Learning, Unlearning, and Relearning:
Lessons from One School's Approach to Creating and Sustaining Learning Communities

By Emily J. Klein

Introduction

A friend recently attended an intensive, two-week marathon painting course in New York City. The course, taught by a well-known artist and teacher, required her to learn about painting in a completely new way, not only in terms of technique but even in how she sat and moved *while* painting. My friend is an experienced and accomplished painter, and though the class, which ran from 9:00 a.m. to 9:00 p.m., was exhausting and all encompassing, she found the experience truly valuable. I asked her if she believed she would adopt the teacher's approach. Her response intrigued me: "No," she said, "I will go back to my work but it will never be the same again; some of what I have absorbed in the last few weeks will now permeate everything I paint."

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While the extreme immersion experience in relearning how to paint did not alter her entire approach to painting, she acknowledged that meshing these new ideas with her original concepts of painting would make her a different painter. In the marathon course she had unlearned her deeply-held ideas about how to see and paint, relearned these concepts as understood by her teacher, and in doing so learned new strategies for painting.

What I found particularly striking in my friend's tale was the ability of extreme situations to transform and instruct practice, a process I suggest involves learning, unlearning, and relearning. A similar transformative opportunity exists from the study of schools that radically rethink aspects of education; close examination of these non-traditional schools, such as The Big Picture [BP] schools described in this article, can help us see our practice as educators in a different light and can challenge our notions of teacher learning. In an era of prolific funding for varied small-school models, there is a growing emphasis on schools that alter the landscape of educational design. Some of these models attempt to redesign schools to place students at the center of learning and provide powerful examples of very different ways of thinking about teaching and learning (some examples include: Ed Visions and Expeditionary Learning Schools). Key to the success of these designs is the ability to build teacher capacity, or the "capacity to produce worthwhile and substantial learning" (Ball & Cohen, 1999, p. 2-3), where the school defines what "worthwhile" and "substantial" learning looks like. Professional development to build capacity becomes central to the mission of the school and can highlight challenges for those attempting to improve capacity in a variety of other contexts.

My two-year research study of BP's professional development in such a group of alternative small schools began with the following research questions:

1. What are the implications of BP's concept of content knowledge and pedagogical content knowledge for building teacher capacity?

2. How does BP design its professional development program for this purpose?

3. How do teachers experience these designs and strategies?

In analyzing emerging data from the study, I noticed each question involved teachers in the process of learning, unlearning, and relearning. By *learning* I refer to building new content and pedagogical content knowledge relevant to the school's philosophy and design. By *unlearning* I mean letting go of deeply held assumptions about what it means to be a teacher, what classrooms look like, what the essence of teaching and learning is. Finally, *relearning* is the process of creating new understandings and behaviors around the same concepts—what it means to be a teacher, what teaching and learning looks like, etc.

The purpose of this article is to: (a) describe BP's philosophy around teaching and learning, particularly as it relates to professional development; (b) examine data on teacher experiences of what it means to be a teacher at this unusual school and of learning, unlearning, and relearning in BP's professional development program; (c) explore the role of professional communities of practice in the process of learning, unlearning, and relearning; and (d) discuss the implications of this data for others engaged in school reform, teacher professional development, and building communities of practice. This organization highlights some of the central

dilemmas of teacher education: How can we better prepare teachers to work in schools that are revisioning the nature of teacher, content, and students? How can we improve instructional capacity in teaching? What kinds of strategies and supports best promote teacher learning?

The Big Picture Company

History

Given evidence of its recent student success, particularly in the areas of attendance, graduation, and college acceptance rates, The Big Picture merits our attention (National Education Summit on High Schools, 2005; Educational Alliance at Brown University; Hendrie, 2004). The organization has its roots in the Annenberg Institute at Brown University and was responsible for creating the first of what is now a nation-wide network of schools (McDonald, Klein, Riordan & Broun, 2003). The first school, The Met,[1] began in 1996 and was created through a bond issue for a new vocational school. Dennis Littky and Elliot Washor, the co-founders of BP and The Met and both prominent figures in progressive education, created a not-for-profit group called "The Big Picture Company," "the goal of which was to encourage, incite, and effect change in the education system" (www.bigpicture.org). With local and state support, they were able to implement a highly unusual school design.

Philosophy and Design

The Big Picture Schools are premised on the idea that students learn best when they are engaged in real work that they feel passionately about. Internships form the basis for curriculum, and students go through the process of engaging in an internship that reflects their passions, with a mentor, while simultaneously building learning plans and projects that align the work at the internship with the schools' learning goals. It is not merely depth that BP values over specific content. Embedded in its philosophy is a fundamental belief in the interconnectedness of knowledge, and that through the exploration of the depth of any subject matter, students will necessarily be forced to learn about a myriad of related topics. Thus, with depth comes breadth. In his recent book Littky (2004) writes, "Many people talk about how difficult it is to implement an integrated curriculum, which is taking the standard subject areas and combining them. This is ridiculous. The *world* is integrated!" (p.29).

