Applying the Systems Evaluation Protocol in the Real World: Six Case Studies

Jennifer Brown Urban, Miriam R. Linver, Lisa M. Chauveron, Thomas Archibald, Monica Hargraves, and *Jane Buckley*

Abstract

In this chapter, we present six case studies that illustrate the application of the Systems Evaluation Protocol (SEP) in different real-world implementation conditions. The SEP is a step-by-step guide for how to implement Relational Systems Evaluation (RSE), accounting for the complex factors inherent in the larger systems within which a given program is embedded. We discuss the specific SEP steps used and products developed in each case study project, including an emphasis on how decisions were made to include particular SEP elements in different contexts. The six cases differ in terms of the scale of the programs involved, the nature of the SEP delivery or facilitation process, and the balance among multiple desired outcomes reflecting differential emphases on evaluation capacity building. As such, the cases reported here demonstrate that RSE, as implemented using the SEP, is a widely-applicable approach to evaluation and ECB.

Through the requirement for high-quality program evaluation, funders from foundations and government organizations (e.g., National Academies of Science, 2016) demand evidence of program effectiveness. In our view, high-quality evaluation includes a focus on utilization and learning, practitioner involvement in evaluation planning and implementation (when appropriately supported by evaluation professionals and other stakeholders), and alignment of the evidence gathering method with the program's lifecycle stage and intended use. Designed to promote high-quality evaluation, the Systems Evaluation Protocol (SEP), described earlier in this volume (Chapter 3), and in other publications (see Trochim et al., 2016), offers a step-by-step process for building from program theory to evaluation implementation. The SEP is a practical tool for implementing Relational Systems Evaluation (RSE) and considers the complex factors inherent in larger systems within which a program is embedded (Trochim et al., 2016; Urban, Hargraves, Hebbard, Burgermaster, & Trochim, 2011; Urban et al., 2014; Urban & Trochim, 2009). The SEP applies the principles of Evolutionary Evaluation through an integrated, actionable foundation for planning and conducting evaluations, developing and improving programs, and fostering the capacity of and commitment to evaluation among participating program staff (Buckley et al., 2015; Trochim et al., 2016; Urban et al., 2011; Urban et al., 2014; Urban & Trochim, 2009). The SEP's systems approach emphasizes: constructing a causal diagram of the program's theory of change; consulting internal and external stakeholders about program perspectives and priorities; recognizing how the program is related globally to other programs, in part by identifying research on related outcomes which can link the program to universal long-term goals; and continually assessing/revising the evaluation plans to collect evidence on and improve the program (Urban & Trochim, 2009).

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448

Which elements of the SEP are used, and the order of their implementation, depends mainly on the context and needs of the project. Evaluators do not need to implement all of the steps in the SEP or complete all the SEP products. Determining which components will be most useful for a given project is one of the skills an evaluator using the SEP will need to possess; these decisions are based on a combination of factors, including, program needs, timeline, and available funding. In consultation with the partnering organization, the evaluator should identify the appropriate SEP steps and products and set expectations for the evaluation cycle before the project work begins. Additional SEP steps and products can be added by mutual agreement as the project progresses, but should be discussed and clearly defined.

Since its inception, the SEP has been used in multiple contexts and for various purposes. For example, the SEP (or elements of it) have been used in education programs, public health initiatives, for large centers with multiple programs, and for strategic planning. This chapter presents six case studies that illustrate the application of the SEP in different real-world implementation conditions. The specific SEP steps and products for each project are discussed, including an emphasis on how decisions were made to include each SEP element. The six cases differ in terms of the scale of the programs involved, the nature of the SEP delivery and/or facilitation process, and the balance among multiple desired outcomes reflecting differential emphases on evaluation capacity building.

Case 1: Developing and Testing the Systems Evaluation Protocol

The initial development of the SEP was supported by a three-year grant (2005-2008) from the National Science Foundation (NSF). The SEP and the accompanying software program, the Netway, were refined in a Phase II Trial of the SEP that began in 2008 and concluded in 2015, also with support from the NSF. In this early research and testing, the SEP was

implemented with cohorts of small- to medium-sized educational outreach programs in two large STEM education systems: Cornell Cooperative Extension (CCE) in New York State, and Materials Research Science and Engineering Centers (MRSECs) across the U.S. Cohorts ranged in size from three to 18 programs; each program was represented by a working group typically consisting of two to four staff members.

As this was a research project and the first large-scale application of the SEP, we implemented all the Protocol steps in the sequence laid out in the evaluation planning phase of the SEP with limited adaptation (see Chapter 3 of this volume for a description of the SEP steps; Trochim et al., 2016). The adaptations we did make over time were focused on improving facilitation approaches and materials. The evaluation planning phase of the SEP was completed over the course of a year for each cohort. Although the original grant was intended to study only the evaluation planning phase, it became apparent that it was essential to provide support with evaluation implementation and utilization as well, so the evaluation partnerships were extended into a second year for each cohort.

