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Sociocultural Learning and the Hope for School Change: Participatory Action Research at a Public Elementary School

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Abstract

Educational reform in the United States has failed to adequately account for the complexities of urban schooling. Instead of spurring systematic school change, these oftentimes bureaucratic and authoritarian reform efforts have inspired widespread institutional distrust, which undermines improvement efforts and demoralizes school professionals. Persistent failure of "top-down" reform has fueled the use of democratic or "bottom-up" approaches to more sufficiently grapple with the highly dynamic nature of urban public schools. Participatory Action Research (PAR) has become an increasingly popular inquiry method to facilitate robust and democratic institutional change, whereby university-based researchers and school practitioners co-construct knowledge through a collaborative inquiry process. This 10month case study (2010-2011) employed sociocultural learning theory and the tenets of PAR to examine its implementation at a public elementary school in a major northeastern city. In order to ameliorate a distressing school issue, participant interviews (N=10), school observations (+100 hours), and typewritten reflections (i.e., weekly memos; 100-200 words) captured detailed narratives associated with the evolution, challenges, as well as effective practice of PAR within a university and school partnership. Four interrelated themes of PAR implementation emerged: (1) hopes for the project; (2) vision of team roles; (3) learning through boundary crossing; and (4) boundary object potential.

Urban Education Reform in the United States

Educational reform in the United States has failed to adequately account for the complexities associated with urban schooling (Anyon, 2010; Lipman, 2003). In *So Much Reform, So Little Change*, Charles Payne (2008) asserts: "There is a mammoth disconnect between what we know about the complex, self-reinforcing character of failure in bottom-tier schools, and the

ultimate simplistic thinking behind many of the most popular reform proposals" (p. 46). Instead of spurring systemic school change, these oftentimes bureaucratic and authoritarian reform efforts have inspired widespread institutional distrust, which regularly undermines improvement efforts and demoralizes school professionals. These trends partly characterize a longstanding theory and practice divide in the field of urban education, whereby these "top-down" reforms are often theoretically grounded, yet disconnected from the realities of urban school life. Persistent failure of "top-down" reform has fueled the engagement of democratic, "bottom-up" approaches to more rigorously investigate the highly dynamic nature of institutional change among urban public schools – reform efforts which explicitly strive to bridge the theory-practice divide.

This article contends that *participatory action research* [PAR] (Anderson, Herr, & Nihlen, 2007; Kuriloff, Reichert, Stoudt, & Ravitch, 2009; McIntyre, 2008) is a viable approach to cultivate "bottom-up" reform efforts rooted in school practice. PAR, and more recently, youth participatory action research [YPAR] (Cammarota & Fine, 2008; Morrell, 2004) constitute two significant inquiry-based tools utilized by university/school partnerships to investigate school issues and drive "bottom-up" institutional change (Benson & Harkavy, 2002; Wiewel & Harkavy, 1995). These partnerships tend to cohere around themes or key interests, which reflect extensive knowledge in a specific discipline or field (e.g., urban education, social justice or activism, boys' and girls' development, and in-service teacher education). PAR has become increasingly popular due to its stance on expert knowledge and power differentials among individual researchers. Rather than consider university researchers the source of expert knowledge, PAR aims to co-construct knowledge or "what we know" through a collaborative research process. University-based researchers and school practitioners forge and maintain partnerships to examine key institutional concerns and issues. The PAR methodology explicitly acknowledges how both constituencies bring vital knowledge to the inquiry process, which allows for the emergence of complex insights with greater relevance and applicability to contemporary urban schooling in the United States. The method itself is rigorous, especially given how researchers must negotiate multiple and dynamic processes. The embedded step-wise approach is fundamentally concerned with the diffusion of power and therefore has the capacity to foster democratic institutional change at "bottom-tier" or failing schools from the "bottom-up" rather than the "top-down."

Within a year-long pilot of a university/school partnership, the sociocultural learning theory entitled *communities of practice* (Lave & Wenger 1991; Wenger, 1998) was employed to examine the implementation of PAR at a public elementary school in a major northeastern city. The empirical task was to understand how well the partnership reflected the tenets of effective participatory action research (McIntyre, 2008), which was intended to inform the utility of PAR for urban school change and reform. Integrating the perspectives of university researchers and school practitioners, this 10-month case study (2010-2011; Stake, 1995; Yin, 2010) is comprised of in-depth interviews (N=10), school observations (+100 hours), and reflection-based memos (i.e., 100-200 words). Narratives gleaned from participants largely focused on the partnership's evolution, its effective practice, as well as its core challenges.

The next section explicates the tenants of effective PAR, which served to evaluate the partnership's initial year. The section that follows provides a brief overview of sociocultural theories of learning relevant to analysis. We then detail how the university/school partnership was forged, along with the terms and conditions of the pilot year at the school-site. Expected theoretical patterns (Yin, 2010) were relayed thereafter, with a focus on PAR and partnership processes at the public elementary school. The final section describes our findings and addresses sociocultural learning theory's implications for the interplay of participatory action research, university/school partnerships, and urban school reform.

Participatory Action Research and Sociocultural Learning Theory

Participatory action research not only enhances professional decision-making at urban public schools—tying reform efforts to the complex dynamics or everyday realities of urban school life—but the approach also makes substantive contributions to the empirical knowledge of schooling more broadly (Kuriloff, Reichert, Stoudt, & Ravitch, 2009). This article argues that PAR has significant potential to mitigate the theory-practice divide in urban education; a divide implicated in the "simplistic thinking" characteristic of U.S. educational reform, which Payne (2008) and other scholars lament (Anyon, 2010; Lipman, 2003). University researchers are trained in the theory and method of educational research, while school-based professionals have intimate knowledge of everyday school life. Partnering these constituents to co-construct knowledge for school change provides a scaffold, which facilitates the meaningful exchange of expertise. The final research product is arguably more reflective of the complexities associated with urban schooling, and more applicable to the professional needs of educators.