The teacher, along with other adults in the student's life (i.e., parents and internship mentors), helps the student create an individualized learning plan. This learning plan is a living document, a product, and a process. It describes what the student's goals are for the next semester based on the five learning goals and questions that help to frame them. The learning goals provide disciplinary frames for how students think about learning (and how teachers think about guiding that learning). They are as follows:

- *Communication*: How do I take in and express ideas?
- *Social Reasoning*: What are other peoples' impressions on this?
- *Empirical Reasoning*: How do I prove it?
- *Quantitative Reasoning*: How do I measure, compare, or represent it?
- *Personal Qualities*: What do I bring to this process?

Finally, students, mentors, and teachers come together to create a project plan. The project is meant to address a particular need that the internship has and should also be tied to the student's passion. Projects are constructed to meet the five learning goals around which BP structures student learning experiences, and they are assessed at four exhibitions spread throughout the school year.

Methods

Embedded within the study of this organization were nested case studies of five BP teachers. The case study approach provided an intimate and complex understanding of the experiences of five people working in an organization that is trying to create an extensive professional development program fostering the vision of the co-creators (Ely, Friedman, & Garner, 1991). This research followed the three central features of a case study as described by Creswell (1998): *bounded* nature, by both time and place; use of *extensive multiple sources of information*; and the importance of *understanding the context* for the case. I selected BP because its unique design, as well as the range and scope of the professional development necessary to support teachers in making difficult changes in their practice, suggested an unusual case. My five participants allowed me to employ "'maximum variation' as a strategy to represent diverse cases to fully display multiple perspectives about the cases" (Creswell, p.120).

The Setting

BP is based in Providence, Rhode Island. Of the six schools in Providence, one is located downtown, and five, four of which comprise a single campus built in 2002, are located in South Providence. South Providence has high rates of poverty and communities with incidents of violent crime and gang activity. The overall student population of the six Big Picture schools in Providence is 24% Caucasian, 42 % Hispanic, 29% African American, 3% Asian, and 2% Native American (http://www.metcenter.org/Documents/theMETBrochure.pdf). Sixty-eight percent of students qualify for free or reduced lunch, 25% commute to school from outside neighborhoods, and 34% live in homes where English is not the first language.

Participants

My teacher participants came from various backgrounds, ethnicities, races; comprised both males and females; and had varying years of teaching experience. For the purposes of this article, both to provide some depth and to illuminate cases of learning, unlearning, and relearning, I highlight the stories of three of those five

teachers at different stages of their careers at BP. Similarities and differences existed between these three and the other two participants whose cases I will not develop here. Of the latter, one, a first-year advisor, found his struggles with classroom management so extensive as to make his story an outlier. The other participant encountered struggles so similar to those discussed as to make her story redundant.

Sarah—Sarah, a White woman in her twenties, came to BP after teaching at a parochial school in an urban area where she felt "completely alone in my classroom." When discussing the most significant influences on her abilities as a teacher, she was quick to highlight her experience with her buddy teacher. Expanding on the source of this influence, Sarah told me that early on:

> a lot of it was him just talking to me before school started and basically any question I had he answered. He also gave me a disk with a lot of his materials from ninth-grade year on it and kind of walked me through a lot of that stuff. In the first couple weeks, our advisories[2] did a number of things together, which took a lot of burden off of me because there were things that he generally planned where his students were helping my students.

Andres—Andres, an African American and Latino man came to the Met after years of work in the private sector. A successful experience as a student in a vocational school sparked his interest in the Met: "The Met reminded me of that because you knew everyone. It was small and you could grow with your kids." Highlighting the amount of learning, unlearning, and relearning required to be a teacher at the Met schools, Andres called past teaching experience a possible hindrance because "it's not your traditional school, it's different, it's so different." Andres also emphasized his sense of learning to be an advisor in community; he reported feeling encouraged and supported in turning to other advisors to help him in any challenges he faced.

Adam—A White male in his forties at the end of his second year as a teacher, Adam came to BP as a researcher and stayed as a teacher. He identified the task of how to create academically challenging, useful projects that serve the student and the teacher well as the primary struggle for BP teachers. He told me:

> It's just really hard to take it to 14, 15, immature, distracted, not academically outstanding students when they arrived here and figure out for 14 different students how to take whatever their internship is, figure out something that will be useful to the internship site, academically beneficial to the student, doable in a ten-week period; how to rely properly on a mentor, and to end up with a product at the end and some kind of reflection on the investigation of the product. It's something that teachers struggle with throughout the four years.