The experiences in these very different systems, and the purposeful testing of two different delivery modes—in-person, highly interactive, facilitated evaluation partnerships with small working groups of program staff, versus an entirely on-line, self-guided evaluation planning process pursued by 1- or 2-person staff teams—yielded numerous insights into the challenges of putting the SEP into practice and strategies for improving SEP design as well as SEP delivery. The main obstacles participants experienced were related to unexpected administrative changes and time constraints (program funding cuts, unforeseen increases in staff workload that made it difficult to complete evaluation work, and length of time required for the SEP evaluation partnerships). Insufficient support and commitment from organizational

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448

leadership was also an issue in some cases. These are challenges for almost any internal evaluation process, but the intensive program modeling work that is at the heart of the SEP and the embedded evaluation capacity building (ECB) aspects made it particularly time-consuming. Lessons learned in those early evaluation partnerships allowed us to shorten the duration of the evaluation partnerships and laid a foundation for a more adaptive and responsive approach in subsequent work.

We came to distinguish, for example, between facilitation approaches with more significant benefits in terms of ECB (which required more time) and SEP facilitation that focused more narrowly on evaluation planning and implementation, with smaller impacts on staff evaluation capacity. In all contexts, we increased our ability to align SEP evaluation planning with other program development and program management responsibilities, so that the new time demands of the SEP could be reduced and the synergies with other work responsibilities could be leveraged more effectively. These lessons are now integrated into a broader menu of training strategies and a more substantial initial "Enter the System" step of the SEP in order to ensure alignment of expectations, clarification of roles and responsibilities, and shared understanding of organizational leadership commitment and support for evaluation. It remains the case, however, that RSE, which has the SEP as its evaluation protocol, requires a commitment of staff time and engagement that more contractual external evaluation efforts might not typically involve.

Case 2: Emphasizing Evaluative Thinking

This case exemplifies the use of SEP steps in an ECB initiative with Catholic Relief Services (CRS) in Ethiopia, Malawi, and Zambia that focused explicitly on evaluative thinking. Each of these country programs (i.e., the country-level CRS organization) engaged their entire

organization in evaluative thinking-focused capacity building work, and in some cases, selected a particular project with multiple program areas nested within it as the focus of their evaluative thinking work. Their portfolios of programs include a majority of public health-focused initiatives as well as economic development, agriculture, and youth development work. In Zambia, for example, the national program office selected the Feed the Future Mawa Project, which supported small farmer households to intensify and diversify agricultural production for improved health and nutrition and engagement with markets.

As significant actors in the aid world, the network of CRS country programs has been at the forefront of establishing best practices for evaluation in their dynamic and unpredictable contexts, in line with the current emphasis by the United States Agency for International Development (USAID) on collaborating, learning, and adapting (Archibald, Sharrock, Buckley, & Young, 2018). Guy Sharrock, Senior Advisor for Monitoring and Evaluation at CRS, identified evaluative thinking as a critical component of program management and evaluation and prompted the development of the workshops described here. Additionally, it is important to note that the three participating country programs elected to do so and that there was a certain amount of support from the CRS leadership in these countries. Because of the size, dispersion, and internal power dynamics that characterize these organizations, the facilitators designed a set of nine workshops: one workshop a year for three years for each of three groups. The three participant groups included field staff, program managers, and country-level leadership (see Figure 4.2 in Archibald et al., 2018).

The flexible nature of the SEP was evident even within this one case, as we applied different steps with different groups (e.g., with field staff and program managers, we spent a significant amount of time on the program boundary step, whereas we did not dwell on that step

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448

in the abbreviated workshop designed for the country-level leadership group). Generally, the Year 1 field staff and program manager workshops were one week in duration, with about 30 participants per workshop. The workshops were a mix of didactic presentations, dialogue, and hands-on work sessions. Each country program was divided into smaller working groups within each larger workshop, usually according to programmatic foci. For example, there are numerous smaller programming areas nested within the larger Mawa project in Zambia, such as a savings and internal lending program, a program on women's access to arable land, a conservation agriculture program, and more. These program groups thus constituted the smaller working groups of three to four colleagues.

The content of these in-person workshops was organized around the four components of evaluative thinking: identifying assumptions, posing thoughtful questions, pursuing deeper understanding through perspective taking, and making informed decisions (Buckley et al., 2015). However, these four components were operationalized and practiced during the workshops using several steps of the SEP. Table 5.1 indicates how the SEP steps we used map onto the components of evaluative thinking. Several of the steps support more than one component.