While the use of PAR has increased, along with its demonstrated success for school change (Kuriloff, et al., 2009), we posit that the promise of this inquiry approach is still relatively unknown and underutilized. This article considers the notoriety of the method, and its further utilization, to be contingent on understanding what contributes to the successes and the challenges of university/school partnerships where PAR is employed with integrity. McIntyre (2008) offers four tenets for successful PAR partnerships: (i) a collective commitment to investigate issues or problems; (ii) a desire to engage in self- and collective reflection to gain clarity on issues or problems under investigation; (iii) a joint decision to engage in individual and collective action, which leads to sustainable and robust solutions, with direct benefits to institutional stakeholders, and; (iv) a building of alliances with researchers and participants throughout the planning, implementation, and dissemination of the research. This framework provides an interpretative lens to evaluate the potential of PAR partnerships to cultivate institutional change. A supplementary analytic framework, however, can aid with determining what might lead these partnerships to effectively bridge the educational theory and practice divide. Sociocultural learning theory has been successfully employed to evaluate knowledge exchange or learning among partnerships with schools and universities (Tsui, et al., 2009;

Tsui & Law, 2007). We integrate McIntyre (2008) with the sociocultural learning theory of *communities of practice* (Lave & Wenger, 1991; Wenger, 1998) to craft a framework with the capacity to thoroughly interpret what makes PAR partnerships effective.

Sociocultural learning theory builds from the premise that learning is not an individual act or phenomenon, but a necessarily social or interactive and iterative process. A prominent sociocultural theory of learning emphasizes what are deemed *communities of practice* (Lave & Wenger, 2000; Wenger, 1998); a setting where institutional learning or the co-construction of knowledge is enacted. Wenger (1998) characterizes communities of practice in particular terms: (a) engagement in a joint enterprise focused on learning or what is considered localized school knowledge; (b) maintenance of mutual and professional relationships, and; (c) use of a well-honed repertoire of interpretative strategies, tools, and artifacts. All institutions, including schools and other learning environments, are comprised of multiple communities of practice. School-based PAR projects ideally strive toward a single community of practice, which builds on the disparate communities of university researchers and school-based professionals.

Communities of practice interact with other communities of practice through processes associated with *boundary crossing* (Akkerman & Bakker, 2011). Tsui and Law (2007) state: "[boundary crossing] involves going into unfamiliar territory and requires cognitive retooling" (p. 1290), and represents a rich opportunity for learning in light of how "[c]rossing boundaries forces participants to take a fresh look at their longstanding practices and assumptions" (p. 1290). PAR seeks to establish a new community of practice by offering significant opportunities for boundary crossing between university researchers and school practitioners: ideally university researchers are brought into the school life of practitioners, while school practitioners enact professional work typically reserved for university researchers. Interaction among communities of practice through PAR can lead individual members to specifically question their professional and personal beliefs, and ultimately inform and modify school practice and research efforts.

Boundary objects, which result from "the process of giving form to our experience by producing objects that congeal this experience into 'thingness'" (Wenger, 1998; p. 58) also play a vital role in the PAR process. Boundary objects are the intermediate and final research products co-created by university researchers and school practitioners throughout PAR processes. Data collection instruments are developed, memos are written, reports stipulating key findings and themes are published, formal presentations are given to institutional stakeholders, and research posters are displayed for regular professional use. These products ideally involve a generative collaboration between researchers and practitioners. The processes associated with generating these boundary objects are a central dimension of the partnership, and drive the learning within the newly constructed PAR-based community of practice. Effective collaboration around these boundary objects can also determine how successfully the PAR process produces research that leads to substantive and sustainable change within schools. Wenger (1998), however, warns how boundary objects can be static

representations of living ideas and stultify learning. In contrast, the creation of fluid boundary objects is what can produce significant changes within communities of practice, as well as the creation of new meditational tools.

Through the lens of sociocultural learning theory, PAR partnerships have noteworthy potential to provide significant learning opportunities for participants that narrow the theory and practice divide, and allows for the establishment of a new community of practice, boundary crossing opportunities, and the production of boundary objects. This 10-month case study at a public elementary school examined: (1) PAR implementation throughout the pilot year of a university/school partnership; (2) engagement of the tenets of PAR (McIntyre, 2008) to interpret and evaluate the partnership's potential for success, and; (3) how the community of practice, the boundary crossing involved, and the attendant boundary objects, contributed to learning that diminished the theory-practice divide in educational research, and reinforced the potential for systematic and substantial change within an urban public school.

The Case Study

University/School Partnership Organization. This year-long case study of PAR was situated within a university/school partnership organization. Since its inception in 2003, the organization has been affiliated with a graduate school of education and a consortium of K-12 schools committed to utilizing PAR and YPAR for school improvement. Organizational staff are university professors and researchers, clinical and counseling psychologists, and doctoral students of education or human development. Each year, consortium schools convene a PAR group typically comprised of university researchers, classroom teachers, high school students, administrators, and other school staff (e.g., librarian, counselor). The task is to collectively: (1) identify a school issue or problem of particular interest; (2) develop a set of research questions; (3) select a research design (e.g., quantitative or qualitative) as well as data sources (e.g., interviews, observations, surveys, etc.); (4) collect and analyze data, and; (5) draft a research report stipulating key findings, themes, recommendations, and the school's action plan. The organizational mission is deeply rooted in the belief that students' perspectives should inform institutional policy and practice, and PAR is a critical tool to rigorously address school issues or problems, and together this process can ultimately bridge the theory-practice divide in educational research and urban school reform.

Case Study Research Design and Analysis. Case studies partly evaluate to what extent theoretical frameworks sufficiently interpret the social phenomenon under investigation. *Pattern-matching* is a common analytic procedure associated with this dimension of case study research (Stake, 1995; Yin, 2010). Data analysis for this article entailed comparing emergent patterns from the data collected, with anticipated patterns from sociocultural learning theory (Akkerman & Bakker, 2011; Engestrom & Miettinen, 1999; Roth & Lee, 2007; Tsui, et al., 2009; Tsui & Law, 2007) as well as the core tenets of participatory action

research (McIntyre, 2008). This approach enables researchers to fundamentally assess *case fit* (Yin, 2010) with a specific theoretical construct, and subsequently refine or enrich theory by examining discrepant data.

