structure chart, it is advisable to prepare one and ask others to review it for accuracy. Don't be surprised if a close examination of structure leads to a need to clarify and update key job descriptions in an effort to find out who reports to whom. Clarity at this level is essential to each subsequent step in this process.

Determine the functional lines of authority

Lines of authority or power within an organization identify those empowered (formally or informally) to make and enforce decisions. It should not be assumed that assessing authority means the mere identification of the structure charts for an organization since functional authority may reside outside the formal lines of authority [22].

Organizational assessment may reveal that key program personnel are laboring with responsibility and accountability in areas where they had no authority. Such an imbalance would result in conflict or frustration as persons both within and outside the organization grope to discover pathways for communication and accomplishment [23].

Persons wishing to provide sustainability for outreach education in multiple locations should pay particular attention to this issue. The implementation of organizational change and establishment of beneficial partnerships require a high degree of clarity that may be difficult to achieve in organizations with obscure lines of authority.

Select the kind of education needed

This paper restricts this aspect of assessment to two broad categories that the authors call "end-point" and "on-going." The term "end-point education" is used to refer to individual lectures, workshops, seminars or a lecture series intended to provide short-term instruction. By contrast, the term "on-going education" is used for continuing adult education designed to keep the learner in a state of continuing competency.

End-point education is well adapted where the desired result is the delivery of a stand-alone block of information and the target audience is composed of adults attending stand-alone events. End-point education is not appropriate when the target audience is composed of adults being groomed as volunteer educators – individuals who need sequential, correlated knowledge to enable them to understand both concepts and facts.

The kind of education provided must match the purpose for the education. If the purpose is to dispense discreet units of knowledge to learners, such as those who may attend a one-day workshop, then end-point education is the obvious choice. If the purpose for the education is to develop educators, including volunteers functioning as educators, end-point education will yield a mish–mash of disparate thoughts and undermine cohesive comprehension of the subject area as a whole. On-going education, sequential and curricular in format, is necessary to effectively develop volunteer educators [24].

It is be helpful to understand that a loose assortment of writings on a particular topic is not a curriculum. Curricular instruction is sequential, has specific learning objectives, and links concepts together in an integrated fashion. Bundling together discrete units of end-point education does not create a curriculum and is not appropriate for on-going education and the training of volunteer educators.

Critically appraise your goals, priorities and projects in light of funding priorities

It is imperative for organizational sustainability to establish a direct relationship between the activities of an organization and the priorities of its funders. Officials at every level are currently faced with the unenviable task of funding essential services and addressing critical needs with declining budgets. Leaders at every level must ask themselves, "Does what we busy ourselves with every day have a clear correlation to the needs and priorities of those who fund us?" Organizations or programs that cannot demonstrate relevance to critical issues may not be suitable recipients for continued funding. Clearly, fund recipients must demonstrate their relevance or face elimination from the funding cycle [25].

Establish evaluation instruments and collection methods

Evaluations should be designed to address the priority areas identified through this assessment process. In the realm of evaluation, two points seem self-evident: 1) the organization must know the priorities of its funders, and 2) evaluation data is only worthwhile if it represents an end product or effort that meaningfully addresses those priorities.

Evaluations are the progeny of the planning process. Effective evaluations must, therefore, be preceded by a planning tool based on funder priorities, preferably constructed using the Logic Model [26] or some variation thereof, and followed by a reporting instrument that gathers this priority data for decision makers and funders.

Create or purchase reporting tools

Generating data for reports can be challenging for any operation but particularly so for organizations with multiple offices and large numbers of volunteers. Organizations collecting data from multiple locations must ensure that the collection process can be accomplished with relative ease. A web-based reporting tool developed from inexpensive software may be adequate to provide easy of access for both those reporting and those compiling information. Such tools can be accessible from a central web site or even an embedded hyperlink included in an e-mail sent directly to staff and volunteers.

The process of compliance can be encouraged by using one section of the report form for submitting information towards receiving awards or other forms of recognition. We have found that by converting program awards to align with program priorities the reporting of relevant data by program personnel increases from nineteen percent to ninety-one percent.

Summary reports can be posted to public areas on program web sites and sent to key personnel. This process of establishing relevance thus culminates with the ability to report hard evidence to support program claims.

Conclusion

The process of achieving organizational sustainability may be laborious and time consuming but it is attainable. None of the concepts discussed in this paper are beyond the grasp of dedicated individuals who believe in the value of the education their organization provides and who wish to see that education made available for the long term.
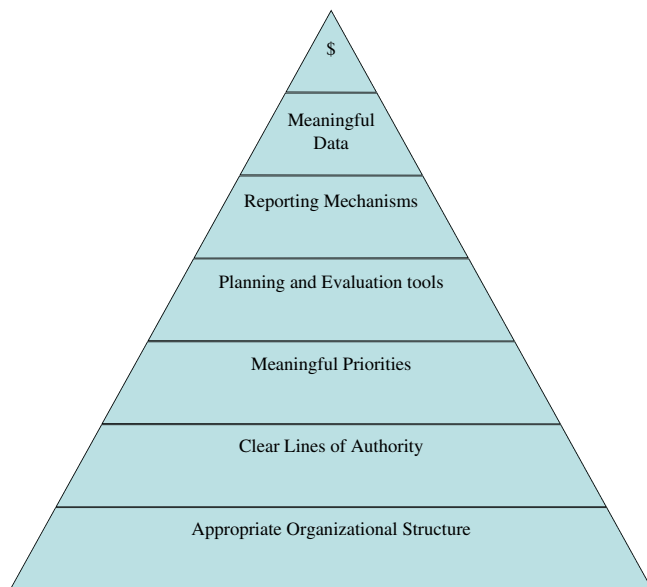
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