<<Insert Table 5.1 here>>

Each of the selected SEP steps directly supports one or more of the core evaluative thinking skills. For example, pathway modeling is a useful way to surface assumptions about how and why a program is expected to work. Pathway models, once complete, also serve as the starting point for posing thoughtful questions about a program (see Figure 1 for an example pathway model). Just as in Case 3, described below, we facilitated rounds of peer review through a pathway model "gallery walk," whereby different small groups walked around the room to provide targeted feedback on other groups' pathway models. Stakeholder analysis is similarly

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448

useful across evaluative thinking skills. Considering stakeholder perspectives reveals new assumptions about the program and also allows us to understand the program in new ways. An additional facilitation innovation we piloted with CRS was to have participants describe their programs by drawing them, rather than by using words; this was yet another way to elicit multiple perspectives.

<<Insert Figure 5.1 here>>

Evaluative thinking and the SEP are closely linked. Evaluative thinking is one of the ideas that SEP participants report to be most valuable after completing the SEP (see Chapter 7 of this volume), and evaluative thinking is best practiced using some steps from the SEP and augmented by other non-SEP activities, tasks, and topics, such as a workshop session exploring what counts as credible evidence. One remarkable result from this fusion of the SEP and evaluative thinking was that field staff expressed how they felt their voices were being heard in the program planning and evaluation domain for the first time in their careers. In sum, the workshops and materials developed in partnership with CRS offer a unique and important point of entry to the SEP that is distinct from more formal or traditional evaluation planning.

Case 3: Using the SEP with a Large National Organization

This case describes the application of the SEP in a large scale youth development program implemented across multiple localities. The SEP process was adapted to fit a program implemented on a national scale with considerable population and program variation. Extra attention to the variation in population and program was required to understand the connections between context and the theory of change. Ultimately, this implementation of the SEP required intensive front-end support and resulted in the production of two separate pathway models.

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448

During the SEP process, many components were added or emphasized that are not often used, leading to a more complete SEP than has been utilized with other programs.

The Boy Scouts of America (BSA) is a national organization designed to promote the positive development of youth. The project funder was interested in adult practice, so the focus of the evaluation became two-pronged: examining the positive benefits for adults as well as youth. During pathway model development, two distinct models were developed: one focusing on youth and the other focusing on adult volunteers. The "mining the model" process, where participants determine the models' most essential constructs and links as well as discussion about which constructs are most important for stakeholders, yielded three key pathways in each model. The models were then validated via three additional activities that were added to the Program-System Links step in the SEP: model validation using focus groups, evidence mapping, and practice mapping (Urban et al., 2020).

Model Validation

A total of 23 focus groups were conducted with 77 BSA adult volunteers and 52 scouts in nine states across the US. These focus groups helped assess whether the pathway models, as well as key pathways, were consistent with youth and adult volunteers' perceptions of and experiences in Scouts BSA. During the adult focus groups, adults reviewed poster-sized versions of the model displayed around the room. Adult volunteers were asked to read and examine the model, look for key constructs and links between constructs (marking them with "star" and "key" stickers), identify any "leaps in logic" (where a connection between constructs seems to skip over a construct that occurs between two others), note any part that could be confusing to an outsider, and consider whether the model captured a full view of the BSA program experience.

Next, a facilitator led the group through a series of semi-structured questions such as "Does the

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448

model make sense to you?" Youth participated in a similar series of activities: first, they were asked to identify any important constructs or connections (also identifying them with "star" and "key" stickers), and then were asked a series of semi-structured questions parallel to what the adults were asked. Coders examined both the images of pathway models from the focus groups as well as audio transcripts of the sessions; results confirmed the models aligned with participants' experiences and understanding of BSA. In addition, both youth and adults identified changes in the model, such as changing "kid" to "youth" in the model and adding a construct called "joy/fun" to the model.

Evidence Mapping

Evidence mapping, a second process to validate the pathway models (described in greater detail in Chapter 3 of this volume), was conducted by reviewing relevant research literature and confirming each connection in the model. If research evidence was found confirming a connection, a "hanger" icon was added to the model, so we could visually "hang" the literature on each connection, and a supporting quote from the article was selected and documented. When no literature was found to support a connection, or if research suggested a needed change to the model, that was also noted. The evidence mapping documentation resembles an annotated bibliography organized around the model connections. This process revealed literature was found to support a majority of connections between constructs on the adult (88%) and youth (86%) pathway models.