These three teachers faced the challenges to unlearn their understandings of what constitutes content, teaching, and learning. Many BP teachers described the process of becoming a teacher there as "learning to teach all over again," and each

participant in this study referenced the community of teachers they were a part of as a component of this process.

Data Collection and Analysis

The following describes the methods I used to gather data that are "rich in description of people, places, conversations, and not easily handled by statistical procedures" (Bogdan & Bilken, 1998, p.2). They can be broadly described in three categories: written documents, interviews, and site visits.

To gain a full picture of the teachers' experiences, I examined a variety of written documents including curriculum materials, website, documentaries, internal case studies, and other seminal documents, totaling approximately 500 pages. Data sources also included multiple interviews of more than 15 teachers and key staff members. I conducted interviews of five case study participants, four principals, both cofounders of BP, two student mentors, a former teacher, and three staff members. These interviews totaled approximately 38 hours, and 850 pages of transcription. Finally, extensive site visits from 2002-2004 constituted the third main source of data. Site visits included 10 days at teacher rookie camp, three days at the annual conference, 10 days of August professional development, three monthly professional development sessions, grade-level meetings, school teacher meetings, and numerous classroom visits of my five participants. They totaled approximately 31 days on site and 90 pages of field notes.

Overall, I analyzed three categories of data: data that helped me understand how BP's concepts of content and pedagogical content knowledge influence its professional development; data reflecting the organization's professional development designs; and finally, data that highlighted the professional development experiences of teachers in the organization. Analysis of data was ongoing and recursive; as I entered field notes, interview transcripts, and copies of important documents into my field log, I began my analysis by making notes in the margins of my field log, writing analytic memos, and homing in on emerging themes. Development of themes marked my "first efforts to bring interpretive insight, analytic scrutiny, and aesthetic order to the collection of data" (Lightfoot, 1997, p. 185). Once all my data was collected I solidified my categories for analysis with detailed descriptions of what they meant to me (Creswell, 1998; Ely et al, 1991).

Review of Literature

Professional Development and Capacity Building

In most schools opportunities for teacher learning and development have been limited to episodic workshops that, at best, introduced teachers to a new idea and gave them some supportive materials (Ladson-Billings, 1999). Often these workshops involved issues unrelated to teaching and learning. Traditional professional development has rarely looked to the needs or interests of the teachers themselves,

or involved the teachers in the process of their own learning. Much of the writing about teacher change through professional development offers consistent ideas about what makes professional development effective: it takes place over time and it provides teachers with resources and opportunities to practice new ideas. It involves collaboration and addresses "crucial problems of curriculum and instruction" (Wilson & Berne, 1999). It is grounded in content area knowledge and practice as well in the context of particular students and classrooms, and it offers a community to sustain support and learning (Ball & Cohen, 1999; Hawley & Valli, 1999; Lieberman & Grolnick, 1996; Lieberman & McLaughlin, 1992; Lieberman & Miller, 1991; McLaughlin & Talbert, 2001; McLaughlin & Talbert, 2006; Siskin, 1994; Warren Little, 1999; Wilson & Berne, 1999).

Because its philosophy and design require unconventional classroom dynamics and skills, BP has sought to create a professional development program that builds instructional capacity, as defined earlier, to enable its teachers to succeed in its very different environment. For organizations attempting to implement a particular vision of educational reform, developing content knowledge and pedagogical content knowledge are not only integral parts of instructional capacity, but are crucial determinates in the success of their efforts. I define content knowledge broadly, as spanning the "ways that ideas connect across fields and to everyday life" (Ball & Cohen, 1999, p.8), and I use Shulman's (1987) definition of pedagogical content knowledge: understanding the ways that students make meaning of subject matter and constructing ways of helping students understand content. I argue that for BP, building capacity involves learning, unlearning, and relearning, and that it relies on building and sustaining professional teacher communities in order to build capacity of the type described above.

Content and Pedagogical Content Knowledge

Part of what makes being a BP teacher so complicated is the unusual nature of what both content knowledge and pedagogical content knowledge look like at BP. For most teachers, the development of content knowledge involves knowledge and understanding of their particular subject matter. However, BP disrupts traditional definitions of the subject and in doing so requires both unlearning and relearning in these areas. BP builds on the work of many progressive educators, beginning with Dewey, who was interested in how students approach problems that draw on different disciplines, emphasizing the role of project-based learning (Dewey, 1933/1989). In *A Culture of Quality,* Ron Berger (1996) describes his students' involvement in an applied research project on radon in the community: "They can learn skills as they work; and at the end of their semester or year, they'll have more than a grade or a test score—they'll have a published paper, or a set of data that is somehow valuable in the real world. They will understand real-life adult science" (p.10). Berger locates the source of content knowledge beyond his expertise, in students' work with real problems that the community faces. The schools use the community and the work

happening within them as a source of academic knowledge. Similarly, for BP, content is embedded in real-life work experiences, and content knowledge is the knowledge of how those things are embedded (Levine, 2002; www.bigpicture.org).

