# CHAPTER 20

# **Developing a Community** of Practice

Learning and Transformation through Evaluation

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n July 2002, Pasadena City College's (PCC) Teaching and Learning Center (TLC) launched .XL, its new summer bridge/first-year experience program. One afternoon, a week before the start of the program, 60 recent graduates from local Pasadena, California, high schools wandered apprehensively into the center for the prebridge orientation. Many arrived late; the vast majority of them came without their invited parents. Generally, the clothes were extra baggy for the boys and extra tight for the girls. Few had ever set foot on a college campus. After 12 years of schooling, all had placed into the lowest levels of precollege-level math and English.

Into the evening, the .XL program director, counselors, instructors, and instructional aides worked to help students register for classes; fill out long, complicated financial aid forms; and get their student ID cards. Along the way, they tried to solve problems: Who doesn't know their social security number? Who doesn't have a social security number? Who forgot to bring a

pencil? Who can't attend the first day of class because they have to look after younger siblings? Who will have to leave early because of work?

After the .XL program orientation, a member of the TLC external evaluation team from Claremont Graduate University (CGU) who had observed the event led a debriefing. The .XL faculty thought, what have we gotten ourselves into? Clearly, helping nontraditional college students make a smooth transition from high school to college and stay and succeed in school would be a challenge requiring a flexible, creative, and well-informed process.

Guided by evaluative inquiry, the TLC team embarked on a path of learning and transformation. Along the way, the team would learn about young, urban, minority students, how they define academic success, and how easily so many accept failure. The team would also discover how inadequately prepared many community college faculty members are to teach underprepared students and how difficult it is for faculty to transform their

attitudes and practices as they relate to teaching and learning. With experience, expertise, and systematic inquiry, the TLC has created a cohesive set of successful learning community programs, including .XL, to address the needs of low-income, traditionally underrepresented students who come to PCC profoundly underprepared for college.

The goal of this chapter is to offer a case exemplar of evaluation for learning and discovery in response to a transforming U.S. urban educational environment. We hope to illustrate an approach to evaluation in a culturally diverse context with marginalized student populations that has implications for an increasingly globalized society. We describe our experiences as a participatory evaluation team and how evaluation has been used to guide, shift, and direct program refinement, improvement, and development. When our collaboration began almost 8 years ago, we did not anticipate that the program would evolve into an expanded yet more focused learning community initiative, guided in large part by information yielded from the evaluation. The program and its evaluation that we describe in this chapter serve not only as a example for the state of California but also for other regions (both national and international) that are grappling with issues of equity and access to higher education and the preparation of marginalized groups for active participation in a knowledge-based society.

There are several ways in which we could share our story of the development of PCC's TLC program. We have chosen to first describe the theories underlying our work and the alignment of them as a way to understand what drives our process. We then describe four points during the program's development and evaluation process, which we believe have been critical to advancing the TLC's work. These points help describe our participatory process and the impact it has had on our learning and transformation.

#### Introduction

California's community college is, by design, the gateway for transfer to the state's 4-year

college/university system, as well as the primary source for career and technical education for California's low-income, immigrant, and ethnically and racially diverse population. Located in northeast Los Angeles County, PCC serves the multiethnic, urban community of the Pasadena Area Community College District, which has a population of approximately 390,000. It is the third largest single-campus community college in the United States, with a full-time enrollment of more than 16,500. Nearly 80% of PCC students are minorities, 52% receive financial aid, and 47% are the first in their families to attend college. Of all first-time students, 82% are under the age of 20.

Over the past decade, PCC, like the other 108 community colleges in California, has witnessed a steady influx of low-income, first-generation students of color who enter the college lacking the skills they need to succeed academically. During the 2005-2006 academic year, for example, more than 68% of PCC's entering students placed below college-level composition and 89% below college-level math. Approximately 40% of students enrolled in precollege (sometimes referred to as "basic skills" and is equivalent to preteen coursework) math and English courses earned a D or an F or withdrew. First-time students under the age of 20 are the least likely to succeed in precollege courses, and success rates within this age group are dramatically lower for African-American and Latino students. As the world's seventh largest economy, such low persistence and success rates are alarmingly troublesome and potentially disruptive to California's social harmony, economic stability, and workforce readiness, and to developing and maintaining a leading role in the growing knowledge-based economy in the United States and beyond.

# PCC's Teaching and Learning Communities Program

Faced with the challenge of educating the growing number of students entering PCC at the basic skills level, the overrepresentation in this group of minorities, and the depressingly low

rates of retention (remaining enrolled in a course), success (receiving a grade of C or better in a course), and persistence (remaining enrolled in school) for this group, the college sought external funds to develop innovative strategies to address the serious issues faced by precollege students. In 2000, PCC was awarded a 5-year, Hispanic-Serving-Institutions Title V grant from the U.S. Department of Education, which included funds for a TLC to house a computer lab and staff and counseling offices, new student and faculty development programs, and internal and external evaluation.

The primary focus of the Title V grant was the establishment of learning communities: student-centered environments that emphasize collaboration and interdisciplinary and theme-based instruction. Learning communities have gained popularity among postsecondary educators during the last two decades for their ability to engage students and faculty in the learning process and because of their promising results among at-risk, underrepresented college students (MacGregor, Tinto, & Lindblad, 2000). To begin, TLC staff, composed of a program director, an administrative assistant, and a counselor, developed and piloted simple learning communities (e.g., paired courses) in the first year of the grant. Guided by careful study and evaluative inquiry, the TLC program has been refocused<sup>2</sup> and has grown to include two versions of an intensive summer bridge program (including .XL) and a much less intensive 3-day college orientation; career-focused "pathway programs" for the health professions, art/design, and business; a transfer program for traditionally underrepresented students in science, technology, engineering, and math; and a faculty development program. The TLC staff now includes three program directors, one full-time and one part-time counselor, a lab assistant, an outreach and recruitment coordinator, and four student interns. TLC activities are currently supported by the U.S. Department of Education, the National Science Foundation (NSF), and two separate private partnerships, one with the Hewlett Foundation and the other with the Irvine Foundation. Total funding for the TLC is now approximately \$3.5 million.