Practice Mapping

The final validation process is practice mapping, where researchers determined if pathway model constructs and connections were consistent with volunteer training as presented in BSA training manuals. Six training manuals were coded qualitatively, and each code was

matched with constructs in the models. This process allowed systematic documentation of how many model constructs were emphasized by adult volunteer trainings. Results of practice mapping revealed a majority (88%) of model outcomes across both youth and adult pathway models were supported.

The processes used in the Scouts BSA program evaluation demonstrate a systematic and wide-ranging pathway model validation process that brought together expertise at every level to confirm the strength and consistency of the model. First, the diverse working group included BSA "insiders," administrators of the program, content experts, and expert SEP evaluators who served as facilitators. Second, the model was validated by program participants in focus groups—both youth and adult volunteers from across the country participated, engaging multiple perspectives. Third, evidence mapping brought the larger research literature to the process, linking the constructs and connections developed and validated by Scouts BSA stakeholders to peer-reviewed research conducted by experts in the field. Finally, the practice mapping process demonstrated the pathway model was consistent with the trainings adult volunteers receive.

The heavy focus on model validation, in this case, was achievable due to the higher level of funding available for this project. Access to research assistants and library resources was critical for carrying out evidence and practice mapping, as were funds for travel to conduct focus groups around the country for model validation. This level of validation may not be feasible in projects with smaller budgets and/or fewer resources. Since this was an evaluation of a large-scale national youth development program, careful model validation was critical for buy-in and planning for evaluation implementation.

Case 4: Using the SEP at the Organizational Level

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448

This case illustrates the application of the SEP to plan and model the third phase of a large-scale interdisciplinary center-based initiative to support research, policy, and practice related to character development. An intensive two-day implementation of the SEP was used in an effort to develop a clear, detailed, and testable theory of change for the center as it entered its third phase of work. Unlike a standalone program, the center supports multiple projects that work toward superordinate shared objectives. In this sense, the center is itself a system with multiple sub-parts, a practical example of one of the theoretical concepts drawn from systems thinking, as presented in Chapter 2 of this volume. The products for this project included a stakeholder map and a superordinate pathway model for the center. One of the early challenges when working with a large-scale overarching entity is clarifying the boundaries of the system and determining what precisely will be modeled, which is addressed in this case study.

The working group included center staff who represented different levels of the organizational hierarchy. When working with groups where it is important to create an environment in which all participants feel comfortable sharing their perspectives, having individuals complete SEP worksheets before large group discussions can be advantageous. In this case, each working group member filled out the Program Boundary and Program Elements Worksheets during the first part of our meeting. In the Program Boundary Worksheet, participants are asked to think about the scope of their program, including the range of activities, participants, and outcomes inherently part of the vision of the program. Participants are instructed to list things that appear "inside" and "outside" in a two-column table. They are also instructed to make note of "boundary questions" that might need further discussion. The Program Elements Worksheet helps participants brainstorm activities and outcomes that may ultimately be included in the pathway model. In the group discussion that followed, the SEP facilitator paid

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448

particular attention to which voices were being heard and provided opportunities to ensure multiple perspectives were shared.

In this case, the perceived program boundaries varied depending on where in the center system the working group members were situated. This is common when using the SEP to model a hierarchical initiative. Each working group member views the system (the center) from their own place within the system. Not surprisingly, those whose work focused on policy defined the center's boundaries with policy work as the central focus. Those whose work focused on school-based initiatives defined the center's boundaries with education as the central focus. The SEP allowed us to bring together these multiple perspectives to create a shared understanding of the center as a whole. The resulting pathway model included four key pathways that represented the four strands of work within the center, maintaining while simultaneously combining each strand's independent perspectives.

Case 5: Philanthropic Strategic Planning

This case study describes how the SEP was used for strategic planning for a philanthropic foundation whose portfolio includes funding basic and applied research as well as programs. A primary focus of this project was ensuring multiple stakeholder groups (including staff and the Board of Trustees) had a shared vision and sense of ownership over the organization's strategic plan. Boundary analysis, stakeholder analysis, and the development of pathway models were foci of this work. Organization leadership (with representation from staff) developed an overarching pathway model as well as separate sub-pathway models for each major priority area.

This project began with a narrow scope that broadened over time. Initially, the objective was to create a pathway model or vision of where the foundation wanted to go over the next five years. The seven-member working group developed a stakeholder map and pathway model,

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448

mined the model, and determined the evaluation scope and evaluation questions. Once a draft overarching model was complete, members of the working group presented the model to the rest of the foundation staff. This step was important for establishing broader foundation buy-in. Several focus groups were held to validate the overarching model and determine whether it reflected other stakeholders' expectations for the foundation's future. Two focus groups were held with foundation staff, and one focus group was held with members of the Board of Trustees. Edits were made to the model based on feedback from the focus groups.

