

Emergent design evaluation: A case study

Christina A. Christie^{a,*}, Bianca E. Montrosse^a, Brock M. Klein^b

^a*School of Behavioral and Organizational Sciences, Claremont Graduate University, Claremont, CA 91711, USA*

^b*Pasadena City College, Pasadena, CA, USA*

Abstract

Emergent design is an evaluation approach that begins with a loose participatory framework, which is utilized to define the roles and interactions of those involved, but not to prescribe the evaluation process as a whole. This article describes an emergent design evaluation that took place at Pasadena City College. The purpose of this paper is to illustrate the applicability and utility of an emergent design evaluation, as well as illustrate the process that evolved. The article outlines the extant literature on emergent program theory and emergent design evaluation, provides an overview of the program, discusses critical points in the evaluation and program processes, and concludes with a reflection on the process.

© 2005 Elsevier Ltd. All rights reserved.

Keywords: Emergent; Future nurse; .XL program

Emergent design evaluation is a model that rests upon and thus is complimentary to existing emergent design program theory, where the evaluation evolves as the evaluand develops. In the context of Pasadena City College (PCC), an intentionally developing program propelled the need for an emergent design evaluation. The evaluation findings fostered organizational learning and change, which in turn initiated the development of new program and evaluation activities. The constant influence that each had on the other created a dynamic, fluid emergent process.

1. Background

Much of our knowledge concerning emergent design evaluation has been acquired informally through the trials and errors of practitioners, but the research of group theorists, initially in the areas of business (Kormanski, 1988), productivity (Luthans, 1989), and organizational cultures (Kilmann, Saxton, Serpa, Pitre, & Sims, 1989), has been informative. Underlying this research is the notion that group work is a dynamic, iterative process. Goals and tasks transform; understanding and perceptions of a project

evolve; and members undergo changes within and outside of the group, causing interactions and outcomes to emerge in ways that are sometimes out of the control of the group. From a socio-cultural perspective, the process is essential to the formation of knowledge and learning (Brown & Renshaw, 2000).

When emergence is at the heart of a process, clearly, it becomes complex in a large group undertaking, such as program design, implementation, and evaluation. A helpful theory for gaining an understanding of emergent design and its relationship to process is (Gray, 1989; p. 227) notion of negotiated order, which ‘refers to a social context in which relationships are negotiated and re-negotiated. The social order is shaped through the social interactions of participants’. Negotiated order theorists, according to Gray, emphasize process, but also the ‘temporary and emergent character’ (p. 223) of collaboration, as well as interdependence, joint ownership, an understanding of differences, and shared responsibility.

Negotiated order theorists suggest that the structure of a program depends, in large part, on how the participants view process and their roles within it. Grant proposals, for example, contain specific projects, budgets, and deadlines, all of which encourage a linear, step-by-step approach to program implementation. However, some program staff assume that as time passes, projects are bound to evolve; participants will change; and funds will have to be moved to support those changes. Those that expect (and even

* Corresponding author. Tel.: +1 909 607 9020; fax: +1 909 607 9009.
E-mail address: tina.christie@cgu.edu (C.A. Christie).

welcome the notion) that they cannot entirely control or predict interactions, tasks, and outcomes will embody emergent design into the structure and process of their programs.

Evaluators conducting evaluations in these environments face the challenge of designing studies to accommodate ongoing program changes. Developing an evaluation plan at the outset of an emerging program poses the problem of evaluation design inflexibility. Often the evaluation must be responsive to and consistent with the inherent emergent design of the program. In this situation, we believe, emergent design evaluation should be considered.

One of the first mentions of emergent design evaluation was in a study by Rubin (1989), who was evaluating a Discipline-Based Art Education (DBAE) program at the Getty Center for Education in the Arts. Her publication outlined the usefulness of utilizing a naturalistic evaluation process, which she views as emergent design evaluation. Rubin (1989) argues, 'Because the study developed naturally from existing questions, needs, and concerns, it is appropriate for investigating complex and subtle relationships and situations, where clients are uncertain of goals or questions they want answered'.

