A Sustainable Evaluation Framework and Its Application

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This article presents a framework for developing internally sustainable evaluation systems for environmental education organizations, although the framework can be applied to other types of organizations. The authors developed a sustainable evaluation framework (SEF) with the intent of creating an evaluation system that could be self-administered by the staff of an environmental education organization in perpetuity. Key components of the framework include that it is utilization-focused (designed specifically for the needs of its users), participatory (empowering the users at each step of the design and implementation process), theory-driven (employing logic modeling and consulting relevant literature for concept clarification), and consumer-based (directly addressing the needs of probable audiences of evaluation results). The article illustrates the evaluation framework and its key outcomes using a case study from the Great Smoky Mountains Institute at Tremont (GSMIT), where the authors facilitated the development of an evaluation system. In addition to the creation of a credible, adaptable, and sustainable system, outcomes of the framework’s implementation included clarification of organizational goals, enhanced organizational commitment from staff, professional development, and new prospects for adaptive management.

INTRODUCTION

Many environmental education organizations understand the value of evaluation, yet few regularly undertake systematic and meaningful program evaluation themselves. Such evaluation
is a daunting task that often requires energy and expertise beyond what is typically available in-house. As a result, environmental education organizations interested in evaluation typically rely on outside consultants who either conduct a one-time evaluation or manage an evaluation system that collects, stores, and analyzes data on a regular or interval basis (Norland & Marcinkowski, 2004). Unfortunately, the expense of hiring outside evaluators can be an insurmountable barrier to implementation for many environmental education organizations. This article presents an alternative approach: a framework for developing a sustainable evaluation system that environmental education organizations can manage internally after an initial investment. This article illustrates the approach with an example from the Great Smoky Mountains Institute at Tremont (GSMIT), where the authors guided the creation of one such system.

**A SUSTAINABLE EVALUATION FRAMEWORK (SEF)**

Evaluation accomplishes multiple tasks. First, evaluation helps an organization determine whether it is achieving its mission. Second, evaluation can be a valuable internal tool for identifying successful and unsuccessful program elements. Third, evaluation provides a basis for reporting an organization’s activities and accomplishments to outside parties, including funders, school systems, and other stakeholders (such as board members). Ongoing program evaluation also allows for adaptive management, not only measuring mission achievement over time, but also identifying particular programmatic components to be addressed, adjusted, and further evaluated (Margoluis & Salafsky, 1998).

To maximize benefits, evaluation should be integrated throughout program development, design, and implementation. Contrary to common practice, evaluation does not refer only to a satisfaction-based survey administered to participants upon completion of a program; nor does it refer only to a large-scale meta-analysis conducted as a program takes its last breath. Without the consistent and standardized feedback provided by an ongoing evaluation process, the assessment of what is working well is mostly anecdotal. Although enlightening in certain circumstances, anecdotal evidence cannot be reliably applied to a range of situations or used to make generalized statements about the larger program.

Evaluation systems based on the SEF treat evaluation as a continual process of reviewing the status of an organization’s programs by systematically collecting data using a variety of methods and sources and using the data to assess, improve, and reorient programs to ensure the attainment of an organization’s goals and mission. This draws on Norland’s description of an evaluation system as an “ongoing, institutionalized commitment of resources” that produces data used by the organization “to identify, develop, implement, monitor, revise, or retire components of their program in order to enhance mission attainment” (Norland & Marcinkoski, 2004). Defining evaluation as “ongoing” and “institutionalized” alludes to the central role that organizations can and should play in the implementation, collection, maintenance, and analysis of a sustainable evaluation system. As opposed to an evaluation system implemented and managed by outside consultants, a system that becomes part of an organization’s culture encourages relevance, flexibility, and ownership from the outset. The SEF provides a structure for developing a valid and reliable system that achieves sustainability through institutionalization. Through participatory development of the system’s methods and tools, coupled with intensive staff training, program personnel develop a sense of ownership and hone the skills needed to successfully implement the system over time.

The SEF embraces several complementary evaluation approaches: (1) a utilization-focused approach that grounds the program in the needs of the organization; (2) a participatory
A sustainable evaluation framework is presented that empowers organizational staff to engage in all aspects of the evaluation and explore issues of interest with confidence; (3) a theory-driven approach that draws on relevant literature and related research to ensure a methodologically rigorous system; and (4) a consumer-based approach that ensures the appropriateness of the system for program participants and other key stakeholders. This multifaceted framework represents a departure from the usual approach in programmatic evaluation, which may use multiple methods for data collection but generally embraces a single approach (Bledsoe & Graham, 2005).