Inquiry Focus. The central research question framing this case study is: How does participatory action research lead to school reform by bridging the educational theory and practice divide? From a sociocultural perspective, PAR has notable potential to facilitate experiences among university researchers and school practitioners that indeed bridge the theory and practice divide, and bolster systemic change throughout urban public schools. Communities of practice are established around PAR projects involving multiple university and school-based constituents, which in turn establishes boundary crossing opportunities and scaffolds the co-construction of research products or boundary objects.

School-Site. During the 2010-2011 academic year (September-June), this case study was conducted at a public elementary school in a major northeastern city. There were approximately 650 students enrolled, with a PreK-5 school configuration. Racial and ethnic composition of the student population was 96% Black (i.e., African-American, Afro-Caribbean, African Immigrant) and Hispanic (e.g., Puerto Rican, Mexican, Central or South American), and eight percent of the students were classified English Language Learners (http://www.ed.gov). Ninety-four percent of the student population was eligible for the free and reduced lunch program offered by the school district (http://nces.ed.gov/programs), and Individualized Education Plans (IEPs) were provided for the 13% of students designated in need of special education services.

Partnership Terms and Conditions. Doctoral students affiliated with the university and school partnership organization had a preexisting research consultancy at the elementary school. A key recommendation from this prior research involved establishing communities of practice with diverse participants, and centered on ameliorating school issues, problems, or concerns. During the summer of 2010, the organization's leadership and these doctoral students forged this partnership with the school principal and the school district. The terms and conditions were a 10-month pilot of a PAR project with both school practitioners and university-based staff. The goal was to thoroughly examine a pressing school issue, develop a feasible set of recommendations, and instruct school staff on the PAR process for longterm use. Schoolteachers volunteered to participate in the PAR group after the principal announced the partnership at a faculty meeting. This school team consisted of five schoolteachers (i.e., four males and one female) and four university researchers (i.e., one female and three males). All teachers, except for one, had more than five years of teaching experience. One teacher also held a school administrator role and/or set of responsibilities. The university researchers were all graduate students at a local university, with prior K-12 teaching experience. The university-based research team conducting the analysis for this case study comprised of three males (i.e., including the two authors of this paper) and one female. Both constituencies were compensated for participation and met on a bi-weekly basis to enact all PAR processes and stages.

PAR Topic. Upholding the democratic ideals of PAR, teachers primarily led the PAR group in opting to examine "student anger." This selection process occurred during the first two meetings of the PAR group, which entailed whole group discussion between school practitioners and university researchers. Anecdotal reports of "aggressive" student behavior were mainly provided by teachers, and teachers also generally expressed confusion around key contributing sources to the distressing student behavior. During these initial meetings, contributions from university researchers centered on assisting teachers with developing specific research guestions related to student anger, and what type of inquiry was manageable within a 10-month timeline. After deliberation, the PAR group sought to understand how in-school factors facilitated aggressive behavior among K-5 students, which eventually led to their multiple disciplinary infractions. Other school issues were considered, but teachers viewed "anger" the underlying force across the initial list of PAR topics. Data collection within the PAR project was mainly observational, whereby the task was to compile descriptive school-based accounts of student "aggression" or "anger." A discrete observation tool was developed by the PAR group and utilized during data collection, but due to time constraints and challenges associated with teaching responsibilities, lunch and recess duty, and other school commitments, the group shifted its primary data source to school discipline referrals.

These formal documents of student misconduct, although a convenient yet insightful data source, still proved lacking in the necessary depth to sufficiently address the PAR topic selected. A brief questionnaire was developed by the PAR group to supplement these discipline referrals. Students who received referrals from school adults were required to complete 3-5 open-ended questions, which explored the students' rationale and sources undergirding their school behavior. The academic year ended right at the conclusion of data collection. The PAR group decided to proceed with data analysis and recommendations over the summer months. The questionnaire to date has been added to the school discipline referral process, and the on-going analyses of these referrals were presented at monthly faculty meetings. Through this disciplinary process, school staff hoped to mitigate "student aggression" by modifying school policy and practice, with the ultimate goal of improving student achievement.

Data Sources. This case study (Stake, 1995; Yin, 2010) included school observations of PAR activities (+100 hours; including 15 PAR group meetings: September 2010-June 2011), indepth one-on-one interviews with the PAR group (N=10; June 2011), and reflection-based memos also written by PAR participants (i.e., bi-weekly intervals; 100-200 words in length). Two of the four university researchers in the PAR group spearheaded data collection: drafted fieldnotes during each PAR meeting at school-site (45-90 minutes), interviewed each university and school-based PAR participant (45-60 minutes), as well as managed project completion (i.e., email reminders, instructions, etc.), and the systematic gathering of reflective memos (e.g., GoogleDoc, Excel file). Together, observation fieldnotes, interview questions, and memo writing prompts, specifically focused on participant perceptions of the

PAR process and implementation at the public elementary school. Of distinct interest were research products associated with PAR, the learning and engagement of PAR participants (including themselves), and what "worked well," and what "needed improvement."

All data sources were either audio-recorded or transcribed verbatim by a professional transcription service. Qualitative data analysis software (i.e., Atlas.ti) was employed to code data for both sociocultural and other emergent themes. Sociocultural theoretical categories included: communities of practice, boundary crossing, and boundary object production (Tsui, et al., 2007). Additional themes were sought after to: (1) evaluate adherence to the tenets of PAR (McIntyre, 2008), and; (2) facilitate the emergence of alternative interpretations of PAR potentially obscured by sociocultural themes.

Expected Theoretical Patterns

From a sociocultural perspective, successful university/school partnerships create a shared experience of participating in a community of practice, whereby participants are jointly involved, and use common language and mediational tools to approach the PAR process and address the PAR topic. Research groups simultaneously create a sociocultural context or learning environment for boundary crossing, whereby each participant brings to the inquiry process a set of professional tools, a body of experiential knowledge, and particular cognitive processes; and these individual attributes are further developed through the community of practice. University-based researchers and school practitioners have historically taken different approaches to ameliorate educational problems. Successful partnerships exhibit evidence of both constituencies launching into what is deemed unfamiliar territory, which results in the *retooling* of their own ideas and/or interpretations (Tsui, et al., 2009). There must also be additional evidence of how boundary object production both facilitates and mediates interactions among research group participants. Sociocultural theories of learning furthermore suggest these dynamics associated with university/school partnerships will notably contribute to bridging the educational theory and practice divide, and with the increased applicability of subsequent research and institutional change to urban school life, this co-construction of knowledge may lead to more effective educational reform in the United States.