This understanding of content knowledge naturally has implications for pedagogical content knowledge. Stephen Hamilton (1990) describes the West German apprenticeship model that is "harnessing learning outside of schools to make schools more effective" (p. x). In a description of a class for a group of students studying auto mechanics, he describes how a hands-on demonstration of brake cylinders "drew upon knowledge the apprentices had already gained from their other classes and their work experience, but elaborated and deepened that knowledge" (p. 109). Knowing how to help students "elaborate" and "deepen" the knowledge from their work experiences and helping them learn to pose and answer questions about their work in the community involves pedagogical content knowledge. BP wants to help teachers learn new ways of helping students interact with content, thereby expanding their ideas of pedagogical content knowledge as something that goes beyond content expertise. The role of teacher can be understood as enabling and mediating relationships between students and content. Developing that sort of pedagogical content knowledge is a crucial part of capacity building in BP. Because the notion of content and where it can be located is different, the kinds of pedagogical content knowledge BP must develop are different as well. Successful BP teachers must possess general knowledge and pedagogical abilities that can then be developed into the kind of pedagogical content knowledge needed at BP, including the ability to discern when depth has been attained.

The role of the teacher becomes significant in thinking about BP professional development, as the role of teacher as generalist is dramatically different from that of one in a traditional classroom. BP is trying to change what teachers know and do in the classroom, and its strategies and the experiences of teachers have much to offer others working in school reform who are also trying to make significant changes in these areas. In addition, BP illustrates, for those of us in teacher education, ways of thinking about preservice teaching and learning that can prepare future teachers for experiences in multiple contexts, particularly as teachers face increasingly complex policy environments.

Professional Communities of Practice

Given the enormity of the task facing BP teachers, the organization has created a variety of professional development opportunities that help them in their task of reframing their understanding of teaching and learning. This "enormity" is valuable for researchers because it enlarges the study of something often difficult to see. It puts under a microscope professional development that is a *necessity* to a school design. For the plausible implementation of their design, BP schools *require* teachers who can bring it to life. Professional development for the success of this task must truly ensure the professional understands BP's ideas conceptually, is able to

create strategies and structures for the implementation of these ideas, and provides constant support and community for the teachers engaged in this struggle. They must, in fact, create a community where teachers can and do learn.

Professional communities of practice are one important strategy in building capacity, particularly in developing content knowledge and pedagogical content knowledge (Borko, 2004). McLaughlin and Talbert (2006) define professional communities of practice as places where teachers "work collaboratively to reflect on their practice, examine evidence about the relationship between practice and student outcomes, and make changes that improve teaching and learning for the particular students in their classes" (p. 4). In their book *Building School-Based Teacher Learning Communities*, Milbrey W. McLaughlin and Joan Talbert (2006) have identified the following practices of professional communities: building and managing knowledge to improve practice; creating shared language, vision, and standards for practice; and sustaining school culture.

Here I turn to a deeper examination of some of the challenges faced in creating professional development and communities that encourage teacher learning as well as the possibilities (and limitations) that communities of practice involve. In doing so, I explore some of the particular practices geared towards "joint work on instruction" that may underlie many successful communities of practice (McLaughlin & Talbert, 2006, p. 39).

Findings

The Challenge of Learning, Unlearning, and Relearning in Projects

The unlearning involved in understanding what counts as content as well as the skills involved in teaching content peaks with the development of student projects, the core of BP learning. Part of learning, according to Sarah, involves the need "to see the possibilities," for example, to "know enough about science to be able to help a kid create a project." She described a student of hers who had been working with stained glass. Sarah needed to learn about the "science of stained glass as well as the history and the connection between the robber barons and the growth of stained glass." She needed enough understanding of science to be able to help the student see the science in his work. Knowing what questions to ask was essential to help her student in this project. In order to gather enough basic understanding of the topic, Sarah did online research and consulted other teachers in her school as well as her husband, an architect, who was able to help her with the historical aspect of stained glass. She believed teachers needed to be able to make sense of the connections between the particular knowledge involved in a student's internship and project and the larger disciplinary questions. Teachers also needed to be able to help students make the connections and answer the same questions for themselves.