During the process of developing the overarching model, the working group decided they wanted to expand the scope of work to include developing models for each of the five priority areas of the foundation. As part of a forward-looking strategic planning exercise, these models differed from most evaluation-related pathway models which are typically representing the theory of change for existing programs. The proposed sub-models in this strategic planning case were expected to include new activities that the working group believed would be needed as well as existing activities (or variations on them) if they contributed to the larger goals of the strategic plan. Outcomes in sub-models were expected to advance specific outcomes or sets of outcomes in the overarching model. The purpose of the priority area models was to provide more content-specific details while remaining consistent with the theory of change represented in the overarching model. The overarching working group provided broad guidance for defining the initial boundary and focus for each priority area.

A two-day off-site retreat was held with all foundation staff. Staff were divided into smaller working groups for each priority area. Two SEP facilitators led the retreat which included the following SEP steps: Boundary Analysis, Stakeholder Analysis, Pathway Model Development, and Lifecycle Analysis. The SEP products included a stakeholder map and

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448

pathway model for each priority area. Additional elements of the SEP were incorporated, including a Peer Review of Models, which we often use when facilitating the SEP simultaneously with multiple working groups. This provides constructive internal feedback to each working group and also familiarizes all working groups with the others' ideas and approaches, which can spark adjustments in their own models. One session was also devoted to having the working groups explicitly identify the connections between elements in their model and the overarching model, using a handout that listed all the overarching model elements.

A second off-site retreat was held with invited guests that included foundation staff, Board of Trustee members, and other friends of the foundation. The goal of this retreat was to elicit input from multiple stakeholder groups to help refine the evaluation scope. The foundation's director of planning and evaluation displayed an enlarged version of the overarching pathway model and asked participants to identify which of the strategic goals were the most important for the foundation to report on over the next five years and why. Participants were also asked to provide suggestions on what success would look like. This not only helped to clarify evaluation scope but also provided potential measurable indicators that would be of particular value to the foundation.

The SEP facilitators worked with foundation staff to refine their pathway models and evaluation plans. Once these were completed, the SEP facilitators handed off evaluation implementation to the internal monitoring and evaluation team. This partnership with internal evaluators provides an example of how the SEP can be used not only with program staff, but also with other evaluators. It also provides an example of how the SEP can be used for strategic planning purposes. In a separate but related project with the same foundation, a SEP facilitator worked with one priority area working group to conduct portfolio analysis. In this analysis, the

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448

specific grants, including investment amounts, were overlaid on the pathway model. This allowed the working group to see where investments were being made and where there were gaps in funding or areas that were overfunded. The portfolio analysis allowed the priority area team to reconsider their investment strategy to better align it with the outcomes their team hoped to achieve. Although portfolio analysis is not a specific step in the SEP, it is consistent with the principles of Evolutionary Evaluation and particularly the idea of phylogeny (or the development of a species over time). Portfolio analysis enables organization staff to monitor and direct the development of the organization over time (see Chapter 2 of this volume).

Case 6: Evaluation Capacity Building

Finally, in this last case, the SEP was a tool used for evaluation capacity building (ECB; Taylor-Ritzler et al., 2013) with staff and leadership from youth character organizations and evaluators. Increasingly, foundations, philanthropies, and other funding bodies seek to be not just learning organizations, but learning systems, whereby the ecology of evidence use and creation in their entire sector is enhanced. A national initiative funded by the John Templeton Foundation, the Partnerships for Advancing Character Program Evaluation (PACE) project, was designed to promote high-quality evaluations in the field of character development through enhanced capacity building using true partnerships between evaluators and program practitioners. More information and empirical findings on this initiative are presented in Chapters 4, 6, and 7 of this volume.

PACE matched eight evaluators (evaluation capacity builders, ECBers) with 31 program professionals (PPs) in 16 youth-serving character programs across the country (Urban, Linver, Samtani, & Chauveron, 2018). The 16 programs were divided into two cohorts and each evaluator was matched with one program from each cohort. PACE participants engaged in four

types of activities: in-person events, webinars, partnership work with a participating evaluator, and consultation with a Lead Facilitator. The in-person events included two workshops and a culminating conference (the second workshop was held virtually for cohort 2). Evaluators also attended a one-day pre-workshop that introduced them to the SEP. The first workshop was a three-and-a-half-day event devoted to accomplishing four goals:

1. Strengthening the identity of participating programs as character development programs, including program staff's ability to communicate effectively about their contribution to developing specific character virtues. For example, as part of the pathway model building process, program teams were asked to identify, review and sharpen their articulation of outcomes related to specific character virtues;

2. Motivating program staff participants to think evaluatively and adopt specific evaluative thinking habits in their work;

3. Increasing program staff capacities to plan and implement high-quality evaluation work that is based on the principles of Evolutionary Evaluation and the SEP; and

4. Increasing evaluators' experience with facilitating the SEP and building evaluation capacity in an evaluation partnership framework.