Similarly, with the tenets of PAR specifically (McIntyre, 2008), if the partnership is successful, or has the potential to be successful, there should be clear evidence of a collective commitment to the inquiry process itself; from issue identification, to the recommendations and the institutional action plan. Research group participants should expect to be fully engaged in the PAR process, and challenged by the group if engagement wanes. The tenets of PAR emphasize reflection, as well as personal and collective growth, whereby the research group should not only strive to maintain clarity around cognitive processes brought to the PAR process by the group, as well as their professional tools and experiential

knowledge, but through reflection on the process and the research group composition, ensure a high level of *knowledge transfer* (Tsui, et al., 2009) and skill development, which would lead to institutional change.

Our PAR Findings

Our case study analysis of PAR, within a university and school partnership, illustrates how sociocultural processes could serve to bridge the theory-practice divide in U.S. education. Central constructs of sociocultural learning theory, however, such as boundary crossing, failed to result in a significant *retooling* of research group participants. These findings indicate a need to complicate or extend sociocultural theories of learning. Our analysis moreover demonstrates how McIntyre's tenets of PAR were not fully evident throughout this pilot year. The theoretical demands to achieve partnership goals were not sufficiently met, yet the PAR dynamics captured provide constructive material and/or critical insights to improve the partnership; for instance, our analysis discretely revealed aspects of the partnership where the tenets of PAR or sociocultural processes were inadequately adhered to, or underutilized.

In this section, we discuss four themes related to the university/school partnership that emerged from our in-depth analysis. These themes include: (1) hopes for the project; (2) vision of team roles; (3) learning through boundary crossing; and (4) boundary object potential. The first theme examines the hopes of PAR group constituencies (i.e., university researchers and school practitioners) concerning what school change could result from the partnership. There was noteworthy overlap among constituencies, but divergent hopes for the PAR project hindered the research group's ability to cultivate a genuine community of practice. The second theme considers the role expectations of PAR group constituencies. University and school-based participants viewed their personal roles, and the roles of other participants, in different terms. These differing role perspectives created further challenges to building an effective community of practice among the PAR group. Participants' different visions of each other's roles undermined a collective commitment to the PAR process, which McIntyre (2008) deems vital for effective PAR engagement. Despite these challenges, significant learning among the research group did occur, especially for school practitioners. The third theme examines how learning among the PAR group evolved, mainly through boundary crossing opportunities provided by the university/school partnership. While some boundary crossing experiences did foster expected learning, others did not lead to significant learning. The fourth theme examines boundary object creation and its potential for school change, along with considering its ability to bridge the educational theory and practice divide.

Hope for the Project

Different hopes for the PAR project were evident among university-based researchers and school practitioners. School-based participants generally described their hopes in relation to explicit school policy and practice changes, while university researchers hoped to co-

construct a tangible product, no matter how limited in scope or impact, which could extend the partnership into the subsequent academic year (2011-12). When school practitioners were asked their hopes for the partnership, such statements were offered:

I hope to be able to say that I was a part of establishing some school culture that was instrumental in helping raise achievement. Aggressive behavior and academic achievement do not go hand in hand... If we target something like [student aggression], we should have, ultimately, high achievement. (5th-Grade, female teacher)

My job is to bring my ingredients and then we see if we can build something that will benefit [the students] more so that the children can achieve more. (3rd-Grade, male teacher)

The goal for me is to actually be part of a team that looks at the information and comes up with solutions, and everything to be data driven because a lot of times we come up with things, but we don't know if it really works or if it doesn't work. So really that is it —to get rid of the cloud to really be able to analyze the information and be able to say this works and this doesn't work. (Male, Dean of Students)

I hope that adults in the school realize that we need to have documentation to effect a change, and the documentation might be a pain in the neck, but we need to see where the problem is. (4th-Grade, male teacher)

Whatever it is that we decide needs to be fixed or worked on or tweaked, [I hope] that actually happens. If we are going to stick with this 'aggression' thing, [I hope] that there are less suspensions or 'pink slips' [i.e., discipline referrals] or whatever tangible thing we want to see. (Male, Dean of Students)

School practitioners framed their hopes in terms of registering concrete institutional change; whether in the form of increased student achievement, altering school staff attitudes toward gathering and documenting data, or mitigating student aggression. The PAR research group was considered a mechanism to facilitate school change.

These statements concerning project goals also illustrate the deep experiential knowledge, informed by extended time in schools and the district, that schoolteachers brought to the partnership. The third-grade male teacher's response was underpinned by a detailed vision centered on how the school change could manifest. This veteran teacher followed the response with a rich description of a school problem he hoped the research group could address through the PAR process: the tendency for schoolteachers and the school district to assume all students were figuratively "squares," when students were "octagons," or another geometric shape. This teacher was markedly concerned with how students possessing different characteristics were treated in a similar manner. He believed student achievement could be greatly enhanced by interventions intended to aid teachers and school district officials with thoughtfully confronting the complexity of urban student populations, and scaffold school efforts to treat student learning at the individual level. This school practitioner

perspective illustrates how teachers both had high hopes for the partnership to produce institutional change, but also had nuanced visions related to how the PAR research group might come to realize these aspirations.