Part of the learning and relearning challenge for Sarah involved being able to obtain depth in the learning goal areas. Sarah felt that her and most teachers'

greatest struggle with the learning goals involved finding quantitative and empirical reasoning in student projects. Unlike a learning goal area like communication, quantitative reasoning [QR]

> just doesn't even happen. I think the reason that it doesn't happen is partly because most of our teachers are not math oriented and partly because it's really hard to find math in real world work . . . it's hard to find challenging high school level, college level math; and so what ends up happening is that people end up collecting a lot of data and analyzing a lot of data, which is definitely useful and important . . . but I don't know that doing that for four years is really useful either.

Sarah went on to explain that what traditionally happened to fill this particular hole in student learning was that teachers and principals created math or QR "workshops" that were "totally disconnected from 'real world math.'" Sarah worked to be able to help students develop projects with some high-level math. In general she was trying to find ways to have "students represent things algebraically . . . just trying to get them to know how to use a formula to represent an idea." Thus Sarah worked on her own to build her content knowledge and mathematical understanding in order to assuage her concerns about the level of QR in her students' work.

Despite her own efforts at building content knowledge, Sarah felt that she struggled to effectively teach learning goals outside of her background content area. She described feeling weak in the area of mathematics and found this impacted her teaching of QR:

> I think one of the things that would make me a better teacher would be thinking in disciplines outside of English . . . because when I sit down with that student to do percents, both because of the limited amount of time we have and because I never taught math, I feel like I teach them in a pretty didactic, traditional way, which is probably not the best way for the student to really understand it.

Thus, Sarah's limitations impacted the pedagogical strategies, particularly the pedagogical content strategies, available to her when she worked in areas outside her expertise. While it is easy to dismiss these content area weaknesses as products of a school design where teachers are generalists, they are not unlike the concerns (and many experiences) of new teachers in more traditional schools. Given the vastness of content that makes up different subject areas, it is useful for all of us to think about the needs of building our knowledge base.

Growing Pains in the Challenge of Learning, Unlearning, and Relearning

The growing nationwide small-school movement faces a host of challenges in designing effective professional development. Much of the early success these schools find were fostered in the close, informal culture of learning that developed between the founders and original staff members. Their success might have been due to some of the tacit culture that developed in working so closely together to figure out how to make a new school design work. Similarly, in larger, more

traditional schools, small communities of practice around learning content and pedagogy may develop, only to be watered down with attempts to scale up these communities within the school. At the time of this research the growth challenge was particularly acute. The original school had a strong group of teachers who had developed many of the structures and materials key to the organization's growth. They also helped negotiate what actions and beliefs aligned with the philosophy of the organization—what was "BP like" and "not BP like." In such a situation, a good deal of what is known about how to be a teacher and the shared norms that go with that can go unstated. The challenge to professional development is how to formalize the informal, to make explicit what was tacit. For those in the middle of the change the challenges may be daunting.

As Sarah and Andres described their school and their work with staff, a picture emerged of something like a community of practice. Teacher meetings and formal mentoring were just two of the structural elements that suggested a community of practice. At the time of this data collection Sarah and Toby were the two senior staff in the school, and had been teachers before the BP expansion and worked in the original BP school, surrounded by a number of experienced and original staff who would eventually become principals of the new BP schools. They were two of the last teachers to be surrounded by many more experienced than inexperienced teachers. Sarah suggested that both her and Toby's early work with experienced staff involved passing down knowledge—in the form of materials, stories, and modeled activities—and this had contributed to the strength of the team. Later, Sarah and Toby themselves passed down this kind of knowledge to the newer staff, ensuring a continued community of practice.

Most of how Andres learned to be an advisor came from his work with Sarah and Toby, something Andres passed on to Kay, the freshman advisor in his school. In discussing how he and the other sophomore advisor in his school prepared themselves and their students for the important transition from sophomore and junior year, known as Gateway, he told me, "[Sarah] did a great job of just documenting everything so I made sure I did the same thing so if Kay needs it next year not only will she have Sarah's but she'll have mine." Andres' experience being mentored provided him concrete ideas about how to continue his school's community of practice for a new generation.

Seeley Brown and Gray (1995) write that "practice and knowledge is embedded in the community that created it. The only way to learn the practice is to become a member. The best way to access the knowledge is to interact with the community" (p. 4). Sarah became a member, one of the last, in the original Met community and learned much of her craft from the "practice and knowledge" of that community, particularly from her buddy and a more advanced teacher, Toby. Both she and Toby seemed to provide the mentorship they received to the new teachers in the school and establish a community based on the "execution of real work." Sarah and other advisors I spoke with credited their peers with their development as teachers. Their

peers were their first line of defense when encountering challenges, looking for resources, and attempting to develop more rigorous projects and activities for classroom time. For Sarah, any learning she did outside of her school was most useful if she could bring it back and apply it to her immediate community. The community of practice constructed at their school was significant in capacity building for this teacher participant.

