

perils & promise

Afterschool Programs on School Territory

by Joseph L. Polman

“Jeff” was an energetic, engaged eighth grader at an afterschool club held in the library of a middle school. In this club, the young people, who were predominantly African American, learned about the history of resistance to slavery in their local geographic region bordering the dividing line between North and South. Using information from field trips, the Internet, and print sources, the youths designed and created a set of multimedia web pages. I initiated and led the club, involving local university students as facilitators as part of their course requirement. While searching for Underground Railroad information and resources on the Internet, Jeff encountered a website with information about an abolitionist newspaper editor in a nearby town. Seeing a promising direction, I suggested Jeff pursue it. He continued his energetic and enthusiastic search for information, printing web pages and sharing ideas with us, much to the adults’ delight.

Later, we encountered the possibility of school labels negatively influencing us. At the end of one session, an administrator casually asked who was in our



Studio in a School

club. At the mention of Jeff, she said, “It’s really nice you’re trying to help him. . . . He’s one of our problem kids. . . . He’s got dyslexia.” Suddenly we knew that some of the same behaviors we had interpreted as Jeff’s “star quality” were interpreted as a problem by the school. As we neared the deadline for the project that Jeff was not finalizing as smoothly as we had hoped, how would we interpret Jeff’s behavior? Would we, as school staff and many others in the helping professions all too often do, focus on Jeff’s deficits, inadvertently contributing to the negative self-image of youth we are trying to help? Or would we build on the assets that Jeff brought to the club’s work, using the principles of positive youth development?

The undergraduate students and I struggled with this issue. We would like to think that we held true to our principles and that Jeff and the entire group benefited. But would this even have been an issue had we not situated our afterschool club in territory that is

Polman, J. L. (2003). The Perils and Promise of Afterschool Programs on School Territory. *Afterschool Matters*, 3, 3–12.

often unhelpful and—despite good intentions—sometimes even hostile to youth like Jeff?

In a recent article in this journal, Susan Ingalls insisted that “kids need environments other than school buildings in which to play, and grow, and transform” (2003, p. 31). Her argument, along with numerous other studies (e.g., Ball & Heath, 1993; Garner, Zhao, & Gillingham, 2002; McLaughlin, 1993, 2000), is that community-based organizations (CBOs) outside of school provide unique youth development environments that should be supported by citizens, policymakers, funders, and educators who care for the future of youth. I fully support these authors’ goals of maintaining and expanding after-school opportunities for youth in CBOs, but I wish to look more closely at the reality and potential of after-school activities that take place physically in school facilities. I agree with these authors that the location of learning environments is not trivial, and I will argue that situating such learning environments on school territory presents substantial opportunities as well as important risks in the daily conduct and outcomes of afterschool programs. Just as a growing body of research helps to delineate what distinguishes *effective* afterschool programs in CBOs from ineffective ones (again, see McLaughlin, 2000, for a summary), I wish to contribute to a better understanding of what distinguishes effective and ineffective afterschool programs in schools.

Where Do You Hold Your Afterschool Technology Club?

Over the past six years, I have been involved in designing and directing several technology-rich afterschool clubs that explored the possibilities of inquiry-based models and supports for youth development and for learning connected to communities. Prior to these experiences, I conducted research on project-based learning of science *within* the school day (Polman, 2000). I was attracted to out-of-school learning because of a long-standing interest in community-based organizations and development, as

well as personal experiences of volunteering at Boys and Girls Clubs and the Computer Clubhouse in Boston (Resnick & Rusk, 1996). In addition, like many researchers on literacy (Hull & Schultz, 2002), I knew that exploring open-ended and non-traditional models of inquiry-based science and history learning would be easier in non-school settings, in part because they are not constrained by strict curriculum requirements.