Although there is overlap among utilization-focused, participatory, theory-driven, and consumer-based approaches, combining the four approaches (illustrated in Figure 1) allows for an emphasis on the strengths of each approach, while concurrently mitigating the weaknesses. A utilization-focused approach, for example, may lack a strong theoretical foundation, whereas an evaluation based solely on theory could produce results that are minimally useful to the organization being evaluated.

The primary purpose of the SEF is to provide an organization with a rigorous, self-sustaining, adaptive, and methodologically appropriate evaluation system. Although outside facilitation may be necessary for the development of the system, the ultimate responsibility for the implementation, maintenance, and analysis rests with the organization itself. By empowering and training staff members, the overall framework that guides the system’s development alleviates the need for continuously hiring outside consultants. Although facilitators guide the process (depicted in Figure 1), the evaluation system is developed in conjunction with organizational staff and administrators who are involved at each step.

**UTILIZATION-FOCUSED EVALUATION**

A utilization-focused evaluation is based on an organization’s needs, wants, and logistical...
realities (Patton, 1996). In other words, a utilization-focused evaluation should reflect what an organization’s staff and administration feel is most useful and realistic. Although utilization-focused evaluation can also incorporate the needs of other potential audiences of an evaluation, this approach grants primary attention to the specific needs of the organization. The components of a utilization-focused evaluation are directed by the organization itself—its staff and administrators—to ensure that the evaluation is logistically feasible and meets the organization’s needs.

The front-end assessment associated with the utilization-focused aspect of the framework involves conducting preliminary interviews with an organization’s staff regarding informational needs, resource availability, and target audiences for the evaluation. In addition, key stakeholders outside of the organization can be interviewed to elucidate the most important evaluation elements for key audiences. Programmatic observation is used to triangulate information gathered in the front-end assessment so that the evaluation facilitators have a more complete understanding of the program components, the organizational culture, logistical realities, and target audiences.

PARTICIPATORY EVALUATION: THE EMPOWERMENT PROCESS

Participatory evaluation empowers staff members throughout the evaluation’s development and implementation processes (Cousins & Earl, 1992; King, 1998). Workshops and training sessions ensure that staff members are well-equipped to implement an ongoing, adaptable evaluation system, tailored to the organization’s needs. Facilitators conduct goal-setting³ exercises to ensure that all staff members share a common vision of the organization’s direction and aspirations. Equally important, the selection of appropriate methods occurs through a participatory process. Through workshops, facilitators present a range of evaluation methods addressing the types of data generated by each, the resource investment required, and the resulting analyses generated. Staff involvement in methods selection is essential, as the ultimate goal of the SEF’s application is for the organization to implement, manage, maintain, and use the evaluation system.

Once the evaluation system is fully developed, training is needed regarding the protocols for each aspect of the evaluation to ensure consistency and efficiency. In addition, staff must understand the ethical principles for conducting research with human subjects, which include issues of confidentiality, informed consent, and the potential influence of their authoritative position on participation. Finally, the staff is trained in the collection, management, analysis, and reporting of data.

THEORY-DRIVEN EVALUATION

A theory-driven evaluation is based on an academic research model. This philosophy most often employs quantitative measures deployed through a quasi-experimental design⁴ and implemented with as high a level of objectivity as possible (Campbell & Stanley, 1963; Rossi & Freeman, 1993; Weiss, 1998). Suchman defines evaluation as “the process of assessment or appraisal of value” (Suchman, 1967, 7). He describes the evaluation research process as striving for scientific objectivity and

³Goal-setting can refer to organizational goal clarification in addition to identifying specific goals for the evaluation.

⁴A quasi-experimental design refers to gauging variables before and after exposure to the program being evaluated. For example, one might be interested in assessing students’ attitudes toward national parks before and after their visit to a park.
rigor through the adherence to sound scientific methods (Suchman, 1967, 12). Although the utility of evaluation results for program design and improvement is important, theory-driven evaluators grant precedence to the development of conceptually based, valid, and reliable instruments and the administration of rigorous evaluation procedures in an "objective" fashion.