Smith and Hauer (1990) discuss what they call investigative, emergent design process evaluation. Emergent design is 'one in which an understanding of the evaluand and its context continues to emerge as the study progresses, and the study design itself continues to change as a result of these changing understandings' (1990). Smith and Hauer further state that the evaluation continues systematically without a pre-determined evaluation design. More specially, the evaluation cannot proceed to the next phase until completion of the previous step.

More recently, Thompson and Herman (1996) published a paper on the utilization of emergent design evaluation for a family support program. They define emergent design evaluation as an iterative cycle with four phases. In the first phase, the evaluator conceptualizes the program. Next, the evaluator determines how to evaluate problematic areas. In the third phase, a new conceptualization of the program emerges because of data collection results. Finally, new problems are highlighted and the process reiterates.

Before we go further, it is important to explain how we have come to define emergent design evaluation. We believe that it is a method that begins with a loose participatory framework, which is utilized to define the roles and interactions of those involved, but not to prescribe the evaluation process as a whole. The participatory framework is a critical feature of an emergent design evaluation (Smith & Hauer, 1990) because the evolving nature of the program often requires continual re-definition. This re-definition influences and changes the scope of the evaluation, the measurement of evaluation questions, the standards to measure data against, and the information that is reported. It can be difficult for evaluators to understand and adjust to subtle, and sometimes obvious, program

changes without assistance from stakeholders, particularly when program changes are an outcome of their experiences. For example, stakeholder roles shift as the evaluation progresses (emerges), such that new leaders emerge while previous leader transition to teaching roles. In this way, emergent design evaluation aims to provide effective, valid, and useful formative and summative evaluations that promote organizational development and change.

It is important to note that the definition of emergent design evaluation presented in this paper does not classify it as synonymous with naturalistic evaluation, as proposed by Rubin (1989). Naturalistic evaluation is based upon a constructivist paradigm, which asserts that individuals (or stakeholders) construct multiple realities based upon personal perceptions as opposed to a single reality (Guba & Lincoln, 1989). Naturalistic evaluation views the role of the evaluator as a facilitator who teases out these multiple perspectives in an attempt to reach consensus about the entity being evaluated (Alkin & Christie, 2004). More importantly, the process of naturalistic evaluation is not the same as the process of emergent design evaluation. Naturalistic evaluation requires the development of what Guba and Lincoln refer to as 'the hermeneutic dialectic circle' (1989). This process requires a number of respondents (or stakeholder) to convene to discuss their own conceptions of the evaluand, in hopes of reaching a consensus about program experiences.

Emergent design evaluation is also distinct from action research in an important way. Action research (also called participatory action research) is a specific type of inquiry in which organizational members and researchers collaborate to study the program (Weiss, 1998). This active participation is initiated in the planning stage and continues through to the final stage, at which timely results are disseminated and recommendations are offered. Most importantly, it is primarily focused on problem solving (Patton, 2002; Whyte, 1989; Whyte, Greenwood, & Lazes, 1998). In contrast, the purpose of emergent design evaluation is to determine program effectiveness.

Finally, we distinguish emergent design from developmental evaluation, which Patton (1997) defines as:

a way of being useful in innovative settings, where goals are emergent and changing rather than pre-determined and fixed, time periods are fluid and forward-looking rather than artificially imposed by external deadlines, and purpose is learning, innovation, and change rather than external accountability (summative evaluation) or getting ready for external accountability (formative evaluation).

In emergent design evaluation, however, goals (e.g. program effectiveness) are pre-arranged, time periods are static because of funding deadlines, and the ultimate goal is to provide formative evaluations that pave the way for a final summative judgment.

2. Program description

The Teaching and Learning Communities Program (TLC) at Pasadena City College is funded by Title V, a 5-year grant from the US Department of Education. It provides money to Hispanic-Serving Institutions to develop programs that increase academic achievement among the growing US Hispanic post-secondary population. The TLC program specifically seeks to help low-income, academically under-prepared students succeed in basic skills courses and to prepare them for transfer to 4-year institutions or vocational programs.

The TLC is an academic community comprised of faculty, counselors, and students who establish smaller communities in which all members are working together and learning from one another. In the process, students are more likely to succeed academically; in addition, research has illustrated that participation in learning communities leads to other positive outcomes, such as social and personal growth, and the development of sensitivities to and respect for other perspectives, cultures and people (MacGregor, Tinto, & Lindblad, 2000).