The projects in which I have been involved include the one mentioned above, in which 10- through 14-year-olds constructed web pages about the local history of resistance to slavery (Polman, 2001, 2002b), another in which middle schoolers conducted archaeological inquiry (gravestone data collection, not digging!) in a historically significant cemetery undergoing cleanup by a community group (Polman, 2002a; Simmons, Ruffin, Polman, Kirkendall, & Baumann, 2003), and a third in which high schoolers conducted oral histories about their neighborhood and used digital videos of those interviews as well as historical documents to compose multimedia web pages. All these afterschool clubs¹ have had four major goals:

- To strengthen youth connections with and commitment to their local community, its history, and its heritage by conducting projects that matter to the community
- To help youth develop positive attitudes and identity trajectories (Wenger, 1998), as well as knowledge of how to use technology and to approach inquiries with historical and scientific perspectives
- To involve future and practicing teachers in inquiry-oriented models of teaching with technology that they might not have the freedom or facilities to carry out in school
- To build on and advance our understanding of how such activities can be understood and designed to foster individual and group development

¹ I use the term *afterschool club* rather than *program* in part because the initiatives on which my efforts were modeled—the Computer Clubhouse and the Fifth Dimension—use that term. In addition, *club* connotes the sense of group membership and solidarity we strive to develop in these communities of learners, whereas *programs* may be either individualistic or group-oriented. My choice of terms conveys no message about whether the afterschool activity is sponsored by the school or by an external organization. To my knowledge, the youth participating in our clubs perceived the clubs to be jointly sponsored by their school and an external organization (a university group or, in one case, a historic preservation group).

The first of these goals has been demonstrated to be important in research conducted by McLaughlin (1993) and Ball & Heath (1993), and the remaining goals are a variation on those of the Fifth Dimension clubs implemented by Mike Cole and colleagues at the University of California, San Diego, and a host of other institutions (Blanton, Moorman, Hayes, & Warner, 1997; Cole, 1996).

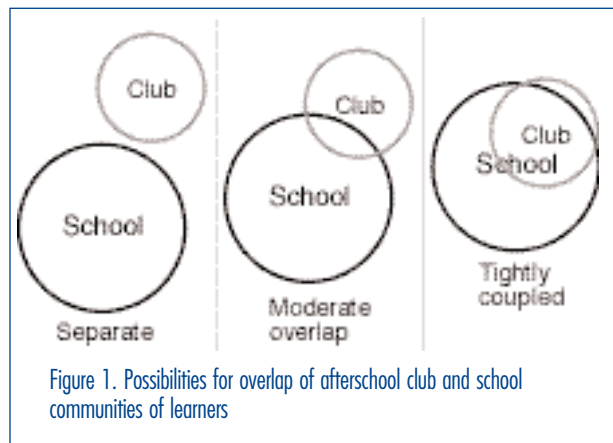
There are several reasons that we should expect the borders between some afterschool programs and schools to have some proximity and permeability; there are also reasons to desire such permeability.

Conversations with colleagues involved in the Fifth Dimension and my reading of some of the literature on afterschool learning made me aware that situating afterschool clubs *within* schools might not be ideal. For instance, Ball & Heath (1993) point out that school has been an environment of frustration and failure for many youth, so associations with school can lead to unproductive experiences. In addition, school bureaucratic structures as well as norms may “invade” afterschool clubs they host, undermining otherwise positive possibilities. So I began by intending to hold the first clubs at a CBO.

However, a variety of circumstances, most of which were pragmatic, pushed me into school buildings for these projects. In all three cases, the kind of work in which we hoped to involve the youth required significant computing resources and a connection to the Internet that is present less often in CBOs than in schools. In all three cases, individuals and organizations committed to the development of their communities hoped to involve youth from local schools, and school personnel were eager to offer exciting afterschool enrichment opportunities for their students. In addition to recruiting participants, in two of the three cases, the schools helped coordinate and fund transportation. The schools ended up co-sponsoring the clubs with my university and with CBOs that did not have their own computer labs. For these reasons, two of the three clubs have met within the schools during afterschool hours, and the third, in which the partner school did not have appropriate facilities, met in a university lab.

Conceptually, there is a range of choices for how afterschool communities of learners can overlap or intersect with school contexts—and their practices, community, and grounds (see Figure 1). The situation of complete separation is at far left in Figure 1; the researchers mentioned above have shown many of the benefits of such a situation. The situation of “tight coupling” in terms of physical location and conducting traditionally “school-like” activities, which makes for indistinguishable school and afterschool programming, has been shown to be problematic (Garner, Zhao, & Gillingham, 2002; Ball & Heath, 1993).