With regard to the SEF, elements of the theory-driven approach help ensure methodological soundness. The first step is to develop a logic model that elucidates the organization’s programmatic goals, objectives, and indicators (Norland & Marcinkoswki, 2004). For each goal there may be many objectives, and for each objective there may be many indicators (see Figure 2). Through the logic-modeling process, the staff is involved in creating a comprehensive conceptual model that reflects their evaluation system’s goals, objectives, and indicators.

In addition to the logic model, a review of the related literature helps ensure that relevant information or concepts have not been omitted. The literature review specifically searches for research findings and models that may improve the robustness of potential measures of the goals and objectives outlined in the logic model. Using research and theoretical frameworks described in the literature helps provide additional insight into the development of appropriate indicators and methods for measurement. With regard to a common environmental education goal such as developing a sense of place among program participants, for instance, the organization’s definition of the concept may be bolstered by and clarified through research conducted in psychology, anthropology, sociology, and geography.

The literature review and logic model directly influence the development of conceptually sound data-gathering instruments, such as surveys and interview scripts. The overall methodological design of the evaluation system ultimately depends on the logic model, the dependent variables selected, and logistical considerations. If the goal of the evaluation was to understand people’s satisfaction with a particular program, for example, a simple cross-sectional survey or interview would suffice. However, if the evaluation’s goal was to quantify
the influence of an environmental education program on students’ knowledge of natural history, environmental stewardship, and behavioral intentions, then a quasi-experimental, mixed-methods design (one that gauges variables before and after participation in the program) may be more appropriate.

CONSUMER-BASED EVALUATION

The quality and utility of a sustainable evaluation system depend heavily on the meaningful involvement of an organization’s stakeholders. Stakeholders may include staff members and administrators, program participants, community members, partner organizations, board members, potential donors, or other interested parties (Bledsoe & Graham, 2005). In fact, stakeholders may include any potential consumers of the evaluation results. Understanding the informational needs of each stakeholder group is critical, as those needs guide key evaluation questions, affect methods selection, and influence the format of evaluation reports. In addition, involving stakeholders in the evaluation process encourages the development of goodwill, trust, and commitment between key groups and the organization.

The SEF process engages stakeholders at several stages. Prior to and during the evaluation-system development, stakeholder interviews provide critical data for inclusion in the goal-setting and logic-modeling workshops. During the pilot-testing phase, staff members and administrators provide feedback. This ongoing input is essential to the SEF process as staff members, administrators, board members, and other key stakeholders have varying degrees of familiarity with different aspects of the organization’s mission and day-to-day operations. Outside evaluators implementing a snapshot approach are unlikely to develop this same level of intimacy and everyday knowledge of the logistics and philosophy of the organization.

THE SEF PROCESS

Figure 3 depicts a generalized sequence for applying the SEF prior to system implementation. Although the steps depicted in Figure 3 are intended to guide the development of an ongoing, useful, sustainable, and internally managed evaluation system, it should be noted that the SEF process produces different methodological approaches and research designs depending on an organization’s programmatic goals, organizational resources, and logistical constraints. By design, the SEF process is a facilitated progression that promotes the development of unique and contextual evaluation systems. The second half of this article describes one example of the SEF’s application.

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Fig. 3. The SEF process.
The Great Smoky Mountains Institute at Tremont (GSMIT) is a residential environmental education center within Great Smoky Mountains National Park (GSMNP). Founded in 1969, GSMIT primarily provides three-day and five-day educational programs for fifth and sixth grade school groups. GSMIT’s mission statement—“Connecting people and nature”—has historically guided the development of programs around three themes: sense of place, diversity, and stewardship.

Applying the SEF

In 2004, the authors were hired as outside facilitators to help GSMIT create a self-sustaining evaluation system. We constructed and used the SEF to develop an evaluation system, working closely with GSMIT staff through the following activities:

- **Front-end assessment and stakeholder interviews:** We interviewed key stakeholders, including GSMIT staff, GSMIT administrators, and Great Smoky Mountains National Park employees. The assessment gathered perspectives on evaluation goals, resource availability, and stakeholders’ informational needs. In addition, we reviewed previous GSMIT assessments and evaluations. This stage provided an early indication of the overall purpose and goals of the evaluation system and the resources available for its implementation.