# Theoretical Underpinnings of the TLC Program and Evaluation

TLC staff attempt to understand the issues surrounding learning communities by drawing on the work of Wenger (1998), Lave (1996), Rogoff (1994), and others, who view learning as a process of social participation. Participation refers to engagement in certain activities with certain people, as well as a more encompassing process of being active participants in the "practices of social communities and constructing identities in relation to these communities" (Wenger, 1998, p. 4). Wenger defines three dimensions of community as they pertain to learning through practice: learning occurs as individuals engage in activities whose meanings are negotiated within the community (mutual engagement); practice is the result of a collective process, defined by members involved in the process (joint enterprise); and practice develops resources, including routines, stories, symbols, and concepts for negotiating meaning (shared repertoire).

In applying these theoretical notions to practice, a challenge for the TLC program and evaluation team has been the traditional and individualistic view of knowledge and learning that continues to be supported by Western institutions of higher education. Lave (1996) argues that such traditional beliefs about learning reinforce the sociocultural categories that divide teachers from learners in schools and run counter to the "crucial ways in which learning is fundamental to all participation and all participants in social practice" (p. 157). Few U.S. community college faculty members have been trained to teach, and few expect, once hired, to transform their teaching practices by collaborating with their colleagues and students. Therefore, as the TLC program evolved, it became increasingly important for program directors and staff to develop opportunities for themselves and faculty to negotiate an understanding of their projects and students. Likewise, it became evident to the evaluation team that we too would have to form a community and collaborate to align our practices with those of the communities of teachers and students we were evaluating. During this process of learning and discovery, new ideas and projects would emerge.

Allowing program and evaluation activities to emerge in response to the needs of the context is a core principle of the TLC learning community model. A helpful theory for gaining an understanding of emergent design and its relationship to process is Gray's (1989) notion of negotiated order, which refers to a social context in which relationships are negotiated and renegotiated and where 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" of collaboration, as well as interdependence, joint ownership, an understanding of differences, and shared responsibility. From the outset, TLC program managers have worked to help all participants understand that collaboration is a 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. From a sociocultural perspective, this process is essential to the formation of knowledge and learning (Brown & Renshaw, 2000).

Programs that are intentionally designed to emerge or develop over time require evaluation that is flexible and responds to the evaluand as it develops. In the context of the TLC work, a developing program prompted the need for an evaluation that is participatory (Cousins & Whitmore, 1998) and emergent in nature. Our evaluation is designed to foster learning and change, which in turn initiates the development of new program and evaluation activities. The constant influences that the evolving program and evaluation have on one another are intended to create a dynamic, iterative process. The emergent participatory evaluation framework used to

guide our evaluation process is most similar to what Smith and Hauer (1990) refer to as investigative, emergent design process evaluation. Here, the emergent design is one in which an understanding of the evaluand and its context continues to develop as the study progresses, and the study design continues to transform as a result of these changing understandings.

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 contain specific objectives, budgets, and deadlines, all of which encourage a linear, step-by-step approach to program implementation. Yet some program managers—as in the case of the TLC program assume that, as time passes, projects will evolve, participants will change, and funds will have to be adjusted to support those changes. This evolving nature of emergent programs often requires continual renegotiation of program processes and participants' roles, which influence and change the scope of the evaluation, the measurement of evaluation questions, the standards to measure data against, and the information that is reported.

Because it can be difficult for evaluators to understand and adjust to subtle (and sometimes obvious) program changes, stakeholder participation is a critical part of a successful emergent evaluation design. The notion of participation, and the identities that are revealed and transformed in the process, is central to the theories of communities of practice and the work of Lave and Wenger (1991). Through numerous levels of participation, Lave and Wenger believe that the identities of learners form trajectories that can be inbound, leading to full participation—developing an identity as a member of a community and becoming knowledgeably skillful; peripheral, leading to limited participation; or outbound, leading to nonparticipation. "[T]he term trajectory suggests not a path that can be foreseen or charted but a continuous motion—one that has a momentum of its own in addition to a field of influences" (Wenger, 1998, p.154).

Participation among students, teachers, grant managers, and evaluators has been an important feature of all TLC projects and is essential to the measurement of learning. In a participatory evaluation, the roles and interactions of those involved are defined, but participation in evaluation processes as a whole is not prescribed. Fully active participants are referred to as pacers (Wenger, 1998), and their attitudes and behavior are noted by program staff and evaluators, who look to them to set standards, innovate, and transform programs and projects. Increased participation offers team members an opportunity to develop and shift roles during the evaluation process, allowing for new leaders to emerge while previous leaders transition to advisory or consultative "teaching" roles.

The TLC program and the evaluation team's work offer many examples of this kind of learning and transformation. As an example of a student pacer, a former .XL student who transferred to a 4year college continued to participate in the program by serving as a summer bridge tutor/mentor for 2 years and now, after graduating with a BA, oversees the TLC student follow-up data-collection activities. As an example of a faculty pacer, an English professor who taught in the TLC program for a year became coordinator of the .XL program and is now principal investigator for a large federal grant, where she oversees all grant evaluation activities. Although these two team members are obvious pacers, it is important to note that neither one of them would have ever identified themselves as an "evaluator" prior to participation in our work. Indeed, this highlights the power of the learning and discovery that can result from an emergent, collaborative, and participatory program development and inquiry processes.