But there are several reasons that we should expect the borders between some afterschool programs and schools to have some proximity and permeability; there are also reasons to desire such permeability. The reasons to expect proximity or overlap, like those I describe from my own experience, relate pragmatically to the fact that schools have valuable, well-outfitted facilities, as well as professionals committed to the education of youth. The reason some overlap, as shown in the middle of Figure 1, could be desirable has to do with the nature of the opportunity for change. A minimal level of



overlap between these communities brings the possibility that *club participation* can influence the *school identity* of youth as perceived by themselves and by school personnel, and that *club activity* can influence the *kinds of activities* that school personnel see as productive for learning and therefore carry out during the school day (see, for example, Zhao & Gillingham, 2002). I have been exploring such afterschool clubs that have moderate overlap with school.

What Makes a Context?

P psychological research has shown us that the meaning people make of their experience is what leads to their learning and development. In addition, the location of human activity has an impact on its meaning. But physical location is not the only component of the *context* in which after school activities take place. Kenneth Burke (1969; see also Wertsch, 1998) uses the metaphor of a scene in a theatrical play to describe the elements of context. Contexts, like scenes in plays, are made up in part by the material environment or the set. In our afterschool clubs, the material environment includes buildings, rooms, furniture, and equipment such as computers.

Contexts, like scenes in plays, also consist of the *temporal*, *social*, and *cultural* aspects of the environment. The *temporal* aspect is simply how what comes before and after relates to the present activity. The temporal situation of afterschool activities is, obviously, after school. Specifically, like most afterschool initiatives, ours have taken place immediately after the end of the school day for the participating youth. The *social* aspect consists of who the actors are, including their roles, titles, relationships, and normal ways of interacting with each other as established in previous scenes together. Our afterschool clubs have included youth who know each other from school, a university faculty member or two (including myself), university

Some perils may be more difficult to avoid, and some of the promise easier to take advantage of, in afterschool clubs on school territory.

students who are participating in a class that includes discussion of these very clubs, occasional guests to be interviewed or lead a session, and in some cases a teacher from the school. Finally, the *cultural* aspect consists of the ways in which language and tools such as computers are used and understood in the groups to which participants belong.

Context is thus a multifaceted and complex notion, and, as some of my examples below illustrate, it can be changed by what takes place in the space. My point in exploring afterschool clubs having moderate overlap with school contexts (see Figure 1) is not that the processes and outcomes discussed here could

only occur in clubs on school territory, but that some perils may be more difficult to avoid, and some of the promise easier to take advantage of, in afterschool clubs on school territory. In the following two sections, I explore some of the perils and promise as they grow out of the material, social, and cultural realities of these clubs on school territory.

The Perils of School Territory

Any afterschool program faces a variety of challenges to fulfilling its mission of developing youth, from lack of resources to personnel issues to competition from other activities that are attractive to youth. For afterschool programs held on school grounds, we have found the following to be particular issues of concern:

- Combating deficit orientations
- Establishing separate behavior norms
- Facing differences in institutional priorities
- Building productively on youths' non-school identities

Combating Deficit Orientations

Sometimes negative labels and low expectations follow youth—or are brought by the youth themselves—from the school context to the afterschool context. For youth who struggle in school, such as Jeff, this carry-over can set up social dynamics that negatively affect opportunities for growth and transformation in the afterschool club. In addition, sometimes the pre-service teachers (future teachers pursuing their teaching certification and degree) who participate in our programs bring with them the assumption that “disadvantaged” youth may be essentially less capable than youth from more affluent areas. We have less trouble getting the future teachers to see all youth as kids with promise when we transport the youth to the university campus and emphasize that we know they are capable of one day attending a college like the one hosting their program.

Nonetheless, all these negative assumptions that youth and adults can make about the potential of participants can be addressed in afterschool programs held on school territory. For one thing, educators in general are increasingly emphasizing the potential of *all* children, so that the schools and our afterschool programs can form a partnership emphasizing the same positive goals. While some youth will continue

to struggle in school, they are likely to find the afterschool program more conducive to success. For instance, one youth asked, in our first session on building web pages about resistance to slavery, “Are we getting a grade in this class?” He was reassured by the simple notion that there were no grades because this was not a class. In addition, we have found that, when the afterschool program fosters individual relationships between youth and preservice teachers in the context of activities that allow the youth to do creative inquiry, those adults see each individual as having strong potential. For instance, in the afterschool clubs focused on neighborhood oral histories, some participating preservice teachers mentioned, in their initial written reflections, both neighborhood decay and concerns about the youths’ prospects. By the time they wrote their final reflections, most mentioned explicitly the talents and assets of the particular young person with whom they had worked.