To accomplish these goals, the Facilitation Team drew from a large set of established techniques and materials that center around an active-learning approach to ECB. These included activities such as structured group work, peer-review, large group discussion, role-play/case studies, and brainstorming. As a result of participating in this workshop, program teams developed program-specific pathway models, program and evaluation profiles (PEPs), evaluative thinking (ET) site plans, and also established a partnership with a participating evaluator. The PEP provides a concise yet complete "snapshot" of the program as well as that program's evaluation focus and

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448

goals. The PEP includes a program description, a pathway model, a description of relevant stakeholders, context and assumptions, an evaluation purpose statement, and evaluation questions. An ET site plan records specific activities and habits that a program team intends to adopt in order to promote evaluative thinking in their home office/organization.

The second workshop was a one-and-a-half-day event and focused on evaluation results: analysis and utilization. The goals of this workshop were to build participants' capacity to:

1. Read and make meaning from results;

2. Facilitate the analysis process;

3. Integrate research and practice by using program pathway models as frameworks for "mapping evidence" from published research; and,

4. Make informed decisions in planning for program evolution and reporting.

The culminating conference was held at the end of year 2 of the project and included all PACE participants. The conference provided an opportunity for participants to share their work and included poster sessions and talks.

PACE provides an example of using the SEP as an evaluation capacity building tool with multiple programs simultaneously. It also was our first attempt at training other evaluation professionals en masse in using the SEP. See Chapters 4, 6, 7, and 8 of this volume for more information and empirical findings from PACE.

Conclusion

The six projects described in this chapter demonstrate the range, breadth, depth, and flexibility of the SEP. The included projects were selected because they each demonstrated unique contexts and applications of the SEP; these examples do not provide an exhaustive sampling of SEP settings or utilizations. Each of the six projects took place in a different context:

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448

a large educational system, country-level community development projects in three African countries, a large-scale national program in the U.S., an interdisciplinary center, strategic planning for a philanthropic foundation, and an evaluation capacity building effort across diverse organizations and evaluation professionals. These examples represent both large- and small-scale programs and organizations and included both existing and proposed new programs. The SEP provides guidance and structure, yet is flexible; each situation offered unique challenges. Overcoming these challenges meant adapting the SEP, which is now stronger and more robust because of these adaptations. The common denominator across all projects is true researcher-practitioner partnerships. We hope that this diversity of cases in which the SEP was successfully implemented will encourage other evaluators and ECB practitioners to consider using it in their contexts as well.

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448

References

Archibald, T., Sharrock, G., Buckley, J., & Young, S. (2018). Every practitioner a "knowledge worker": Promoting evaluative thinking to enhance learning and adaptive management in international development. In A.T. Vo & T. Archibald (Eds.), *Evaluative Thinking. New Directions for Evaluation, 158*, 73-91. doi:10.1002/ev.20323

Bertalanffy, L.V. (1995). *General system theory: Foundations, development, applications* (Revised ed.). New York, NY: Braziller.

Bradie, M., & Harms, W. (2006/2016). Evolutionary epistemology. In E.N. Zalta (Ed.), *The Stanford encyclopedia of philosophy*. Stanford, CA: The Metaphysics Research Lab, Center for the Study of Language and Information, Stanford University.

Buckley, J., Archibald, T., Hargraves, M., & Trochim, W.M. (2015). Defining and teaching evaluative thinking: Insights from research on critical thinking. *American Journal of Evaluation, 36*(3), 375-388. doi: 10.1177/1098214015581706

Campbell, D.T. (1974). Evolutionary epistemology. In P. A. Schilpp (Ed.), *The philosophy of Karl Popper* (pp. 413-463). LaSalle, IL: Open Court.

Campbell, D.T. (1988). Evolutionary epistemology. In E. S. Overman (Ed.), *Methodology and epistemology for social science: Selected papers of Donald T. Campbell*. Chidago, IL: University of Chicago Press.

Cziko, G.A., & Campbell, D.T. (1990). Comprehensive evolutionary epistemology and bibliography. *Journal of Social and Biological Structures, 13*(1), 41-82. doi: 10.1016/0140-1750(90)90033-3

Darwin, C. (1859). *On the origin of species by means of natural selection, or the preservation of favoured races in the struggle for life*. London, UK: John Murray.

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448

Laszlo, E. (1996). *The systems view of the world: A holistic vision for our time*. Creskill, NJ: Hampton Press.