#### The Evaluation Team

The Title V grant, which created and supported the TLC program and Center, included funding for both internal and external evaluation activities. Internal evaluation activities were to be carried out by the college's Institutional Planning and Research Office (IPRO). However, like many other community colleges, PCC's IPRO was unaccustomed to providing internal programs with evaluative information. Rather, IPRO staff members were primarily responsible for providing descriptive data to college administrators for planning purposes. With this is mind, the external evaluator from CGU served as the lead on TLC program evaluation activities.

During this early stage of the evaluation, the TLC evaluation team's primary members included two IPRO research analysts, the external evaluator from CGU, and the TLC program director. As expected (and desired) in a participatory emergent evaluation, the team has evolved over the past 7 years—new members have joined the original team, some have evolved into leaders and others peripheral participants, and others have left. For example, the English professor exemplified previously as a TLC pacer (i.e., a fully active faculty participant) is now a highly active evaluation participant. A CGU graduate student research assistant joined the team soon after the start of the Title V grant and over time emerged as a lead evaluator. One of the original research analysts from IPRO left her position at PCC but has continued to work as a consultant to the evaluation, shifting from a core to peripheral team member. The lead external evaluator and TLC program director (and authors of this chapter) have continued to serve as the team's core participants.

From the outset, we have convened regular evaluation team meetings that both core and peripheral members attend. Our first team meeting agenda included a general discussion of grant evaluation requirements for the TLC's Title V award. It was at this early point in the process, prompted by the external evaluator, that team members began to negotiate a shared understanding of the evaluation, the context in which it was taking place, the roles each could and should play in the process, and areas of individual and shared interests and expertise (Fitzpatrick, Christie, & Mark, 2008).

Our regularly scheduled evaluation meetings have been critical to the practice of the community and have provided opportunities for

multigenerational encounters: Experienced, competent members guide and help integrate new members into the community through the social process of shared learning. Because each team member brings different strengths to the evaluation, it is critical that each feel comfortable enough with the others to ask for suggestions or clarification when necessary and to offer the same in return. Beyond opportunities for support, these meetings allow for discussions about evaluation practice. During these meetings, the evaluation team members assign and accept individual and shared tasks; report their progress; collaborate on writing and disseminating reports; reveal new insights; form new ideas; and transform their roles, identities, and participation within the team. The meetings foster a learning community among the evaluation team members. They guide the evaluation practice and allow team members to come to new understandings about evaluation and the program.

Obviously, team members participate in evaluation-related activities beyond the team meetings. Our evaluation team has embraced Cronbach's (1963) reasoning for the implementation of small studies that can be linked together to understand the overall program. Cronbach argues that, rather than conduct one large evaluation study, evaluators should "conduct several small studies that are programmatically linked, most being rapid efforts with only modest yields but that contribute to better questions and more refined designs in later studies" (cited in Shadish, Cook, & Leviton, 1991, p. 338). In the context of the TLC evaluation, most often the evaluation questions that guide each of our smaller studies are generated by the core team members, but are designed and carried out by a subgroup of the evaluation team. Consensus must be reached around each study focus and design. Then different team members take responsibility for leading the implementation of each study; responsibilities include identifying and developing instruments for data collection and reporting findings, all of which are overseen by the lead external evaluator.

The team also collectively presents evaluation findings, in both written and verbal modes. For example, findings are periodically reported to PCC's Board of Trustees, Executive Committee (College President and Vice Presidents), Academic Senate, program sponsors, and other audiences. A process has emerged in which external evaluators write long, in-depth evaluation reports, with executive summaries, which the project director shortens (retaining the integrity of information in the longer report) for dissemination to different stakeholder audiences, including the College Executive Committee, grantors, and other community college learning community program participants. These activities, along with the day-to-day evaluation work, have provided team members with an opportunity to be involved in the evaluation in many different capacities.

A final important feature of our evaluation learning community is the open and honest environment we have strived to cultivate. When discussing program shortcomings and strengths, no individual personalizes an event, nor does the team attribute a success or failure to any one member. The team shares responsibility for its successes and failures in a receptive and candid fashion. Open communication allows TLC team members to question, prod, and challenge one another, all of which have led to increased learning and transformation.

# **Critical Events in Program and Evaluation Development Process**

There are many points during the program and evaluation development process that we can identify as important learning opportunities and experiences. On reflection, four events stand out as critical to advancing the TLC's programs and evaluation. We have chosen to discuss them as a way to illustrate our participatory process and the impact of this process on learning and transformation. These four events are: (a) the development of the .XL summer bridge/first-year experience program, (b) an evaluation

study focusing on various levels of program participation in relationship to program outcomes, (c) a logic modeling/program theory development process, and (d) the planning for a randomized control trial.

# Critical Event 1: .XL Program Development

Prompted by less than promising preliminary data on the impact of paired courses on student learning outcomes and attendance at the 2001 Annual Learning Communities Institute, a group of TLC staff and faculty created its most complex learning community model, .XL, a 6-week summer bridge and two-semester first-year experience program targeting Latino students recently graduated from local feeder high schools. The team's decision to take this ambitious step reflected their desire to respond to the needs of the growing number of young, underprepared students entering the college and the team's belief in the power of learning communities to engage students and faculty in the learning process. The decision to create .XL was also evidence of the team's growing competence in the areas of program design, management, and evaluation.