Establishing Separate Behavior Norms

Holding meetings on school territory may require setting up separate behavior norms from those most commonly experienced at that location. For instance, our HistoryWeb clubs were both held in school libraries, where the norm during the day was relative quiet. The afterschool club expected considerable movement and talk. At the elementary school, the presence of the school librarian, who was often there at the beginning of our sessions, induced the children to more hushed tones than they used after her departure. In this case, the mere presence of an authority figure, who at certain times enforced the reasonable norms of a library, undermined the equally reasonable, yet different, norms of the afterschool club—whose activities she herself advocated. The librarian found it easier to make the distinction between appropriate behaviors at different times than did the youth.

In other cases, school staff have actively reinforced norms of behavior that we in the afterschool club had decided not to enforce. In one case, when several teachers were holding a meeting at the other end of the middle school library where we were meeting, one of the teachers made a special trip to our end of the room to censure a young woman for sitting on a table. The club facilitator was aware that the young woman was

trying to compose a digital photo and therefore had reason to briefly modify the normal use of the furniture, but the teacher did not ask why the club participant was on the table. Instead, she demanded that the young person comply with the rules.

We have addressed these potential difficulties for the most part in a two-way compromise with school administrators and staff such as librarians and teachers. We work to understand which norms of their facility we can follow without adverse impact on our goals, for instance, complying with the rule about not eating snacks in the classroom by eating in the cafeteria. Meanwhile, we also explain the sort of activities in which they should expect our participants to engage and why those activities may

require different norms, such as allowing students to use the facilities in ways not usually allowed during school hours.

New behavior norms can apply to leaders as well as to club participants. Working at a school site means that any “traditional” teaching and learning practices undertaken in the afterschool club may reinforce the notion that the club will be “just more school.” For instance, interactions following a pattern known as “Initiation-Reply-Evaluation” (IRE) are common in schools (Cazden, 2001). In IRE interaction, the teacher *initiates* the sequence with a question about some concept the class is learning or has learned, selects a student to *reply* with an answer, and *evaluates* the adequacy of the student’s answer, if necessary seeking other bids for more correct or enlightening responses. This kind of interaction has been used for so long in schools that every teacher and student recognizes it instinctively, and, despite the fact that educators increasingly emphasize other patterns of interaction, it remains the most common form of discussion between teachers and students. In the first session of our oral history club one semester, we failed to live up to our advertisement that the afterschool club was different from school: The guest leader of an activity lectured a good deal, and, when she did interact with youth, followed the IRE pattern almost exclusively. For instance, when introducing the notion that “race” is a social phenomenon rather than one based



Students met a descendant of Peter Hudlin (pictured above with his daughter), a member of the Underground Railroad, and created web pages about his life.

Just as some connections between afterschool practices and “normal” school practices imperil positive trajectories, so strengthening some connections between afterschool programs and some elements of popular culture not often found in school may provide benefits.

on biological science, the following exchange took place:

Leader [to the group]: What is it that causes differences in skin color?

Youth: Our ancestors

Leader: OK, so where our ancestors came from. But what is it in our skin, though?

The “conversation” continued in that way, with the leader drawing out answers she was looking for. The following week, more than half the high school youth at that session did not return. We surmise that they were not eager to spend their time after school in such stilted “conversation” and quiet listening. When schoolteachers spend the majority of their time using lecture and IRE, they take the chance that their students will mentally disengage; in the free-choice environment of the afterschool club, the further risk is that participants will simply not return. In that particular case, we had to work over the next several sessions to convince the participating youth that they would be given more opportunity to express themselves in our club, but our attendance never returned to the level of that first session.

Facing Institutional Priorities

At a more material level, working in the context of a large institution such as a school district has inevitable impact on the ability of that institution to support the facilities needs of one afterschool club. In most CBOs, afterschool clubs represent a large portion of their programs. In contrast, our oral history afterschool program was one relatively small effort taking place in a large urban school district. Since it manages so many computers, the district has an IT department that manages their computer classrooms. When our club needed a particular piece of software to enable participants to read digital historic documents, that request was lost for some time among the numerous needs in the district. Our participants’ use of some of the materials we had prepared was delayed for several weeks, directly affecting the program.