The TLC Program has developed four components to serve the diverse Hispanic and under-prepared student population at Pasadena City College (PCC): TLC classes, the English as a Second Language (ESL) Block Program, the Career Pathways Program, and the .XL Program. TLC classes are unlinked classes offered to students enrolled in developmental math and English. The students may choose to take one course or move in a cohort through a sequence of classes. The professors for these classes are recruited specifically for their commitment to basic skills students and their experience with innovative teaching practices.

The TLC designed the ESL Block Program to provide ESL students with intensive language instruction in composition, grammar, reading, listening and speaking at each of five levels. This program is recommended to new and continuing students who lack a solid foundation to facilitate success in future English and content courses. Each block is supplemented by field trips, instructional technology, tutoring, and counseling.

The first Career Pathway, the Future Nurses Block, began in the 2nd year of the grant and was created to help students move through the sequence of basic skills math and English in three semesters and to prepare them for entry into the college's nursing program. The issues explored in the block courses directly relate to the nursing profession. Like the ESL Blocks, the Future Nurses Program includes field trips, instructional technology, counseling, career advisement, and tutoring. In the 4th year of the grant period, the TLC began the Future Teachers Block, a four-semester sequence, and a third Career Pathway, Future Engineers, is planned for the final year.

.XL, the TLC's Summer Bridge/First-Year Experience Program, was implemented in year three of the grant to help students make a smooth transition from high school to college. .XL staff recruits 60 Latino and

other first-generation college students each year from local high schools. .XL students attend Summer Bridge for 6 weeks, at which time they sharpen their math and English skills and receive an orientation to college life. In the 1st-year experience, students enroll in a block of classes that include math, English, and other courses and remain as a cohort for the fall and spring semesters.

At the onset of the grant, the TLC staff created a loose framework for the development of its learning communities. The formation of initial programs and the center, to house a computer lab, instructional space, and staff offices, were the first activities, or negotiations, to take place and required faculty collaboration to establish buy-in and a sense of community. As part of this early stage of the process, TLC staff and faculty piloted courses and began to develop a definition of a learning community based upon the context of the institution and their experiences as teachers and learners. Participants were also aware that their initial definition would require renegotiation as a direct result of their active participation in the program, their changing perspectives, and the input of faculty participants recruited in subsequent semesters. Since the program design was deliberately emergent, an evaluation of the program needed to be flexible and adaptive. Therefore, at the onset of the evaluation, the evaluators decided that an emergent design approach would be the most appropriate approach for studying this program.

3. Critical points in the program and evaluation processes

3.1. Context

The creation and implementation of an emergent design for PCC's Title V program was not the result of a single decision by one person at a particular moment. Rather, it was a complex process that was initiated and promoted by individuals, working together and alone, who were influenced by internal and external circumstances and events. Ultimately, program participants realized that emergent design would allow for flexibility and, more importantly, would be consistent with the theory and practice of the programs that they hoped to create.

An understanding of the context in which the grant is being implemented is essential to understanding the ultimate program design. PCC administrators were looking for ways to launch a Student Success Initiative and transform the college from a teaching to a learning college, so they were receptive to the goals and objectives of the grant. Latinos on and off campus, however, were concerned as to the composition of the grant staff, the targeted students, grant activities, and budget expenditures. Finally, because the majority of faculty followed a traditional post-secondary instructional model, i.e. teacher-centered and lecture driven, many viewed the grant as an opportunity to transform teaching practices. Because of the many expectations,

reservations, and opportunities, grant staff had to move carefully and be flexible.

The US Federal government's fiscal year starts October 1, so the grant began more than 6 weeks after the beginning of the Fall semester. Staff had not been hired; the center had not been built; and grant activities had not been planned. It quickly became clear to the director (the first staff member to be selected) that the timeline for year one could not be followed and, therefore, specific activities would not be implemented or completed. Therefore, he saw the need for flexibility and a loose framework for implementing year one objectives and activities. Title V administrators in Washington DC confirmed the director's suspicions of a slow start-up during the Directors' Conference in November, when they explained the new Title V policy of extended authority, which gives project directors the freedom to make changes and adjust the budget without consent from grant officials. Conversations with experienced and successful directors in Washington revealed that extended authority provided 'wiggle room' for interpreting the grant proposal. In fact, many grant directors stated that they had not completed any activities in their 1st year.