Although common at 4-year institutions, summer bridges and first-year experience programs have only begun to appear at community colleges in the past decade as a means of addressing the serious issues that underprepared students face. Briefly, summer bridges provide opportunities for college orientation, community building, networking, and academics. Generally, first-year experience programs (also referred to as freshman interest groups) are learning communities that link two or more courses required of first-year students. The TLC's model has evolved into an intensive math and study skills program in the summer; math, English, and counseling in the fall; and math and English in the spring. At the time of this writing, the .XL program was launching its seventh cohort.

Since its inception, .XL program implementation has presented challenges for the staff in

several areas, including high school outreach and recruitment, program and curriculum design, scheduling and room assignment, and faculty development. The process of overcoming these challenges has led to powerful learning opportunities and has transformed the .XL program. For example, new learning outcomes for specific courses have been developed, the number of essential course concepts has been reduced, and the revised math curriculum is application-based. A transformation of .XL has led to three summer bridge variations and a 5-year program funded by the NSF.

.XL students dominate the TLC; for many, it is their home away from home. Their strong level of comfort, intimacy, and participation in the center's student support and extracurricular programs have helped us study and better understand their behaviors and attitudes in ways not possible in a typical college classroom setting. We began to learn about .XL students' high school experience (through a survey administered on the first day of program participation), their teachers' low standards and expectations, their inability to identify academic challenges, their notion of success as retention (e.g., I didn't drop out of my math class) rather than achievement (e.g., I earned a B in my math class), and their financial struggles. We also have grappled with barriers to success that stretch beyond the program's design, such as homelessness and gang violence.

The intensity that is often a product of small, longer term cohort programs such as .XL has affected instructors, who often face a class of 30 eighteen-year-olds who are more than willing to disclose personal challenges and issues in the classroom. As a result, .XL instructors have slowly begun to integrate life and study skills into coursework. Their individual "ah-ha" experiences are shared at regularly scheduled .XL staff meetings and have led to their participation in an organized faculty inquiry process designed to help them and their colleagues address the issues raised as a result of working with .XL students. .XL has provoked conversations within and outside of the TLC program about the scholarship of basic skills teaching and learning.

### Critical Event 2: Descriptive Quantitative Studies of Program Impact

Throughout the process of creating and piloting new programs and the learning communities within them, TLC staff relied on regular reports from the college's IPRO on retention, success, and persistence—data available only through this office. These data were required for grant reporting purposes, but the TLC team also wanted to know how the students in their various programs were doing. Most important, were they passing their courses and staying in school? The TLC team recognized that the manner in which IPRO data were being analyzed and presented was limited and, in some instances, misleading. For example, descriptive semester snapshots of student outcomes indicted that .XL retention rates were consistently higher than those of comparison groups, but success rates were inconsistent. These data raised questions such as: Do the data tell us about the program impact or simply about the grading habits of individual instructors? How legitimate are our comparison groups? In an effort to use IPRO's data in a way that would allow TLC staff to better understand and reshape program activities, the lead external evaluator initiated a study using IPRO data and more advanced statistical techniques to examine student academic outcomes longitudinally. We modeled the data using latent class analysis techniques and, for the first time, had an informative quantitative study.

From this analysis, we learned that students enrolled in Future Nurses, the TLC's career-focused pathway program for nursing majors, faired better in terms of success, retention, and persistence than students enrolled in nonpathway courses. The analysis also revealed that success, retention, and persistence rates were higher for .XL students than for their non-.XL counterparts. Although the evidence was statistically significant for both, it was less impressive for .XL students than for Future Nurses. However, this information was viewed in the context of issues related to sample size, statistical power,

and comparison groups. One issue of concern was that we examined only one cohort of nursing pathway students, compared with three cohorts of .XL students. This raised questions about whether we had identified a finding specific to this first cohort of Future Nurses and whether we would see similar results in subsequent Future Nurses cohorts. Another important finding that caused TLC staff to pause, but not change the overall TLC program design, was that paired and "stand-alone" (unpaired) TLC courses that did not include cohorts of students who remained together for more than one semester had no significant impact on student success or persistence.

In the fall of 2006, just 2 years after the initial larger scale quantitative study, the TLC evaluation team asked a former IPRO senior research analyst to provide data about new students at the college who place into basic skills math and/or English, as well as data about TLC students enrolled in a variety of programs. The findings from this analysis confirmed those of the previous quantitative study: The more intense and sustained the intervention, the more likely it is that students will stay in school and succeed. This analysis highlighted the importance of enrolling first-time, underprepared students in precollege math and English courses as soon as possible and, in particular, the benefits derived from enrollment in year-long learning communities, such as the .XL program. .XL students persisted in college at a significantly higher rate than their non-.XL counterparts. When looking at students after successful completion of their initial math course, it was found that .XL students were four times more likely to succeed at the next higher level than their non-.XL counterparts.

Findings from this second study were not as strong for the pathway program, Future Nurses, as they had been in the initial study. Although the program was still found to increase success, retention, and persistence rates, the data for the .XL program showed a much stronger relationship between program participation and overall student success. In addition, the study once again

found that "stand-alone" TLC courses had no effect on student success. At this point, the evaluation team encouraged the TLC staff to consider focusing solely on summer bridge, first-year experience, and pathway programs. With little resistance, TLC staff members reduced standalone course offerings significantly and have contemplated eliminating them all together. There is concern, however, for the potential resistance from faculty, academic deans, and administrators on campus who may perceive such a program change as "scaling down," rather than refining and focusing the program.

These quantitative studies helped the TLC team redefine how we determine success within the TLC programs. Specifically, we now consider how well students do after a particular course, rather than how well they do in the course. In addition, data provided evidence for reshaping TLC programs and redirecting resources to expand summer bridge and first-year experience programs.