In a smaller CBO—and in the schools we have worked with that have less centralized IT support—getting the facilities set up to support our program has been easier. The smallest school we worked with—the elementary school—let me change the setup of the computers in the library myself because the school had no technology staff and no one else was using the computers. A larger middle school was part of a large district, but it was a magnet school with its own technology staff, a separate network, and a desire to showcase its technology use. That school’s IT person invited me to assist her in setting up the software we needed, which she then managed. In the largest school, with computers standardized over the whole district, we had the delays mentioned above, and later the software we needed was deleted again.

Building on Youths’ Non-school Identities

Just as some connections between afterschool practices and “normal” school practices imperil positive trajectories, so strengthening some connections between afterschool programs and some elements of popular culture not often found in school may provide benefits. For instance, one eighth grade African-American youth, “Richard,” began an inquiry into the reasons for the struggle for freedom by African Americans both at the time of the Underground Railroad and today by comparing songs about freedom from the two time periods. Richard was a fan of rap music outside school, a good student inside school—and seldom had the two cultures met in his experience. The rap music Richard listened to tended toward the sort of violent themes not often popular among educators or youth development workers. Richard’s middle school, a magnet school that had recently overcome problems with gangs, was particularly hostile to rap music. Despite the initial support of the white preservice teacher working with him, Richard and his mentor had difficulty negotiating their cultural differences. The preservice teacher, unfamiliar with rap music, was unable to help Richard see how to separate the social commentary about struggles for freedom in, for instance, Tupac Shakur’s song “Only God Can Judge Me,” from the “inappropriate” language.

Some of the lyrics of that song might have helped Richard's examination of the struggle for freedom in the past and today:

Everybody's dyin'. Tell me, what's the use of tryin'?
I've been trapped since birth.

Cautious, 'cause I'm cursed and fantasies of my family in a hearse. And they say it's the white man I should fear, but it's my own kind doin' all the killin'.
(Shakur, 1996)

However, instead of using a snippet like this, Richard eventually suggested leaving out all references to rap music because everything he liked contained "inappropriate language"; instead he wrote a standard narrative about how the past and present have "hard times and captivity[;] the only difference is it's not as bad [now] as it was for slaves." The particular school location, and the cultural assumptions of both mentor and student, thus contributed to our failure to reap the potential benefit of interpreting popular rap lyrics.



In another project, one student researched William Wells Brown, a freed slave and historian, and included this plate on the web page about Brown's life.

The school location was not the only factor in this difficulty, which might not have been encountered in all school locations. Nor would it have been avoided in all CBOs—but some CBOs may have more experience in building on elements of youth culture while negotiating their negative aspects than do most schools. For instance, Educational Video Center (EVC) in New York City is skilled in involving youth in creating video-based critical social commentary using popular culture and is educating schools about its techniques (Goodman, 2003). Wherever the skills are developed, youth will benefit from learning to criticize and interpret messages they encounter both in and out of school.

The Promise of School Territory

Despite dangers that may be more prevalent in school locations than elsewhere, we have found rewards in situating our afterschool clubs in schools and involving school personnel. As mentioned above, one asset of school sites is computing facilities that are often difficult to find in CBOs—but the potential benefits don't end there. We have found that overlap between school and afterschool programs can help in:

- Enhancing youths' school performance and attitude as they transfer their identities and practices from the afterschool realm to the school context
- Changing school personnel's perceptions of the youths' ability
- Encouraging teachers to try using inquiry-based instruction, which they might otherwise feel they could not risk

Enhancing Youths' School Identity and Attitude

The case of a youth named "Bobby" who participated in the HistoryWeb club during the second half of his fourth grade year and his entire fifth grade year illustrates how youth identity development in the afterschool club can feed positively back into school identity and performance. When Bobby entered the club, his principal reported that he had been having some behavior problems in school. He was not particularly interested in social studies.