Lerner, R.M. (2006). Developmental science, developmental systems, and contemporary theories of human development. In R.M. Lerner & W. Damon (Eds.), *Handbook of Child Psychology: Theoretical models of human development* (6th ed., Vol. 1, pp. 1-17). Hoboken, NJ: John Wiley & Sons.

Mayr, E. (2001). *What evolution is*. New York: NY: Basic Books.

Midgley, G. (2003). *Systems thinking*. Thousand Oaks, CA: Sage.

National Academies of Science, Engineering & Medicine. (2016). *Workshop on approaches to the development of character*. Retrieved August 17, 2016, from http://sites.nationalacademies.org/DBASSE/BOTA/DBASSE_171735

Overton, W.F. (2006). Developmental psychology: Philosophy, concepts, methodology. In R. M. Lerner (Ed.), *Theoretical models of human development* (6th ed., Vol. 1, pp. 18-88). Hoboken, NJ: Wiley.

Overton, W.F. (2010). Life-span development: Concepts and issues. In W.F. Overton & R. M. Lerner (Eds.), *Handbook of life-span development: Cognition, biology, and methods* (Vol. 1, pp. 1-29). Hoboken, NJ: Wiley.

Popper, K. (1973). *Evolutionary epistemology*. Paper presented at the Sections 1-VI of "the rationality of scientific revolutions" given at the Herbert Spencer lecture, University of Oxford.

Popper, K. (1984). Evolutionary epistemology. In D.M. Miller (Ed.), *Popper selections* (pp. 78-86). Princeton, NJ: Princeton University Press.

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448

Preskill, H., & Boyle, S. (2008). A multidisciplinary model of evaluation capacity building. *American Journal of Evaluation, 29*(4), 443-450. doi: 10.1177/1098214008324182

Ragsdell, G., West, D., & Wilby, J. (2002). *Systems theory and practice in the knowledge age*. New York, NY: Kluwer Academic/Plenum.

Taylor-Ritzler, T., Suarez-Balcazar, Y., Garcia-Iriarte, E., Henry, D.B., & Balcazar, F.E. (2013). Understanding and measuring evaluation capacity: A model and instrument validation study. American Journal of Evaluation, 34(2), 190-206.

Trochim, W.M, Urban, J.B., Hargraves, M., Hebbard, C., Buckley, J., Archibald, T., Johnson, M., & Burgermaster, M. (2016). The Guide to the Systems Evaluation Protocol (V 3.1). Ithaca, NY: Cornell Digital Print Services. https://core.human.cornell.edu/research/systems/protocol/index.cfm

Urban, J.B., Hargraves, M., Hebbard, C., Burgermaster, M., & Trochim, W.M. (2011, November). *Evaluation in the context of lifecycles: 'A place for everything, everything in its place'*. Paper presented at the annual meetings of the American Evaluation Association, Anaheim, CA.

Urban, J.B., Hargraves, M., & Trochim, W.M. (2014). Evolutionary Evaluation: Implications for evaluators, researchers, practitioners, funders, and the evidence-based program mandate. *Evaluation and Program Planning, 45*, 127-139. doi: 10.1016/j.evalprogplan.2014.03.011

Urban, J.B., Linver, M.R., Moroney, D., Nichols, T., Hargraves, M., Roberts, E.D., Quinn, J., Brown, M., Gama, L., Doubledee, R.R., & Cox, M. (2020). Developing and testing a theory of change for Boy Scouts of America. Manuscript under review.

Urban, J.B., Linver, M.R., Samtani, S., & Chauveron, L.M. (2018, October). *The future*

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448

character education programs in the US: Findings from the PACE Project. Paper

presented at the special meeting of the Society for Research on Child Development,

Philadelphia, PA.

Urban, J.B., & Trochim, W.M. (2009). The role of evaluation in research-practice integration:

Working toward the "golden spike". *American Journal of Evaluation, 30*(4), 538-553.

doi: 10.1177/1098214009348327

Table 5.1. Evaluative thinking alignment with the SEP

Identify assumptions	System and knowledge flow mapping, Pathway model development, Stakeholder analysis, Boundary analysis
Pose thoughtful questions	Pathway model development, Mining the model, Evaluation Questions
Pursue understanding through perspective taking	Stakeholder analysis, System mapping
Make informed decisions	Interpretation, Action planning