In contrast, Adam lost all senior faculty in his school when more experienced teachers were "divvied" up to fill the new BP schools. His story of becoming an advisor stands in stark contrast to the community enjoyed by Sarah and Andres. Adam believed that professional development was "absolutely necessary, very helpful, but not sufficient" in helping new teachers become effective BP teachers. As a member of a small, new school with no senior-level teacher, he did not have much opportunity to see good teaching and have a deep network of helpers (as well as an established infrastructure). Much of how Adam learned how to be a teacher came during advisor meetings, time where teachers "shared strategies, traded info, brainstormed." The strategies they discussed included "how to write a narrative, how to prep and do exhibitions, how to do a trip, where to head when kids are driving you insane, and how to get in depth on projects." These meetings provided important pedagogical content knowledge, particularly for new teachers, for whom every structure is new, enculturating them in strategies for teaching about learning goals during class time, seeing the content in internships, finding ways to develop deeper projects.

One of the strategies used throughout many school meetings was sharing case studies around a particular student and his/her project. Case studies, more broadly, were a formalization of storytelling. For many teachers, storytelling provided emotional support in reminding new teachers that their struggles were not unusual. For this reason, Adam believed that storytelling and the repetition of storytelling brought "new people into the culture through professional development." He defined this culture building as

> getting trained in how to do your junk . . . how you know what to do when situation X arises, how you know how flexible you can be, how you know what a typical level of output is for a ninth grader, how you know that most ninth-grade teachers seem to have had an extraordinarily difficult first year where the student projects, by in large, were not considered very deep. That's all transmitted through meetings and discussions.

The kind of storytelling he described is a form of pedagogical content knowledge: how to know what to do in different situations. Storytelling is a way of developing a shared culture and set of expectations around student work and teacher capacity, a powerful means of informal and formal professional development and of cultural transmission.

Although he was only a sophomore level teacher, Adam also found value in the leadership role given to more experienced advisors of passing down strategies,

knowledge, and materials. It served as its own kind of professional development: "I think that the more experienced staff realize that it's an incredible important way for us to spend our professional development time to be bringing other people into the culture." Adam also found that mentoring "refreshed" his own understanding of the philosophy and got him "stimulated around possible ways to structure projects" and other ways of doing his work in new ways.

Another opportunity for Adam to learn from more experienced advisors came through the development and organization of materials used by some of the earliest advisors at BP. One publication being used at the time was called "The Wiser Advisor," which compiled and published activities from teachers in all the schools on a weekly basis. Adam viewed the Wiser Advisor as a way of creating institutional memory; a resource that could keep advisors from having to "re-invent the wheel." This is significant, particularly in organizations and schools trying to do something different around content knowledge and pedagogical content knowledge. In the current educational climate teachers continue to re-invent the wheel and professional memory is not housed in a particular location; however there are plentiful resources available in multiple places for teachers seeking them. For organizations engaged in school reform, these resources may be harder to find if available at all. BP's attempt to find ways to build professional and institutional memory is important, not only for the success of its endeavor, but significant in how it may be able to inform others engaged in similar enterprises.

The Challenge of Learning from Outsiders

One particular challenge of transferring and growing communities of practice was often manifested in managing the tension between insider and outsider expertise. An overlapping tension that professional development organizations negotiate is the relative value it places on teachers', versus outsiders', expertise, particularly related to content expertise. Professional development often draws on the expertise of outsiders as a means of bringing new knowledge to teachers. Yet valuing outsider knowledge over the contextualized understanding of teachers can be problematic, sending a signal that teacher knowledge is somehow secondary.

The general consensus of those involved in professional development design at BP is that insider resources are the most effective way to improve capacity. In general BP believes that outside experts do not understand the BP philosophy and bring to the table ideas that are decontextualized from the work of the staff. While both Dennis Littky and Elliot Washor acknowledged the role of outsiders in the work at BP and believed that outsiders can play a part in professional development, their statements affirming the role of outsiders were always accompanied by qualifiers about the limits of outside experts. Almost all involved in BP professional development design voiced some skepticism about the role of outsiders.

And yet, in the challenge to learn new content knowledge and pedagogical content knowledge teachers, I interviewed often spoke of a desire to access some

outside expertise. Outsider experts can provide depth of content knowledge that teachers may lack in certain areas, expose teachers to new ideas in the field, and provide ways of perceiving content-area depth in student work. Because its design is so radical many in the organization believe that learning about how to be a teacher can only be accomplished by working with more experienced teachers. However, there has been some push for bringing in outside perspectives, in part because as the schools grow there are many more novice teachers than experienced ones. Mentoring was spread thin and older teachers could not be the sole source of passing down knowledge. Another significant factor in pulling in outsiders is the lack of content knowledge almost all teachers I spoke to described feeling.