University researchers, however, communicated their hopes for the PAR project by offering impressions of how school change would or could only be incremental, and their fundamental goal for the pilot year was to make sufficient progress with the PAR process, and build and/or expand the PAR project to ensure its continuation and efficacy in the subsequent school year. Both male and female university-based researchers delineated this perspective with statements such as:

I didn't have the expectation that we would make a ton of progress this year... Just a small step I guess – I see that these things go slowly and it's tough to make progress, especially the first time around. (Male university researcher)

I hope that they accomplish something. And that sounds really vague... but I actually mean that... it could be something extremely small... but I think that would be immensely important because I think that one of the things that I find with public schools, and this is coming from my experience as a public school teacher and my experience working with public schools – things are started and initiatives are proposed and when nothing comes out of it, it is very disheartening in a way that almost kills the morale of the people involved. If something comes out of it, however small, then I think it feels like we accomplished something. Because I believe if something comes out of it, it leads to more investment and more work. (Male university researcher)

I would like to have some sort of completion of maybe one cycle [of the PAR process]. (Female university researcher)

Despite a focus on the difficulties of making substantial progress during the pilot year, university researchers were not devoid of positive aspirations for the partnership. These participants offered clear, although tempered, aspirations related to the PAR project indeed leading to school change. A belief in the potential of PAR and the university/school partnership to facilitate institutional change was unwavering, but the hopes of university researchers were rooted in a "small step," or "accomplishing something... however small," which would cultivate "more investment" to enact school change in the first year of the partnership.

School practitioners did not express hope for a "small step" during the pilot year; instead they focused on more large-scale institutional change. These different partnership aspirations contributed to the different expectations associated with school change. While university-based researchers considered incremental steps effective for building the PAR project, these "small steps" frustrated school practitioners who aspired for action plans that could facilitate more systemic change at the elementary school-site. A male university-researcher, for instance, considered the discipline questionnaire created by the PAR group a clear example

of a "small step" toward sustaining project momentum, and continuation into the following school year. A school practitioner, however, stated, "I don't know if we have gotten anywhere to be honest. I love that paper, you know, the [discipline questionnaire] chart, but it seems like we have such a long way to go" (4th grade, male teacher). These divergent perspectives spotlight a difficulty of the research group to accomplish McIntyre's third tenet of successful participatory action research – commitment to action, which leads to a useful and practical solution. This challenge among the PAR group does not undermine their commitment to action – although implicated in the next section to be a 'problem' – rather, these different viewpoints draw attention to whether or not the research group had similar visions of what "useful solution" could emerge from the commitment to action.

These contrasting perspectives associated with what constitutes a "useful solution" also implicate a fundamental level of commitment among the research group to the PAR process. The hopes of school-based participants for systemic institutional change could be presumed to beget full engagement of PAR through the university/school partnership. Both school practitioners and university researchers, however, recognized a general lack of commitment among the research group during the pilot year. Impeding factors were certainly prevalent at the public elementary school (e.g., teaching or other school responsibilities), but school practitioners also failed to understand how some PAR tasks – such as creating a discipline questionnaire, and collecting and analyzing data – contributed to what was hoped to be accomplished through the PAR process, and thus enact institutional change.

These findings additionally challenge how or if the research group reflected a community of practice. University researchers as well as school practitioners indicate how the group neither engaged in a "joint enterprise" (Wenger, 1998), nor completely fulfilled the ideal of a "collective commitment to investigate an issue" (McIntyre, 2008). Shared goals are not required for either of these core features of participatory action research, but the differing perspectives related to aspirations for the partnership could impact the level of commitment to such a joint endeavor. Where university researchers were mainly hoping to make small progress, teachers hoped to generate more expansive change at the elementary school.

Visions of Team Roles

Participants of the PAR research group were asked to describe their individual role and the roles of other participants. University-based researchers and school practitioners viewed their roles differently, which impaired effective PAR implementation and the development of a community of practice. A primary role for school practitioners, articulated by both university researchers and school practitioners, entails the act of representing a school-based perspective – offering the vision of professionals who regularly experience everyday school life. Addressing their role in PAR, school-based participants said:

I think my role is to bring the problems, the concerns, to help facilitate between [the university partner] and [the school-site], but to speak for the community of [the school-site]... To show what we need: the adult's point of view, and bring in what kids have to me. (4th-

grade, male teacher)

My role is to bring in as much information as possible from being on the ground. I have the ability to talk to the people we are researching about. (3rd-grade, male teacher)

University researchers also identified the importance of school practitioner "voice" throughout the PAR process:

They are on-site so they know the people, they know the kids, they know the politics, these are things that we can get a little bit informed in... but you can never really get a full grasp. (Female university researcher)

According to the university-based researchers, a key role of the "voice" of school practitioners involved selecting the PAR topic and providing direction for the PAR research process. A university-researcher stated:

You work with the participants to decide what needs to be changed and they help come up with that and help, to some extent, to design and implement the research. (Male university researcher)

School practitioners also deemed their school knowledge to be a main factor in determining the PAR topic and steering the PAR process at the school-site. School practitioners stated: "It should start out as [school practitioners] giving as much background as possible to kind of drive some of the areas that we need to look at" (5th-grade, female teacher), and "It is [the school practitioners'] job as a group, to decide what we are going to look at." (4th-grade, female teacher)

In contrast, where school-based participants focused on their role in giving "voice" to the school perspective and offering direction for the PAR process, university researchers also focused on how vital it is for school practitioners to conduct a substantial amount of the actual PAR research tasks – an idea that did not appear with comparable clarity and frequency among school practitioners. A university researcher said:

Our model is very much that they are doing a lot of the research. We want them leading focus groups, we want them designing surveys, and there are shades of that in participatory action research, but I think [the university researchers] are very much – they are researchers, they are analyzing data and not just giving their input or helping to direct [the research]. (Male university researcher)

This university-based researcher also stated:

The school team – I expect them to work together to figure out the research question they want to do, I expect them to help develop instruments, and analyze data, and figure out an action plan, and implement it, and look at it... all of the steps, they should be doing most of the work. (Male university researcher)

Additional university-researchers shared:

It just doesn't work if people on site are not heavily invested in working, in my opinion, in every aspect of it, so like, I said, even the data analysis computer work, I think that work has to be shared. (Male university researcher)

The idea that knowledge is created everywhere and that the teachers and practitioners in all fields can do that – that is the heart of PAR to me. The actual participants, the people who are living and working in the site doing research, coming up with the ideas, doing the analysis, using that to come up with new or different practice. (Female university researcher)

University researchers strongly emphasized the involvement of school-based participants throughout the PAR research process. Although school practitioners' descriptions of their roles did not emphasize this role as strongly, they were not fully devoid of involvement in the research process either; their focus, however, centered on data collection. As indicated by the university researcher responses, the school-based participants offered some resistance toward going beyond data collection. School practitioners explicitly stated:

[Our role is] being people here that can track certain things we are looking at. (5th-grade, female teacher)

It is our job as a group to decide what we are going to look at, how to take the data specifically. And I feel like it is our job to take the data, and take it effectively. (4th-grade, female teacher)

Our role is to collect the data and sometimes to input the data... in my humble opinion, I feel as though there should be more individuals from [the university partner] to come to collect the data and to analyze the information to take that load off of us. I know that we want to be a part of it, but when it comes to inputting the data in ourselves, that gets to become problematic because that is another step for a person to take, with a busy schedule. If we could just package it up for someone to just input the data for us, I think it will make it... easier for us to collect the data and process it. (Male Dean of Students)

School practitioners undoubtedly viewed their role as being a representative of the larger school community, as well as using their school knowledge and professional role within the learning context to determine the PAR topic and mainly assist with data collection. In contrast, university researchers emphasized how the role of school practitioners was equal to their own, and such a democratic partnership necessitated collective engagement throughout all aspects of the PAR process. These different role perspectives impeded the research group from more wholeheartedly reflecting the tenets of PAR and a genuine community of practice. McIntyre (2008) argues the importance of "a joint decision to engage in individual and/or collective action" (p. 1). Both constituencies within the PAR group clearly demonstrated a commitment to taking action with the aim of facilitating institutional change at the public elementary school. What constituted "action," however, was different across the

constituencies. School-based participants did not consider their role to involve a comparable level of commitment to the PAR process envisioned by university researchers. These divergent expectations moreover contributed to frustrations communicated by university-based researchers with regard to the level of engagement exhibited by school practitioners. Our analysis suggests that school practitioners may not have fully understood or agreed with the expectations of university researchers. The next section further corroborates our interpretation, and thus illustrates how school practitioners expected university-based researchers to provide more explicit direction or guidance throughout the PAR process.

Both constituencies considered the primary role of university researchers as being the providers of research-oriented technical assistance with PAR processes. However, while school practitioners expected explicit direction related to how to conduct social science research, the university-based researchers expressed concern related to being authoritative with their guidance. These concerns can be traced to theories of PAR and teacher research, which emphasize equality in the partnership and the importance of allowing school practitioners to define the PAR topic and steer the PAR process. Related to group roles, a female university researcher said:

I think of this being a PAR process, as being something that is very directed by the participants. So, I like to be there helping them figure out how to write survey questions, helping them understand data analysis, but letting them do most of it, and answering questions and stepping in where needed. But I am not the primary researcher. (Female university researcher)

University-based researchers are "not the primary researcher" was a prominent perspective held distinctly by university researchers. The following excerpts illustrate how their perspective was steeped in more "academic" ideals associated with effective PAR partnerships, but additionally revealed a challenge experienced by university researchers to balance what is considered their role, and providing technical assistance with ensuring school practitioners direct the PAR process:

I am less comfortable saying this because I know that I am not going to say it in a way that is not going to be correct politically... academically politically correct, is we are there to assist with the research process and to be advisors, almost, on the research process. So how do you conduct research in a way that is meaningful? What is enough data to support whatever you are claiming? What is a good [questionnaire] question versus what is a bad [questionnaire] question? ...So to assist in those logistical aspects of research. Is the best way to get this answer through [questionnaires] Through focus groups...? Through interviews? (Interviewer: So why do you say that you are not saying that in the academically politically correct way?) Because then it implies that, in some way implies that these teachers aren't well versed enough to do that... It almost positions us as these people who are coming in as experts to tell teachers what to do. (Male university researcher)

I guess I see our role as kind-of being facilitators... Anything that we can do to help the process, not because they don't have the ability, or the knowledge, or the skill, but just because they don't have the time or they don't have access to certain things or maybe that they don't have a certain computer skill, say, like, they don't know how to use excel very well. I guess if it was true PAR, you would teach them or you find the one teacher that did know how and have them do it. But I think any kind of facilitating is key. And then maybe where I deviate a little from the pure model is that I do believe that there are various expertises that people can have that can be shared in ways that do not hurt the democracy of [the research process]. (Female university researcher)

School practitioners, conversely, expected the university researchers to provide explicit direction with how to implement the PAR research processes. Various school-based participants said:

The team on the outside, I think their goal is to identify and define what the research is and how it is to be done – the whole logistics of it. (Interviewer: What do you mean by what the research is?)... The topic and how to approach it. (5th-grade, female teacher)

(Interviewer: So any other roles for the research folks?) To guide us, to guide us (Interviewer: What do you mean by that?) You know, to push us in the right direction. You know how you did up that behavioral sheet? (Interviewer: What are some other things we could do to help in that manner?) Maybe we don't really have an idea of what we want the outcome to be? Like, we look at the big picture, but not the nitty-gritty, and maybe you guys can guide the nitty-gritty. You know, like 'we gave you these behavioral sheets, we worked together, they have got to be used because we have got to have the data and that is how we get the data.' But I think you guys... you know, the whip over us... You know, I think our thing was big picture more. (4th-grade, male teacher)

Rather than express concern with university researchers dominating the PAR process, school practitioners appreciated their flexibility with regard to learning particular methods and other aspects of the PAR process:

I think the best thing about having researchers as a team is that... unlike other researchers like: 'this is the box and this is how we need you to put it in,' we would come back and say, 'This one doesn't work' and there was a feedback thing where we would do it and... we've had about three or four different charts. (3rd-grade, male teacher)

School-based participants, however, still suggest university-based researchers should play a more authoritative role in the PAR process; for example, setting interim goals, establishing a timeline, maintain accountability for assigned tasks, and facilitating efficient meetings. Our analysis here reveals how school practitioners anticipated or desired more direct leadership of the PAR process from university researchers. In additional to methods trainings for school practitioners, university and school partnership organizations regularly instruct and train university researchers to permit school practitioner facilitation of the PAR process. Schools

are also generally expected to govern their own PAR projects; these disparate perspectives in our case study, however, implicate the need for: (1) explicit discussion of PAR project roles, and; (2) university researchers must accept more direct leadership over the PAR process.