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448
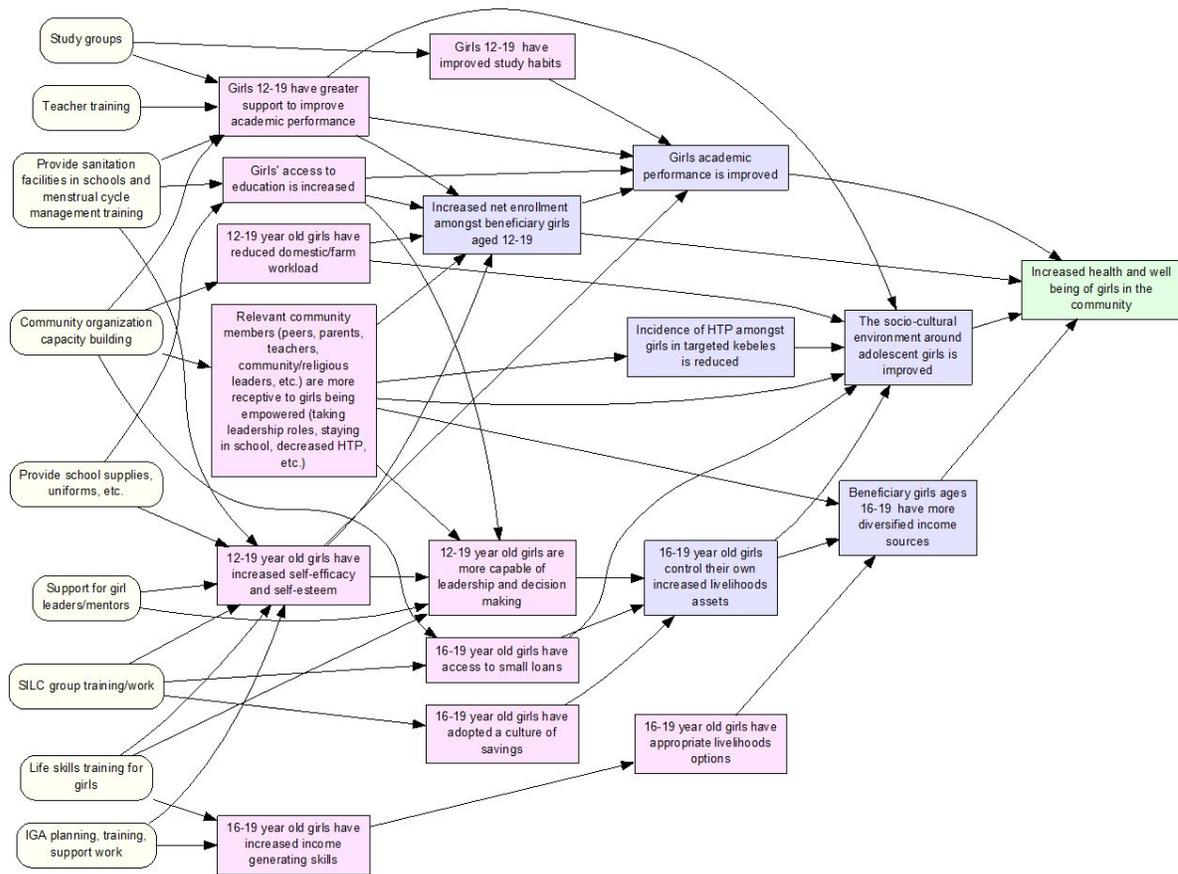
Figure 1. Example pathway model from "Reaching for their Potential."

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448

JENNIFER BROWN URBAN is professor of Family Science & Human Development, and co-Director of the Institute for Research on Youth Thriving and Evaluation, both at Montclair State University. Her research focuses on positive youth development and evaluation capacity building in youth-serving organizations.

MIRIAM R. LINVER is professor of Family Science & Human Development, and co-Director of the Institute for Research on Youth Thriving and Evaluation, both at Montclair State University; her research focuses on diverse contexts of youth development.

LISA M. CHAUVERON is a researcher and program evaluator with a focus on urban community-based, educational, and health organizations providing programs for marginalized youth and families.

THOMAS ARCHIBALD is an associate professor and extension specialist in Virginia Tech's Department of Agricultural, Leadership, and Community Education, where his research and practice focus primarily on evaluation capacity building and evaluative thinking in community development contexts.

MONICA HARGRAVES is the Associate Director for Evaluation Partnerships in the Cornell Office for Research on Evaluation, at Cornell University, where her work focuses on a collaborative approach to evaluation and evaluation capacity building using the tools of Relational Systems Evaluation.

JANE BUCKLEY of JCB Consulting is an evaluation planning facilitator and evaluation capacity building consultant whose focus is on fostering a culture of evaluative thinking in partner organizations.

Urban, J. B., Linver, M. R., Chauveron, L. M., Archibald, T., Hargraves, M., & Buckley, J. (2021). Applying the Systems Evaluation Protocol in the real world: Six case studies. *New Directions for Evaluation*, 2021, 65– 77. https://doi.org/10.1002/ev.20448