### Critical Event 3: Developing an Overall Program Theory and Logic Model

In 2004, as the TLC staff neared the end of their initial 5-year Title V grant, they sought and received funds over a period of 2 years from two new federal sources: Title V Cooperative (a collaboration with another postsecondary institution) and the NSF, and two private sources: the Hewlett and Irvine Foundations. These grants have kept the TLC program financially secure for several years and provided the staff with opportunities to continue to develop the career pathways in nursing, teaching, art/design, and business; target different types of students (e.g., science, technology, engineering, and math majors); and make use of external resources, such as statewide consortia of educators and advocates of precollege students at community colleges. In addition, the transition from one funding source to several was accompanied by a reorganization within the college that placed the TLC programs under the direction of the

college's Office of Academic Support. These changes were observed and monitored by the evaluation team. What impact were these new grant projects having on the TLC's short- and long-term goals? How would the administrative reorganization affect the TLCs' efforts to reach more students and transform departmental and institutional practices?

Recognizing the TLC's growth in size, scope, and vision, the lead CGU evaluator initiated a program theory and logic model development process that included two TLC program directors, the TLC counselor, a CGU graduate student research assistant, and, from time to time, PCC's Assistant Dean of Academic Support. The group's goals were to summarize each grant's objectives and identify overlap among them so to develop a new, cohesive set of short- and long-term outcomes for the TLC, consolidate resources to strengthen and expand those TLC programs and services that evaluation data had identified as positively impacting student success, and develop a "road map" that the college could use to transition from grant-funded "boutique" programs to enduring institutions that are deeply woven into the fabric of educational policy and practice. In addition, evaluation findings had taught the team that just as PCC students are underprepared, so too are many PCC faculty. For that reason, sustained, cohesive, and intensive faculty development would be integrated into the program theory and logic model.

During the college's winter intersession, the group met weekly in a small classroom; each session ended with a whiteboard filled with multicolored bubbles, lists, arrows, and lines. The lead evaluator, her graduate assistant, and the two program directors questioned one another about past experiences, lessons learned, program changes, and future goals, all of which demonstrated their individual and collective learning. Their responses shaped decisions and would determine the direction the program and the college would take for several years. Relying on the findings of the two quantitative studies, as well as years of CGU evaluation reports on the psychological, social and behavioral impacts

of TLC programs, the members collaboratively developed a vision of the TLC program that included an array of summer bridges (of varying intensities, including .XL), first-year blocks of classes, and second-year career pathways leading to certificates or transfer. This process and the resulting product(s) continue to serve as a reference for discussion about TLC programs and the evolving vision of how the TLC can better address the needs of underprepared community college students.

## Critical Event 4: Designing a Randomized Controlled Trial to Test Summer Bridge Program Impact

The TLC currently has two substantive summer bridge programs, .XL and Math Jam. .XL is a 6-week program in which students attend school from 9:00 a.m. to 3:00 p.m. 4 days a week. They attend an intensive remedial math course linked to a math study skills course and engage in counseling activities designed to provide an orientation to the campus as well as college life more generally. Every Friday, students participate in community-building activities, including field trips.

Questions about the cost-effectiveness of the .XL program have emerged over the years, including whether the college should commit institutional funds to support such a program after grant funding ends (institutionalization, as it is called). Prompted by evaluation data that have identified the three-level, precollege math course sequence as the primary "gatekeeper" courses for TLC students (and remedial students more generally), TLC program staff pursued funding from the Irvine Foundation to develop a cheaper, shorter, math-focused summer bridge experience, Math Jam, the second substantive summer bridge program. Math Jam is an intensive, no-credit, 2-week program that integrates innovative, application-based math activities with tutoring, college orientation, and community building.

TLC staff also developed a 3-day campus orientation (including financial aid advisement and education planning), supported by the NSF, for new students who are enrolled in TLC fall programs but have not participated in or qualified for either of the two summer bridge programs. The college does not offer new students an orientation beyond its large, campus-wide Welcome Day, so the 3-day orientation is indeed an intervention beyond what new students would receive when entering the college, albeit not comparable to and qualitatively distinct from the TLC's .XL and Math Jam programs.

A question we have yet to answer is the extent to which the .XL program, with its additional courses and extended session, actually increases the likelihood of student success beyond what Math Jam offers students or what students might achieve with a limited 3-day summer orientation, or with no intervention at all. A well-designed randomized controlled trial (Campbell, 1969) is one way to answer this question.

Implementation of a randomized controlled trial will require TLC program staff to first employ new strategies for recruiting students into TLC programs. Previously, students have been recruited for specific programs based on interest. To conduct this study, students will be recruited to participate in "a TLC program," rather than a particular program based on interest, and they will be randomly assigned to one of the four conditions: .XL, Math Jam, the 3-day college orientation, or no summer intervention. An extensive precondition instrument will be administered to all study participants at the time of recruitment to ensure that differences in outcomes can be explained by program participation rather than something else. After participation in the assigned summer program, students will be offered the same first-year course schedule, although students will be enrolled in different classes with different faculty. We examine differences in success, retention, and persistence rates among the groups to identify differences (if any) in the impact among the three summer bridge programs, taking into account the effects of the nested nature of the educational context.

Designing and implementing a study in which students are randomly assigned to a program is outside what PCC administrators and faculty (including some TLC staff and faculty) consider "good" educational practice. By and large, members of the college community believe that educational programs are designed to meet the specific needs of specific students, who are carefully identified and selected for participation. Thus, it has taken careful presentation and thoughtful discussion on the part of the evaluation team to gain the buy-in necessary for us to conduct such a study. It is our belief that the composition of our participatory team, which includes respected faculty, was critical to our gaining permission to conduct a study stipulating random assignment. A lesson from our experience may be that participatory evaluation approaches, which are not traditionally associated with the conduct of experiments, may offer the internal credibility and legitimacy necessary to conduct experiments more smoothly in educational contexts.