Adam believed that a "liberal arts preparation and a teaching certificate" was sufficient in terms of what advisors should come to the Met knowing. Advisors needed "enough content to lead a math group, enough content to lead a book group . . . to correct papers . . . to lead discussions on social issues." He acknowledged that all advisors had "significant gaps." His self-ascribed weakness in history and geography led him to use other teachers when needed:

> Like when I was doing a pick me up and I brought in a Holocaust survivor and that day before I was trying to prepare people a little bit before I showed this cool video about the Holocaust and I was able to pull in Dan and say, hey Dan could you just give a three-minute synopsis of what was going on around World War II.

Adam accepted the inevitability of gaps in content knowledge and knew that he would have to find outsiders to meet those gaps. He believed teachers needed to know how to access multiple resources, "mentors, parents, volunteers, college classes, older students helping younger students." However, he also cautioned that bringing in these resources could result in more work for advisors and they must know how to use them effectively, a form of pedagogical content knowledge itself.

Sarah often wished that more outside people could come and work with the teachers in weaker areas:

> I think you could bring someone in and the best thing that happens are when they lead an activity and the people in the staff development participate in the activity and then they understand that they own it and they can apply it with their advisory. That would be what would help me do something with empirical reasoning or quantitative reasoning which I don't feel that comfortable with.

The aspects of monthly retreats that many teachers found helpful—time for school planning focused on particular areas, and new information related to building relationships with students—had little to do with building new content knowledge. In general, Sarah believed that some of this could come from outsiders, particularly during monthly retreats.

Outside expertise filtered through teachers' practice in other ways. Andres looked to those outside his school as a way of getting feedback on his work and fresh ideas. Outsiders played a role within his classroom as well, and his work with

them was an example of one of the creative ways that advisors had found to involve expert outsiders in a way that served them well. Although he clearly valued the insider expertise of his colleagues, he sought outside experts to provide him with necessary content and pedagogical content knowledge. Andres believed that "one has to be 'selective' with outsiders" but that "most people that want to come in and help the students can be a great deal of assistance in some way, shape, or form."

His own experimentation with outsiders began, in part, with a friend, a doctoral student in chemical engineering at Brown, who told Andres he had taught in a similar school to BP. His friend began working individually with students around the student's particular internship. Andres' friend helped students do more complex work in quantitative and empirical reasoning and Andres also told me his friend "informs me in the sciences." To some degree his outside resource helped his students directly, as well as indirectly, by working with Andres' to develop his own content knowledge. His use of outsiders highlights his role as manager of the learning process. Andres himself was not passing on knowledge of QR to his students; he enabled them through another solution.

One experiment BP, as an organization, made in managing the need for some outside expertise and the challenge of making their expertise useful was the hiring of a QR expert. McLaughlin and Talbert (2006) write that school leadership for improving teacher practice involves "brokering knowledge sources" (p. 58). Carl Hunter, known throughout BP schools as the "QR guy," is an example of such brokering. He describes his role in the following way: "Doc [Littky] . . . wanted me to be a math doctor and I would keep correcting him, no, I do QR . . . I don't want to be a math teacher. I'm not here to solve your math problems, I'm here to solve the problem that's the philosophy of the school and the learning goal." He also adds that "part of my job . . . is to help find the QR when they don't see any." Hunter and other professional development planners at BP have designed an extensive QR program. During workshops offered at monthly staff development days, August summer workshops, Big Bang (the annual BP conference), and during afternoon workshops, Carl designed time to help teachers rethink their understanding of math and QR—a job that involves learning, unlearning, and relearning. For the most part Hunter believes that it is not difficult for teachers to understand the difference between learning goals and traditional school subjects. The difficulty, he found, was not in the conceptual shift or unlearning but how to bring that understanding to the classroom. When discussing what he believed to be the real challenge, he said, "I think a lot of teachers sort of confuse it [QR and math] in their own classes even though they know the difference." Thus Hunter's work as a result of this belief was less focused on the conceptual shift around content:

> We've learned that it's very hard for people to transfer information from one realm to another . . . why we're trying to make stuff so practical here is because a lot of people can learn a lot of abstract stuff, having a salon understanding of how it works in the real world because they haven't learned it in the real world.

Therefore the organization placed more emphasis on designing sessions that help teachers translate the concept of the learning goals to the classroom.

Part of how Hunter builds both content knowledge and pedagogical content knowledge in QR is through scaffolding understanding of the learning goal by beginning with less complicated activities for teachers in workshops. His plan during the first year of implementing QR professional development was to ensure that all ninth-grade classes did budgeting of some kind. Working with teachers he had them perform the activity themselves, building their own understanding of budgeting and QR. This strategy of *learning by doing* is a key design element in BP's professional development. Learning by doing allows teachers "to take the role and perspective of a learner in a subject area and afford them a chance to experience high-quality instruction. These learning opportunities enable teachers to rethink teaching in ways that support their efforts to improve instruction in their classroom" (McLaughlin & Talbert, 2006, p. 66). It is itself a kind of pedagogical content knowledge and runs throughout a number of additional strategies that BP uses to build capacity in terms of content and pedagogy.