- **Program observation:** We observed two five-day GSMIT programs. One group was from a local public school, and the other from a non-local private school. We interviewed teachers and students regarding the GSMIT experience and solicited feedback regarding the program. This stage provided a clear understanding of logistical constraints and opportunities, and helped clarify what evaluation data would be of greatest interest to clientele.

- **Goal-setting and logic-modeling workshop:** The evaluation team conducted a two-day workshop with GSMIT staff and stakeholders to clarify goals and objectives and develop measurable indicators. We presented a range of potential research methods and led the staff through a focusing process to select theoretically sound and logistically feasible methods for GSMIT. A thorough literature review, completed in advance of the workshop, allowed the evaluators to guide the staff in clarifying and articulating outcomes pursued through the GSMIT programs.

- **System design, literature review, and instrument development:** Based on workshop outcomes and additional literature review, we designed the sustainable evaluation system to use mixed data collection methods and created data collection instruments. The instruments included surveys for students (pre-visit, post-visit, and a three-month follow up); surveys for teachers (pre-visit and post-visit); and interview scripts for teachers (three-month follow-up).

- **Pilot testing and revision of system:** We pilot tested the pre-experience and post-experience surveys with two three-day programs and one five-day program, which included two private schools and one public school. We also tested follow-up surveys with participants one month after their visits. The pilot-test results guided instrument revisions.

- **Staff training and data-analysis workshop:** Finally, we conducted a two-day workshop to present and review final evaluation instruments with staff. Organized around a detailed Evaluation User’s Manual, we instructed staff on collection, management, and analysis of data, and we responded to questions regarding the evaluation process. This training included administration protocols, data management, statistical analysis, and results and report preparation, all of which are detailed in the user’s manual.
Performance and Benefits of the SEF Process

After the implementation workshop, we distributed a survey to investigate the efficacy of the SEF and understand the benefits and drawbacks of the process. A census of the eight participating GSMIT staff was attempted and seven surveys were completed. The instruments, which used Likert-scaled items as well as open-ended questions, were coded and analyzed using SPSS.

Based on the staff surveys, as well as additional conversations with staff members, the organizational benefits of the SEF process can be organized under three interrelated headings: Goal Clarification; Attitudinal Organizational Commitment (AOC); and Professional Development.

**Goal Clarification**

Clarifying an organization’s mission, goals, and objectives is thought to accomplish the following:

1. Strengthen organizational identity.
2. Clarify the organization’s mission.
3. Communicate clearly to staff and clientele the organization’s goals.
4. Allow for planning and development of programs that support the goals.
5. Provide a means for measuring success.

(Ham, 2003; Kohen & Sikoryak, 2001; Margoluis & Salafsky, 1998)

All seven of the survey respondents suggested that the goal-setting workshop was helpful, with four out of seven rating it as extremely helpful. Although the workshop revealed general agreement from all staff with the mission statement of GSMIT, it also revealed different interpretations of the key themes of the mission: sense of place, diversity, and stewardship. The goal-setting workshop allowed staff to discuss those terms and develop a common understanding about their meanings. The discussions frequently prompted conversations about how specific aspects of the program related to each aspect of the mission. One participant cited these discussions as a “motivation to step it up” in terms of striving to achieve the finer nuances of the organizational goals. Even in an organization with over 30 years of experience, the goal-setting workshop seemed to accomplish, to some degree, each of the five listed items.

**Attitudinal Organizational Commitment (AOC)**

AOC is defined as “the relative strength of an individual’s identification with and involvement in a particular organization” (Mowday et al., 1982, 27). Key individual-level components of AOC include commitment to an organization’s goals, willingness to work to improve an organization’s performance, and a feeling of cohesion with other staff members. AOC also refers to “the emotional attachment of an employee to his or her organization” (Mowday et al., 1982, 28). A strong AOC has been shown to have positive correlations with performance, attendance, and staff retention (Deery & Iverson, 2005; Riketta, 2002; Riketta & Landerer, 2005).

Participatory activities, such as those related to the SEF, can help socialize employees to organizational standards and strengthen their pride in the organization as a whole (Willemyns et al., 2003). Throughout the SEF process, GSMIT staff actively and collectively clarified the goals and mission of the organization through participatory workshops. Researchers have found that such collective challenges and activities encourage employees to shape their own identity as a member of the organization. This phenomenon, derived from Social Identity Theory, suggests “part of an individual’s self-concept [is derived] from his knowledge of his membership of a social group together with the value and emotional significance attached to that membership” (Tajfel, 1978, 63).