Of course, this critical event is distinct from the others previously described because it has yet to happen. Thus, we cannot discuss our learning and discovery processes. We can only suggest that, given the current understanding of the program and the current program context and culture, an experimental approach offers an understanding of program impact that is important and timely.

## Reflections on Learning and Transformation: Process Use as an Outcome of an Emergent Participatory Evaluation

We have observed that creating a learning community by way of a participatory evaluation team has had significant impact on process use. By process use, we are referring to "individual changes in thinking and behavior, and program and organizational changes in procedures and culture that occur among those involved in evaluation as a result of the learning that occurs during the evaluation process" (Patton, 2008,

p. 90). We believe that an emergent, collaborative, participatory approach was necessary because it was consistent with the theory and practices negotiated (and continually renegotiated) by the community of teachers and learners with whom we were collaborating and the TLC staff members who have grown to assume that, as the evaluation process continues, new ideas will emerge and practice will transform.

The theoretical underpinnings of the TLC program include the notions of identity and participation. According to Wenger (1998), "our identities form trajectories, both within and across communities of practice" (p. 154). Within a community, all members have the opportunity to transform their identities and acquire competence as practitioners. The process of negotiation within a community and the resultant trajectory that sets an individual on a path toward or away from full participation are at the core of transformation and learning. We briefly describe several examples of transformation that we believe have occurred as a result of the evaluation process—for the institution as well as for members of the various communities of practice within the TLC program (evaluators, faculty, and students). These examples of process use serve to describe what may result from a participatory, collaborative process of learning and transformation that is guided by systematic inquiry (Patton, 1998).

#### Institutional Transformation

PCC's collective perception of evaluation could be summarized as being a laborious and time-consuming process yielding minimal results. Individuals at all levels of the institution complain about long surveys and reports, which they pile up in great leaning towers in the corners of their offices, hide in drawers and soon forget about, or toss into trash bins. More important, the majority of people at the college are skeptical about evaluation findings and recommendations ever leading to positive transformation of policies or practices at the

institutional, departmental, or individual classroom levels.

During the past 7 years, the TLC program has become an on-campus example of an externally funded program that takes evaluation seriously and uses evaluation for improvement by holding itself accountable and engaging program participants in the evaluation process. We do not want to suggest that the college has dramatically transformed institutional planning or research or the way members of the broad campus community view evaluation. However, we do believe that TLC evaluation has begun to modify the practices of individuals within the college's IPRO and the negative and cynical attitudes of a few key administrators and faculty. Through the actions of the TLC team, evaluation is now viewed by some on campus as a worthwhile activity. TLC evaluation practices, for example, have led to revision of the college's annual Fall Survey, college participation in a nationwide student engagement survey, the use of action research among faculty to develop and evaluate student learning outcomes, and data sharing about precollege teaching and learning with other community colleges in California.

#### **Evaluation Team Member Transformation**

An important example of process use we have observed has been the impact of the evaluation process on evaluation team members. From Wenger's (1998) perspective, "membership in a community of practice translates into an identity as a form of competence" (p.153). The evaluation team collectively has enhanced their knowledge of evaluation (as a process as well as specific methodologies), the college, teaching and learning, faculty, students, and one another. Internal evaluation members have learned to conduct focus groups; they revised several of the college's surveys so that they better capture TLC's student experiences; and they have developed evaluation projects that are designed to inform program improvement.

As a powerful example of learning through evaluation, we point to the 1-year faculty inquiry process initiated and conducted by the TLC codirectors and two prealgebra instructors participating in the TLC's summer bridge and first-year experience program. Guided by an analyst from the college's IPRO, the team developed student learning outcomes and new curriculum and conducted action research. Their process and findings are documented on the Carnegie Foundation for the Advancement of Teaching website, and they subsequently presented their process and findings to audiences on and off campus. Most important, they have continued the faculty inquiry process at the two higher levels of precollege math with several of their colleagues, transformed their teaching practices, invigorated themselves professionally, and become change agents within the math department.

Currently, the core evaluation team leaders are a CGU faculty member, a CGU graduate student, an IPRO analyst, and two TLC program directors. The lead external evaluator (CGU faculty member) has transitioned from her original position as "teacher" and "expert" to that of "advisor" and "consultant." As other team members offer new ideas, this lead external evaluator still provides guidance and oversight but is no longer looked on to implement evaluation activities. The CGU graduate student recently left the team; she became involved through the lead external evaluator, and the team regarded her involvement as an opportunity to expand the evaluation effort, as it was. She initially assisted with data collection and analysis and evaluation reporting, and eventually she became the lead on several smaller evaluation studies. Another CGU graduate student, who previously had a more peripheral role, has emerged to take her place.

At the start of the evaluation, the TLC program director role was mostly that of liaison between the "official" evaluators (i.e., the TLC evaluation team) and "others" (e.g., college administrators). As he has become more comfortable and knowledgeable about evaluation practice, he has moved from being a more peripheral participant to becoming a full, active team member. For example,

he now takes part in data analysis and interpretation. Additionally, evaluators now work directly with "others" and have engaged staff, faculty, and administrators campus-wide at various stages of the evaluation process.

The TLC's first counselor joined the evaluation team voluntarily. Her interest in evaluation and belief that the counselor's perspective should be heard led her to become an important member of the evaluation team. She participated in and contributed to the evaluation in numerous ways. For example, she assisted in the development of several pre-post survey instruments, worked with a consultant and the lead external evaluator to create a student database and tracking system, and worked with IPRO staff on data collection and analysis for end-ofthe-semester evaluation summaries. Her successor has followed in her steps by attending and participating actively in TLC evaluation meetings. Finally, TLC faculty members who have transitioned into administrative positions have also moved from peripheral to full participation in evaluation activities. For example, the principal investigator for the TLC's NSF grant, an .XL math instructor, now attends evaluation meetings and has initiated several course and program-level evaluation projects.