In addition to events that were occurring at the onset of the grant, the director's experience with large collaborative projects and his desire to develop buy-in among staff and faculty participants were critical factors leading to the choice of an emergent design for the program. Negotiation of meaning is central to the learning community initiative and was, therefore, important for the project—the staff and faculty were forming a learning community. Rather than using the grant proposal as a prescription,

participants would use it as a description; individuals would begin the process and activities would emerge. Active participation and innovation among all participants were valued.

3.2. Program and evaluation emergent processes

Table 1 presents six critical points that occurred during 4 years of evaluation. These points are divided into two categories: program emergence and evaluation emergence. Program emergence is conceptualized as time points in the evaluation process when evaluation results influenced or prompted program changes. Evaluation emergence are moments in the process, where program transformations influenced or prompted the evaluation to refocus and activities to shift.

The first critical point of the process occurred within the first few months of the grant, when program staff (the director, counselor, and technical support faculty) decided to utilize an emergent design for the program. This, in turn, prompted the emergent design evaluation. As mentioned, the program theory rests on the notion that programs are bound to evolve because of negotiations that take place among program participants. Thus, the program theory influenced the evaluation design; i.e. evaluators chose an emergent design approach to be responsive to and consistent with the program's theory.

Year one formative evaluation findings marked a critical point in program and evaluation development. The evaluation data suggested that a significant number of basic skills level students involved in the TLC Program

Table 1
Critical time points in the program and evaluation processes

	Program Emergence	Evaluation Emergence
Point 1	Emergent Program Design	Emergent Evaluation Design
Point 2	Future Nurses Program Created	Formative TLC Evaluation Results: Identifying the need for career focused program blocks
Point 3	.XL Program Created	Evaluation Focus Shifts to .XL
Point 4	Co-op Grant Written	Formative .XL Evaluation Results:
Point 5	TLC Faculty Retreat	Examining Faculty and Administration
Point 6	Campus-Wide Theme Developed	Data from TLC Faculty Retreat

intended to pursue nursing or other health-care careers. In order to pursue such goals, students needed to enroll in courses that would prepare them for entry into PCC's nursing program, a demanding and competitive program. In addition, these students indicated that general education courses that incorporated issues related to the health-care professions would be more engaging and would better prepare them overall for health-care careers. It is important to note that these students were largely non-traditional and at the basic skills level. Typically, students with these characteristics have difficulty completing admission requirements for the nursing program and have lower overall academic success and retention rates. In response to evaluation findings, TLC staff developed its first career pathway, the Future Nurses Block.

At the conclusion of year one of the grant, the TLC program director secured additional funds from Title V, through the US Department of Education, with which staff developed the Summer Bridge/First Year Experience program. This program, called .XL, marked a critical point in program development and prompted a brisk refocusing of the evaluation. Program staff were particularly interested in gathering evaluation data about .XL, a request driven by their desire to understand the impact of a complex, intensive, pre-designed learning community on at-risk student success and retention rates. As a result, the formative evaluation design for Year 2 centered on assessing .XL's program effectiveness. The evaluation focused specifically on retention, persistence, and achievement rates of .XL in comparison to non-.XL students. Data were also collected to better understand the '.XL student', what transpires in the classroom, and the overall impact of program.

Year 2 evaluation findings from both the Future Nurses and the .XL programs motivated the TLC program staff to begin writing a Title V 'Co-op' grant with a local 4-year college to fund a transfer program for TLC students. Evaluation results indicated that students involved in the TLC had an interest in transferring to 4-year institutions that had created similar learning environments. Students were aware that most 4-year college and university curricula are not based upon learning community models and feared that they would not excel academically in a more traditional learning environment. PCC began writing a grant to fund a learning community program at a local 4-year college. This program is designed specifically for TLC students who desire continued involvement in a learning community environment at a 4-year college.