The challenge of using outsider expertise to learn new content is a challenge faced by all schools. Teachers frequently resent the way outsider expertise is introduced, as it frequently undervalues teachers' insider expertise. Overall, BP was most concerned with drawing upon the expertise of its own teachers, but the challenges of learning new content did bring about both formal and informal experimentation on how outside expertise could be useful and tailored to the needs of individual teachers and schools. Most importantly, as we think about the implications of BP's professional development for conventional schooling, outside expertise and new content knowledge is *contextualized.* Most new content knowledge for teachers comes through one-shot workshops or from organizations that are not directly related to a teacher's school or context. It may be that BP's experiments can offer new possibilities about how to rethink professional development geared towards learning new content.

Conclusion and Implications

The Big Picture provides useful insights into the challenges of professional development for reform groups because it has recognized how vital professional development is to its success; as a result it has spent considerable energy in designing its current program. Implementation of a successful program, however, is tricky even in the best circumstances; in BP's case the challenges are heightened by its current attempt to scale up. Also, as with any school model that radically redefines traditional modes of instruction, many of the usual tools available to teachers (such as the use of textbooks, curricula, lecture format, and in-class examinations to name a few) are lost. The Big Picture does not value many conventional classroom skills; instead it must rely on its own internal professional development program to make up for those lost tools. Its professional development program must teach teachers

how to teach from the ground up: starting with its re-visioning of content, introducing learning goals, internships, and projects, and ultimately building capacity in these areas. In addition it needs to support teachers in unlearning the traditional notions of teaching and learning they bring with them. This is not unique to BP; a certain amount of unlearning or changing of beliefs is necessary for *any* school reform.

Professional development at The Big Picture is an attempt to formalize the early culture of the organization that was largely *informal*. In the process of formalizing the learning, unlearning, and relearning teachers need to do, BP has had to manage a number of tensions and employs multiple strategies: networking, mentoring, teacher-run meetings, monthly workshops, a QR in house expert, etc.[3] It appears that the comprehensiveness of this program may make it successful, something for policy makers and administrators to keep in mind. Many of these strategies exist in piecemeal fashion in schools now, but the focus on a wide-ranging group of strategies geared towards building teacher capacity and a community of practice separates this group of schools from others. McLaughlin and Talbert (2006) emphasize "complementarity" in professional development for building communities of practice.

In this article I lay out the process of learning, unlearning, and relearning involved in becoming a BP teacher. This process is not unlike the one faced by teachers everywhere in a climate where local communities, cities, and states are trying to define both what makes a highly qualified teacher and figure out means of assessing and measuring highly qualified. The demands on teachers to learn, unlearn, and relearn, more and more require that the model of the isolated teacher be set aside. McLaughlin and Talbert (2006) write, "Because traditions and conditions of teaching push toward autonomy, teachers need a compelling reason to begin collaborating to improve instruction" (p. 41). Teachers are finding and will continue to find that the strains on them to increase equity in the classroom and lay bare their practice are too great to be managed on their own. This is a time when teachers have "a common sense of purpose and a real need to know what each other knows" (Seeley Brown & Gray, 1995). The need, and perhaps desire, for professional communities that support learning, unlearning, and relearning, is growing, and it is an opportune moment to begin building the kinds of communities that we know encourage student learning and achievement. The how is still unclear, but BP illustrates, while not an immediately transferable model, a blue print, perhaps, of how to approach such work.

It is easy to point to the differences in The Big Picture's design that better support communities of practice and dismiss their experiences as too unlike our own to be useful. However, the predicament of teachers in today's classrooms calls for immersing ourselves, like painters, into unknown worlds. These worlds may not precisely overlay with our own, but we may emerge from our experience with new perceptions, having broadened the boundaries that make up our current vision and understanding of what is and is not possible.

Notes

[1] Big Picture refers to the larger umbrella organization and the Met, the group of schools in Providence. However, like the faculty and staff at the Met schools and Big Picture organization, I use the terms interchangeably.

[2] Big Picture uses the term advisor instead of teacher for the purpose of emphasizing the role of teacher as coach in the classroom. For the purposes of this article I use ***teacher*** throughout. However when quoting participants I have left the term advisor for teacher and advisory for class.

[3] For further discussion of BP professional development strategies please see: Klein, E.J. (2005). Theory into practice: Professional development design and implementation in a small high school development project. *Dissertation Abstracts International, 66*(02), 475A. (UMI No. 3166531.

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