#### **Student Transformation**

Ultimately, the members of the evaluation team look to TLC students to measure the success of TLC programs. In the past 7 years, we have witnessed many examples of student transformation, all of which have helped us learn more about the "TLC student" and have caused us to rethink our notions of their success and indeed our own. Pedro, an .XL student from the second cohort, stands out. Although he was an unusual .XL student because as a high school senior he had been accepted by California State University at Los Angeles (a 4-year bachelor's and master's degree-granting institution) for the fall term, he was similar to his summer bridge classmates in several crucial ways.

Pedro is the son of Mexican immigrants who entered the United States without proper documentation. His father, with only a junior high school education, struggles to support his family but has set a goal for his four children—they will all receive a university degree. In the summer of 2003, as Pedro was planning to begin his studies at Cal State LA, his older brother was preparing to transfer from PCC to the University of California at Davis. However, because of their father's immigration status, neither Pedro nor his brother had access to financial aid; unable to borrow money for school, both boys would have to rely solely on support from the family. Pedro's father asked him to postpone university; he could not afford to send two sons to university at the same time. In fact, he could not afford the expenses incurred by one. Pedro would have to attend PCC, and he would also have to work two jobs to help finance his brother's education.

Also like his .XL classmates, Pedro was in need of English and math remediation. Because he spoke Spanish at home and with his friends, writing and reading in English were difficult for him. In addition, Pedro's high school math education had not been the best. He never had homework, and the exams seemed pretty easy to him. He received respectable grades in math and actually enjoyed the subject, so he was quite surprised when he did not place into college-level algebra. Later, Pedro, like many of his .XL classmates, reported in a focus group interview that, on reflection, he realized his K-12 education had not prepared him adequately for college—not even for community college basic skills courses.

The .XL summer bridge/first-year experience allowed Pedro to flourish. Bright, determined, and mature, he kept his eyes on his goal to transfer despite the fact that working two jobs meant that he could only attend school part time and often did not have time to study or do homework once leaving campus. He quickly became a permanent TLC fixture, visiting the center between classes for tutoring, which helped him get through his challenging English and history courses. When the .XL director offered him a summer job tutoring and mentoring the third

cohort of .XL summer bridge students, Pedro jumped at the opportunity. When a job tracking .XL students by telephone for the evaluation team came up, he grabbed that as well. Before long, Pedro was able to quit his off-campus jobs.

Four years after he entered PCC, Pedro is betatesting the TLC's new student database, tutoring and mentoring .XL and Math Jam students, helping with high school recruitment, and preparing to copresent at a national first-year experience conference. No longer a business major, Pedro is studying psychology at University of California, Riverside, plans to get a master's degree in counseling, and intends to work at a community college. He is also participating in an evaluation study of multigenerational learning among peer tutors and mentors and students in the .XL program. Pedro serves as an appropriate example of how the TLC can offer students an opportunity to access resources and services that help to transform notions of learning and success in community college and beyond.

### **Considerations Beyond** the Classroom

The TLC serves students whose parents are, by and large, immigrants of Latino decent, many of whom have less than an eighth-grade education. These parents have found their way to the United States, only some through legal processes, for increased access to education and economic opportunities for their children. Yet as we have learned, marginalized groups such as first-generation, underprepared college students face challenges both in and out of the classroom that distinguish them from their nonimmigrant peers. The information we have gained through our evaluation work has allowed TLC program staff to refine activities that transpire outside of the classroom to improve the likelihood that students will do well in school. For instance, the TLC program now offers students financial aid advisement, scholarship opportunities, book loans, TLC work opportunities, and, in some cases, lunch. Specifically, such support increases students' social capital by offering them access to tools and opportunities that promote equity and thus increase the likelihood that they will remain in school and, after several years of program persistence, succeed academically and, later, professionally.

Here we discuss the findings of a study we conducted that point to a relationship between TLC program participation and students' adaptation to college, perceptions of the college environment, and levels of acculturative stress—factors outside of the classroom that impact persistence and success in school. We then describe a feature of the TLC program, the computer lab, which we believe plays an important role in supporting classroom activities and helps to promote learning communities on campus and beyond, yet its utilization is not required as part of the TLC program.

# Connectedness to Campus, Adaptation to College, and Access to a Virtual World

Programs such as the TLC play a critical role in preparing multilingual students with dual cultural identities for intellectual, knowledgebased careers. Arguably, this process begins with summer bridges, such as the .XL program. Helping students feel connected to the campus and comfortable among their peers and professors is essential for reaching the TLC's mission of helping students set and achieve academic and career goals. Students' perceptions of the college environment, acculturative stress, and student adaptation to college have been consistently related to Latino student retention and academic achievement (Anaya & Cole, 2001). To better understand the complex interrelated components of what impacts students' attitudes and behaviors in and out of the classroom, the evaluation team conducted a study to assess how TLC students faired on these factors compared with non-TLC Latinos with similar academic profiles (this also serves as a good example of the kinds of "small studies" the team pursues). The goal of our study was to assess the impact of participation in the TLC program among Latino students on noncognitive factors, including:
(a) perceptions of the college environment,
(b) acculturative stress, and (c) student adaptation to college. In previous research, each of these factors has consistently demonstrated the ability to predict Latino student retention and academic achievement.