Information that emerged from the TLC faculty retreat propelled the evaluation team to closely examine faculty involved with TLC programs. Evaluation findings revealed that some faculty have low expectations for their students' academic performance and perceive themselves as strictly 'information providers'. In many ways, this perspective is in conflict with the learning community model that defines faculty as learners, as well as teachers, and social change agents. Formative evaluation data related to faculty

experiences and perspectives were used to determine how best to design and conduct faculty development workshops and seminars.

Finally, the last of these critical points was the need to develop a campus-wide theme for learning and instruction. Data collected by the evaluation team during the TLC faculty retreat suggested that a theme interwoven throughout courses at PCC could assist in creating a campus-wide learning community. The development of this campus-wide community was perceived as a way to increase retention, persistence, and achievement rates for the entire PCC student population. Another retreat which included faculty and administration was scheduled and a campus wide theme chosen.

4. Commentary on process

An important aspect of the emergent process is the cyclical manner by which the program and evaluation influenced one another. As illustrated in Table 1, in our case each affected the development of the other in meaningful ways. With each step, guided by emergent theory, staff developed, modified and transformed the design of both the program and the evaluation.

The emergent process in our case promoted meaningful organizational learning, as evidenced by the changes that occurred in both the program and the evaluation. An important feature of organizational learning is that learning is shared among members of the organization (Cummings & Worley, 2001). At PCC, because the conceptualization of the program was negotiation by all program members—which increased buy-in and commitment to the program, evaluation findings facilitated learning for all who were involved. Though involvement in the evaluation decision-making, program staff not only learned about the Title V program, but also about evaluation as an activity (e.g. survey design, quantitative versus qualitative data, etc.).

Organizational theorists agree that another critical condition of organizational learning is that it must be a natural part of everyday program life (Cummings & Worley, 2001). In our case, utilization of evaluation findings became part of the program's culture. Evaluation results concerning the program were delivered throughout the evaluation process, not just in year-end reports. Likely a result of being involved in the emerging evaluation process, stakeholders were receptive to suggestions proposed by their colleagues. Reading the interim and yearly evaluation reports became a priority for staff because of their vested interest in the program and in its improvement. Over time, the ongoing conversations amongst individuals (both program and evaluation staff) concerning the program, the evaluation, and evaluation findings became more elevated and informed, facilitating the development of a community of practice. Learning became part of the organizational culture.

As previously noted, stakeholder involvement was a necessary element of our emergent process. As the evaluation moved forward, stakeholders became increasingly involved in the process, becoming integral members of the team. This high level of stakeholder involvement, coupled with a tangible stake in the success of the program, led to what many would characterize as a participatory evaluation (Cousins & Earl, 1995). For example, PCC staff began developing surveys, generating new evaluation projects, and handling and summarizing data.

Some critics may argue that emergent design evaluation is simply being responsive and adaptive to a program's evaluation needs. Indeed, many evaluation theorists have argued the importance of and need for evaluation flexibility (e.g. Fitzpatrick, Worthen, & Sanders, 2004; Patton, 1997; Shadish, Cook, & Leviton, 1991; Weiss, 1998). What distinguishes emergent design is its aim to provide informative and valid formative and summative evaluation data by allowing for a high degree of flexibility in evaluation activities for intentionally developing programs. Most importantly, emergent design is based upon an assumption that developing static, structured evaluation plans for emerging programs, such as PCC's TLC Program is metaphorically speaking, like attempting to force a square peg into a round hole-while allowing both the program and evaluation to emerge synergistically, promotes organizational learning and change.

It should be noted that, like many other evaluation approaches, emergent design evaluation is not without its limitations. With an emergent approach, we sacrifice concrete or static evaluation plans, which are often desirable. Many evaluation theories suggest developing structured processes for effectively evaluating programs. However, in the special instance of emerging programs, as we have illustrated, this structure can be impractical. Emergent evaluations are also time intensive. Because there is often continual program change, evaluators must always observe a program's development, interact with program staff, and be attuned to transformations. Finally, with emergent design evaluation, we forgo strictly defined roles. As programs evolve the evaluator needs to allow for role changes. For example, in the context of PCC, new leaders emerged, old leaders took on new roles, and new program staff became important members of the evaluation team.

Despite its limitations, in the right context, the benefits of emergent design evaluation can outweigh its limitations. Emergent design provides an opportunity for the evaluator to be responsive to the evaluative needs of the program, it allows for program changes to be incorporated easily into evaluation activities, and utilization of evaluation findings is often increased.