Learning through Boundary Crossing

Our case study furthermore illuminated how PAR-based partnerships among universities and schools can indeed provide opportunities for boundary crossing. However, our particular analysis of a pilot year with a public elementary school indicates how, in this case, the majority of the boundary crossing, and subsequently the majority of the learning, was experienced by school practitioners. This core finding suggests the university/school partnership had potential for improvement. Effective PAR partnerships create significant boundary crossing for all constituencies involved. While the PAR process can generate empirical research with greater applicability to the everyday life of urban schools, particularly in light of school practitioner involvement, the university researchers should also be exposed to boundary crossing experiences that would compel them to retool prior conceptions of urban education. This learning experience would provide yet another significant mechanism to ensure educational research more sufficiently addresses the needs of urban public schools. Our case study analysis demonstrates how integrating the "voice" or perspectives of school professionals with university researchers was insufficient. Ideally, university researchers should experience boundary crossing at comparable levels with the school practitioners involved with PAR projects, and ultimately achieve the anthropological cliché of "making the strange, ordinary, and the making the ordinary, strange."

School practitioners primarily experienced boundary crossing through data collection and analysis—activities that school practitioners do not frequently participate in during a formal research project. While analyzing "pink slips" (i.e., discipline questionnaire), a 4th-grade male teacher was challenged to retool his conceptions associated with how discipline referrals were handled at the elementary school. Learning how some teachers referred students for infractions such as "not sitting down," he said: "I'm thinking, get outta my face, that cannot, like, I think, 'you [administrators] are making up the stupidest stuff to try to get us to do stuff,' but, when I saw those pink slips, it is like, oh-my-God! They are not kidding!" A 3rd-grade male teacher exhibited retooling conceptions when his analysis of discipline referrals revealed underlying causes to a playground altercation: "I found out, from the research, that there's two students who have been going at it for years. And so now I was able to bring parents in, separate them, and all that, and that fire has never popped up again." Together, these excerpts depict how participation in the PAR research group led to boundary crossing experiences; discrete instances whereby engaging in activities that were not typical of their professional work, the individuals involved were challenged to rethink previous conceptions or ideas, which led to learning.

In addition to data collection and analysis leading to boundary crossing, participation in the research group itself compelled school practitioners to rethink attitudes, approaches taken, and other efforts at understanding school issues. The 3rd-grade male teacher shared his discovery of causes underlying a student conflict by describing approaches he altered to address conflict among students going forward. Participation in the research group generally shifting attitudes toward school issues was also reinforced by other school practitioners:

Just being around people that... well, I guess I just learned some things about research and how you need to – really need to go about picking the thing that you want to pursue. I am more of a person, I just have a general idea of what I need to target and I kind-of go with that, but there were steps taken in order to come up with the things that we actually wanted to focus on and I think that the systematic approach is something that I didn't have before, but maybe is something that I could use in the future. (5th-grade, female teacher)

Have I learned anything? Yes, just through collaboration, for example, when [a university researcher] said to me, you have to collect the data first, and really look at the data, to see what is really occurring. We knew that to be self-evident, however, it is like, you see it, but you don't see it. Does that make sense? (Interviewer: Say a little bit more about that.)... Schools do it all the time, they get programs, but where is the data that is really driving that program, and did you actually pilot that program before you bought that whole entire program for hundreds of thousands of kids? Most likely not, you just go off of what someone else said. (Male Dean of Students)

Collectively, school practitioners considered themselves a part of a distinct PAR project, and through the embedded data collection and analysis, cultivated the rethinking and "retooling" of their past approaches to address school issues. Sociocultural learning theory posits how key learning will result from engagement of boundary crossing within and across communities of practice. Our case study of PAR at a public elementary school was consistent with such theories of learning; whereby learning for school practitioners in particular resulted from PAR-related interactions with university researchers.

University researchers reported learning through the PAR project with school practitioners, but the learning described did not reveal the level of "retooling" experienced by school-based participants, or what could be anticipated from effective boundary crossing. A female university researcher, for instance, said: "There is stuff that I think is, that I think is, I kind-of didn't necessarily learn from this process, but this process helped me see certain things." Additionally, a male university researcher stated: "I hope I have learned something and that I can help direct something different potentially for future work on the project, but I don't know yet." Further responses report learning with a specific focus on how to effectively facilitate university/school partnerships. The male university researcher above extended his response by stating, "I hope I am learning how to work with groups, I love the idea of participatory action research. I want all the research I do to have some participatory component... but I feel like I have a lot to learn about how to come in and do that well, how to, put myself into it." The female university researcher who collaborated with teachers at the school for prior

research stated: "My experience at [the elementary school] has told me that I have to think very creatively about how I involve teachers... in doing work beyond what they are already doing. So adding more tasks, how do you do that in a way that gives them ownership and creates investment from them."

While these excerpts demonstrate a level of boundary crossing – retooling of conceptions related to what school conditions are critical for conducting effective PAR research – university researchers failed to report learning related to the PAR topic (i.e., student aggression), or through data collection and analysis. Boundary crossing opportunities were available for university-based researchers (e.g., bi-weekly research meetings), but our data suggests only limited learning was achieved, and what retooling or learning achieved was related to logistical and political matters of school-based participatory action research.

Sociocultural learning theory was explicitly consulted to interpret such limited learning among university researchers. Each university researcher had prior knowledge and professional experience in K-12 schools, which informed their expectations and perspectives on what could be achieved during the pilot year of a PAR project (e.g., logistical challenges, teacher workload). University researchers were challenged to retool conceptions associated with what could hamper effective PAR research, but these efforts to re-conceptualize were less of a boundary crossing opportunity, given their prior knowledge and professional roles within urban public schools.

Boundary Object Potential

Despite the dissimilar boundary crossing experiences among school practitioners and university researchers, several boundary objects were co-constructed during the pilot year of this university/school partnership (e.g., school observation template, discipline referral form, and the discipline referral questionnaire), and the production of these objects allowed for learning across these two PAR constituencies. To demonstrate the potential of boundary objects for substantive learning, this section spotlights how the PAR research group at the K-5 school co-constructed the school observation template – a prominent boundary object throughout the PAR process.