In an organizational context, it is thought that the “stronger an employee’s identification with an organization, the stronger the employee’s motivation to [pursue an organization’s goals and] improve the organization’s
status” (Riketta & Landerer, 2005, 194). Some organizational theorists consider this process of socialization a critical element for organizational success (Elsbach & Glynn, 1996; Fritz et al., 2004; Roberts, 2001).

To investigate the impact of the evaluation’s development process on the different components of AOC, staff members were asked whether the experience enhanced staff cohesion, improved staff commitment to the organizational mission, improved staff commitment to a sustainable evaluation system, and focused staff energy on programmatic improvement. Five of the seven responding staff members agreed or strongly agreed that the SEF process enhanced staff cohesion. Six respondents agreed or strongly agreed that the SEF process improved staff commitment to the organization’s mission. Six respondents agreed or strongly agreed that the SEF process focused staff’s energy on programmatic improvement. All of the staff strongly agreed that the SEF process improved their commitment to the evaluation system.

Subsequent communications have revealed an ongoing commitment to the evaluation system and enthusiasm generated by it for program improvement one year after completing the evaluation-development process. GSMIT administrators confirm that staff members are self-motivated to engage in rigorous discussion around evaluation findings and in adapting programming to target weak spots indicated by the evaluation. For example, evaluation results revealed poor scores on students’ understanding of the term “exotic species.” The finding spurred staff discussion, through which staff members realized they were commonly interchanging terms, such as “invasives” and “non-natives,” in confusing ways. A collective decision was made to standardize the terminology used. Administrators suggested that, if they had attempted to impose specific terminology on the staff in the past, there would have been resistance. Staff also reported that, had an outside evaluation team made the recommendation, staff interest, discussion, and prompt adaptation would have been far less likely.

Professional Development

Another key element of the SEF process is an emphasis on professional development of staff. Staff education pertaining to evaluation research design, methods, data collection, organization, analysis, interpretation, and reporting occurs during the SEF process. In addition, training is provided regarding how to adapt the system over time to new evaluation needs. When evaluating the SEF process, all GSMIT staff strongly agreed that the experience provided useful professional development.

The GSMIT example demonstrates increased staff confidence and interest in evaluation design, implementation, data analysis, and reporting. Administrators confirm that the staff’s initial hesitancy around performing statistical analyses and incorporating evaluation results into programming virtually disappeared within the first three months of implementation. In addition, administrators describe staff members as vested in the process, reporting that staff members were eager to receive the final report from the SEF process, as they felt invested in the system’s creation and intrigued to review the resulting system. By contrast, an earlier evaluation completed by a third-party consulting team produced a report read only by administrators and board members and was not perceived as particularly useful to or relevant for staff.

CONCLUSION

We have presented a framework for developing sustainable evaluation systems that can be administered and managed internally. The SEF is utilization-focused, as it is directly tailored to the needs and resources of the evaluation users. It is also participatory. At each phase of its development and implementation, it empowers organizational staff to become engaged and drive the system. One staff member explained,
I think we all have a real appreciation of [your] willingness to put up with us and just to be really open to the needs of our program. And that was a real concern at the outset. We didn’t want a canned program. It needed to reflect our needs. . . . [You] came to us with a blank page and let us put into it what we needed.

That blank page is also influenced by a theory-driven approach. In addition to careful logic modeling that identifies organizational goals and objectives and develops indicators and methods for measuring each, a thorough literature review enhances conceptualization of key themes related to the organization’s mission.

The SEF is consumer-based: It takes careful account of various stakeholders who are important to the organization and incorporates their concerns and interests into the evaluation. Although some might question the validity of data collected by the organization itself, this incorporation of the evaluation’s intended audiences into its design process grants the system additional credibility as valid, relevant, and transparent. Moreover, the rigorous process through which clear evaluation protocols are developed can further offset such doubts.

The organizational benefits of the SEF process are manifold. First, an evaluation system is created that can be used to identify program strengths and weaknesses, evaluate the level of achievement of the organization’s goals, report key findings to important stakeholders, and improve programs through adaptive management. The SEF process can also contribute to clarification of the organization’s mission, greater attitudinal organizational commitment, and professional development for staff. Each of these outcomes works to strengthen an organization through enhancing staff skills and organizational cohesion.

REFERENCES