Data were collected from 132 Latino students; 70 students were participants in the TLC program and 62 were nonparticipants (non-TLC). Students completed the college environment scale, which assessed student comfort with the college, as based on several factors, including their perceptions of support from faculty and belief that minority students are valued on campus. They also received an acculturative stress inventory, which assessed the difficulties associated with adjustment to a new culture. Finally, they completed a student adaptation to college questionnaire. This assessed social adjustment, which is the extent to which students are able to manage the interpersonal/social demands of college, and academic adjustment, which is the extent to which students can handle the educational demands of college. It also assessed personal/emotional adjustment, which is a student's feeling of psychological well-being and commitment to staying in college.

Our results showed that TLC students demonstrated more positive perceptions of the college environment than their non-TLC peers. For example, they were more likely than non-TLC students to feel faculty were available outside of class and that PCC staff were warm and friendly. Students in the TLC program also demonstrated greater social adjustment to college than non-TLC students. For example, they experienced greater general social adjustment, such that they reported greater participation in and comfort with social activities on campus, and they reported greater adjustment to other people (i.e., they report feeling greater comfort interacting with students, faculty, and staff on campus). Although TLC students were more likely to be first-generation immigrants and thus less acculturated than non-TLC students, TLC and non-TLC students reported similar levels of acculturative stress. To summarize, our data suggest that TLC students demonstrated levels of college adaptation, perceptions of college environment, and levels of acculturative stress that tended to be equal to or better than non-TLC students.

There are other benefits to participating in the TLC program that students report as important factors that contribute to their ability to stay in school and help prepare them for participation in a globalized knowledge-based society. TLC students have access to a well-equipped, wellstaffed, technologically advanced, and comfortable computer lab in the TLC center. This is in stark contrast to what TLC students report having in their homes: either no or limited access to late-model computers that accommodate highspeed Internet connections. Access to the TLC computer lab offers students an opportunity to participate in virtual (learning and other) communities with peers, as well as family and friends from their home countries, which we have learned decreases students' feelings of isolation and depression and offers them an opportunity to retain some of their cultural and national identities. It also allows students to complete assignments and conduct research over the Internet, which complements TLC classroom activities, where students are taught to critically evaluate the quality of information obtained from the Internet, a skill necessary for competitive participation in knowledge-based society.

## **Concluding Thoughts**

Taken together, our evaluation data suggest that, without the TLC, it is likely that the students it serves would find themselves, rather haphazardly, out of school and in minimumwage jobs. As we have learned through our evaluation work, it may take many TLC students several years to complete precollege course work. Nonetheless, they have the opportunity to enter pathway programs that focus on

preparing future nurses, teachers, engineers, and scientists. Notably, with only an 18% rate of completion among Latino students intending to transfer into California's large public university system (the 10-campus University of California system and 23-campus California State University system), the TLC also helps to increase the completion rate at PCC, thereby addressing serious issues of access and equity in both higher education and the workforce for Latinos in the United States.

When we began our work, we aspired to develop a process by which the TLC program staff could use the information generated by our evaluation activities to improve program performance and outcomes. We cannot underestimate the power and importance of using evaluation, learning, and educational theories to guide our thinking, actions, and decisions about how to proceed. At the first TLC team retreat, program managers, staff, instructors, and counselors committed themselves to "working together to help one another learn." Our collaborative, participatory, and emergent evaluation approach has provided us with the opportunity to develop the program and the interests and competencies of current and new team members using a process whereby we learn about ourselves and others.

As we build communities of practice . . . we work out our relations with each other and with the world, and we gain a lived sense of who we are. . . . We explore our ability to engage with one another, how we can participate in activities, what we can and cannot do. [A]ll this takes place in the doing. (Wenger, 1998, pp. 192–193)

The core members of the TLC evaluation team have worked together since the early implementation of the initial Title V grant more than 7 years ago, a relatively long relationship compared with other small-scale educational evaluation studies conducted in the United

States. Our work continues with great momentum. We believe our energy, interest, and enthusiasm are due, in large part, to the community of practice we have created. It has led to (a) important discoveries about underprepared, first-generation college students and the faculty who are charged with teaching their courses; (b) appreciation for the power of evaluation as a process and a tool for decision making, learning, and transformation; and (c) respect and collegiality among the individuals within the community of evaluators. A TLC program staff member said in passing one day, "Evaluation feels like a natural part of my work. We make decisions with the lights on—not in the dark."

Only recently have we begun to understand that our work extends beyond our program context. This is evidenced by the attention and recognition that has been paid to our work through invitations to consult and mentor others with similar interests and concerns throughout the state of California, including the Carnegie Foundation, the Chancellor's Office for the Community Colleges of California, and the California State Legislature. With leadership from these groups, the TLC's approach and the principles used to promote learning and discovery in a localized urban Southern California context are now being translated to other environments that share similar challenges related to working with marginalized populations. It is our process of learning and discovery, rather than the specific program interventions or evaluation activities, that we believe has implications for and can be adopted by others globally. What we share with others across the globe is a desire to learn and transform. So long as we stay true to the process of learning through inquiry, the specific practices that emerge to promote transformation will be as diverse as the issues and populations that we each encounter. It is our respect for a collaborative, participatory emergent process that yields effective practices reflecting the values and norms of the community in which they were created.

#### **Notes**

- 1. Title V seeks to improve the retention, success, and transfer rates at 2- and 4-year institutions with student populations that are at least 25% Hispanic, 50% of whom are at or below a designated income level.
- 2. It is important to note that Title V allows grantees to modify program design and delivery as long as the program goals remain consistent with the initially proposed and funded program. This allowed TLC faculty to change the structure and focus of the learning community model implemented during the first year of the grant to a summer bridge program model.

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