Once the PAR topic was determined (i.e., "student aggression"), as well as the research design (i.e., qualitative case study), the research group spent ample time deliberating which data sources would provide critical insights with regard to specific research questions; both new and preexisting data sources were considered. The PAR group decided to begin data collection with conducting school observations; the goal was to document or capture descriptive portrayals of student behavior deemed aggressive. A formal school observation template was co-constructed by university researchers and school practitioners in the research group. Observation fieldnotes and reflective memos centered on these co-construction processes exhibited compelling evidence of the boundary object resisting Wenger's (1998) concern with becoming static. The observation template, although formal, given its collective use by the PAR group, was in essence iterative. Several PAR meetings

discussed the on-going utility of the template, and proposed revisions to the template were thoroughly considered and enacted. Fieldnotes and memos additionally revealed how coconstruction processes were authentically collaborative, whereby the prior knowledge and professional skills of university researchers (i.e., empirical research methods) was counterbalanced with the prior knowledge and professional skills of school practitioners (i.e., urban school processes, practices, and politics.). For example, university researchers offered a perspective on what school activity needed to be recorded for the purposes of research rigor and validity, and school practitioners offered a perspective framed by feasibility, despite highly dynamic school conditions.

Production of the boundary object also provided a platform to negotiate competing ideas and interpretations during data analysis, which in large part was concurrent with data collection. Co-constructing the school observation template facilitated boundary crossing, whereby school practitioners had to figuratively enter the world of educational research; for instance, to learn what student behavior was appropriate to document, as well as how to formally document the student behavior observed. School practitioners were trained by university researchers to enact balanced, objective perspectives, which allowed for not only capturing the behavior of more aggressive students, but students who were also theoretically well behaved. The research group moreover discussed how objectivity throughout data collection was critical for school change; for example, if the data appeared skewed to other school staff, the validity and integrity of the PAR project would be compromised, and halt the implementation of proposed recommendations. Boundary crossing was also facilitated for university-based researchers; in order to effectively co-construct the school observation template, university researchers had to figuratively place themselves in the shoes of school practitioners; doing so enabled university researchers to finalize the template in a format most accessible or easily employed by school professionals. However, while school practitioners considered such boundary crossing illuminating, university researchers were less fulfilled by their boundary crossing experience – the demands of school practitioners were generally considered unreasonable (i.e., help with data entry), yet university researchers still regularly contemplated if the demands were appropriate given the conditions of urban public schools. These findings provide evidence of boundary crossing for university researchers, but not significant enough to facilitate adequate "retooling," or at least a comparable level of "retooling" experienced by school practitioners.

Discussion

Sociocultural learning theory contends significant learning will occur when communities of practice facilitate boundary crossing for participants. Such learning environments contribute to a belief that participatory action research, which partners university researchers with school-based practitioners to investigate school issues, can lead to institutional change and educational reform in ways that the complexities associated with urban schooling are more thoroughly engaged – a inquiry stance Payne (2008) considered lacking in U.S. educational reform historically.

This case study illustrates how a school-based PAR project succeeded at enacting rich boundary crossing experiences for particular PAR constituencies. Our data supports the utility of sociocultural learning theory for garnering critical insights related to efficacy of university and school partnerships. Though there were different hopes for the PAR project, and different visions of PAR roles, our analysis delineates how the PAR process led to "retooling" of prior ideas and conceptions – especially for school practitioners.

Furthermore, this pilot year of a university/school partnership demonstrates how PAR can be greatly improved to achieve more substantive learning for the research group, and more effectively bridge the educational theory and practice divide. First, the research group should be clear with what can be realistically expected from and what can be reasonably achieved through the PAR partnership. School practitioners, in our case study, articulated a hope for the PAR project rooted in systemic institutional change at the public elementary school. University researchers acknowledged the potential for school change, but prior PAR-related experiences with urban schools led to tempered expectations, particularly with what could be accomplished during the first year of a PAR project. These perspectives were relatively stark in opposition: University researchers believed the pilot year had met their expectations, while school-based practitioners clearly expressed frustrations, such as: "it seemed like we didn't get anywhere." (4th-grade male teacher)

Second, the research group should engage more explicit and on-going discussion of assigned roles and responsibilities throughout the PAR process. Roles were indeed discussed at the outset of the university/school partnership, but our data suggests disparate understandings of these roles across the two constituencies, and these divergent perspectives inhibited a community of practice from being authentically maintained, as well as diminished the full potential of PAR for institutional change to be realized. Regular negotiation of roles and responsibilities among the research group bolsters the collaborative relationship necessary for a successful PAR project. PAR effectiveness hinges on the willingness of school-based practitioners and university-based researchers to routinely examine roles, and reconfigure roles if the PAR process reveals the need. For example, preserving the democratic nature of PAR is central to the inquiry approach, but enabling university researchers to assume a more prominent role in the PAR process may not necessarily compromise the integrity of the method. In fact, given the demands of PAR, and the strenuous workload of urban schoolteachers, this role shift might facilitate a more democratic process by relinquishing teachers of logistical tasks (e.g., data entry), with the intent to engage school practitioners during stages of PAR where their efforts and perspectives are more critical (i.e., data analysis). Our data revealed comparable negotiations – university-based researchers assisted with data collection by reviewing school discipline referrals, drafted interim data analysis reports, and efficiently facilitated analysis meetings. School practitioners expressed appreciation for the assistance, but universitybased researchers continued to question the appropriateness of the assistance, given the PAR philosophy.

Lastly, the PAR research group should strive to ensure boundary crossing opportunities for both school practitioners as well as university researchers. More empirical research is needed to determine what might facilitate boundary crossing across these PAR constituencies, but our case analysis implies more involvement of university researchers in the PAR process (e.g., data collection and analysis) will scaffold boundary crossing. This approach, however, must account for the democratic nature of PAR – more direct facilitation by university-based researchers is a clear threat to this PAR feature. Increased engagement of the PAR process by university researchers, however, harbors a potential to enhance the tenets of PAR described by McIntyre (2008), as well as the co-construction necessary for a genuine community of practice, without significantly jeopardizing the democratic partnership.

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