There are a number of indicators that highlight an opportunity or need to conduct emergent design evaluations.

First, as has been argued throughout this paper, emerging programs pose unique challenges to evaluation. In these circumstances, we believe an emergent design is the most appropriate method available from the extant evaluation literature. Second, emergent programs that need formative and summative evaluations because of constraints imposed by funding guidelines are indicators that this method could be utilized. Lastly, a context that provides for collaboration among various stakeholders can benefit from conducting an emergent design evaluation.

The purpose of this paper is to illustrate how the relationship between an emerging program and evaluation created a dynamic process between the two. As time progressed, they prompted changes that influenced the development and direction of the other. In presenting this case study, our goal is to add to the existing emergent design literature and to gain a better understanding of the emergent design process.

References

- Alkin, M. C., & Christie, C. A. (2004). An evaluation theory tree. In M. C. Alkin (Ed.), *Evaluation roots*. Thousand Oakes, CA: Sage.
- Brown, R. A. J., & Renshaw, P. D. (2000). Collective argumentation: a sociocultural approach to reframing classroom teaching and learning. In H. Cowie, & G. van der Aalsvoort (Eds.), *Social interaction in learning and instruction: the meaning of discourse for the construction of knowledge* (pp. 52–66). Oxford, UK: Pergamon Press.
- Cousins, J. B., & Earl, L. M. (1995). The case for participatory evaluation: theory, research, practice. In J. B. Cousins, & L. M. Earl (Eds.), *Participatory evaluation in education* (pp. 3–18). Great Britain: Bargaess Science Press, 3–18.
- Cummings, T. G., & Worley, C. G. (2001). *Organizational development and change* (7th ed.). Mason, OH: South-Western College Publishing.
- Fitzpatrick, J. L., Worthen, J. R., & Sanders, B. R. (2004). *Program evaluation: alternative approaches and practical guidelines* (3rd ed.). Boston, MA: Pearson Education, Inc..
- Gray, B. (1989). *Collaborating: findings common ground for multi-party problems*. San Francisco, CA: Jossey-Bass.
- Guba, E., & Lincoln, Y. (1989). *Fourth generation evaluation*. Newbury Park, CA: Sage.
- Kilman, R. H., Saxton, M. J., Serpa, R., Pitre, E., & Sims, H. P. (1989). Organizational culture. In J. W. Newstrom, & K. Davis (Eds.), *Organizational behavior: readings and exercises* (pp. 403–420). New York, NY: McGraw-Hill, 403–420.
- Kormanski, C. (1988). Using group development theory in business and industry. *Journal for Specialists in Group Work*, 13, 30–43.
- Luthans, F. (1989). *Organizational behavior* (5th ed.). New York, NY: McGraw-Hill.
- MacGregor, J., Tinto, V., & Lindblad, J. H. (2000). Assessment of innovative efforts: lessons learned from the learning community movement. Paper presented at the meeting of the American Association for Higher Education, Charlotte, NC.
- Patton, M. Q. (1997). *Utilization-focused evaluation*. Newbury Park, CA: Sage.
- Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Rubin, B. M. (1989). Using the naturalistic evaluation process to assess the impact of DBAE. *NASSP Bulletin*, 73, 36–41.

- Shadish, W. R., Cook, T. D., & Leviton, L. C. (1991). *Foundations of program evaluation: theories of practice*. Newbury Park, CA: Sage.
- Smith, N. L., & Hauer, D. M. (1990). The applicability of selected evaluation models to evolving investigative designs. *Studies in Educational Evaluation*, 16, 489–500.
- Thompson, L., & Herman, S. (1996). Emergent design: understanding and evolving measures of a family support system. *Evaluation and Program Planning*, 19, 235–252.
- Weiss, C. H. (1998). *Evaluation: methods for studying program and policies* (2nd ed.). Upper Saddle River, NJ: Prentice Hall.
- Whyte, W. F. (1989). Introduction. *American Behavioral Scientist*, 32, 502–512.
- Whyte, F. T., Greenwood, D. J., & Lazes, P. (1989). Participatory action research: through practice to science in social research. *American Behavioral Scientist*, 32, 513–551.