In some ways, Bobby's transformation was related to an aspect of his identity that the school did not encourage, but the afterschool club did—his interest in computer gaming. In 1998–99, Bobby's school had only six computers in the library, one with a dialup Internet connection. These computers were restricted to "serious use"—no gaming, and no accessing websites related to gaming. At home, however, Bobby enjoyed playing games on his family's old desktop. In the afterschool club, Bobby was able to build on his interest by contributing to a computer-based historical re-enactment game the youth designed and developed. When Bobby came to the club, he joined his peers in playing a game in which players play the role of travelers on the Oregon Trail. Bobby played a key role when we gave club members the opportunity to design their own game, each making web pages with branching hypermedia choices for someone traveling on the Underground Railroad. With the scaffolding (targeted assistance and guidance, Wood, Bruner, &

Ross, 1976) of a preservice teacher, Bobby quickly designed a series of choices for figuring out how to cross rivers, based in part on historic documents we had provided for the youths' reference. The set of web pages Bobby made provided a model that helped others see how the game could be designed.

By the end of his second year in the program, Bobby had become more interested and engaged in history than he had been before, and he felt that social studies in school was "a breeze." Bobby had learned some things about the importance of historical context to understanding historical events, but even more importantly, he had changed the way he saw himself as a history learner (Polman, 2001). His positive experiences in the afterschool club, and his resulting expectation that history was something he could understand, affected his subsequent school experiences. Similarly, a cohort from a school participating in our university-based graveyard studies program showed improved school performance, as measured by grades, while the youth were participating in the club (Simmons, Ruffin, Polman, Kirkendall, & Baumann, 2003).

Changing School Personnel's View of Students

Not only do youth sometimes change the way they see *themselves* through afterschool programs; school personnel sometimes recognize previously overlooked potential and ability in youth. In Bobby's case, the school recognized him with his photo in the school library and a story in the local paper. In fact, all the schools with which we have worked have been eager to publicize and recognize the unique accomplishments of their students. The middle school where we conducted the HistoryWeb club had a "walk of fame" that included some of our participants. The middle school that participated in the graveyard study was in the local news, and many school personnel attended the participants' final presentations of their work on campus.

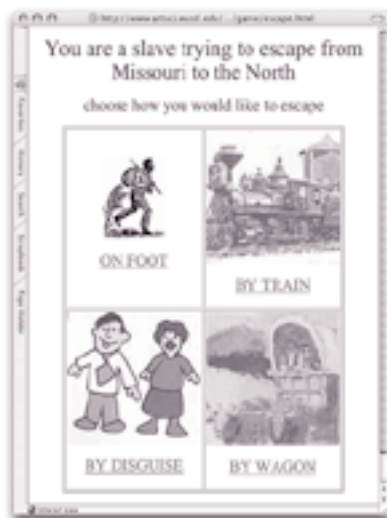
The latter case again demonstrates that some benefits of this sort are possible even if afterschool meetings aren't held on school grounds. We met at the university, but a schoolteacher acted as chaperone at

each meeting and served as a liaison back to school, for instance, by making sure that other school personnel were invited to the youth presentations. Those school staff members then made sure the youth repeated their presentations for the school board. Maintaining some official connections with school—through sponsorship, personnel, location, or some combination of the three—can foster this benefit.

Encouraging Teachers to Try Inquiry-based Learning

Finally, afterschool clubs such as those described here can transform practicing and future teachers' views of whether they can successfully carry out inquiry-based teaching while still meeting curriculum requirements and managing their classroom. Future teachers especially benefit from the opportunity to "try out" inquiry in a context in

which curriculum requirements are not as severe. This benefit of afterschool programs can definitely be realized in CBO-based clubs involving higher education classes (e.g., Cole, 1996). But to the extent that practicing teachers who are *not* in a class can become involved in a project, such as the oral history project at the high school, the location may make such changes easier. The implementation of such practices during the school day is sometimes undermined by today's environment of accountability through test-



At the beginning of a student-designed game about the Underground Railroad, players may choose their mode of escape.

All the schools with which we have worked have been eager to publicize and recognize the unique accomplishments of their students.

ing, but our graveyard study project was successfully implemented by an elementary school teacher during her regular curriculum (Ruffin, 2003).

Negotiating the Perils and Promise

Through the examples above, I have tried to clarify some of the ways the school "community of practice" (Wenger, 1998) can interact positively as well as negatively with afterschool clubs that take student

Instead of just providing youth with a change from bad scenery to good scenery when the school bell rings, let's build programs that have possibilities for transformative work for individuals, as well as for transformative practices for schools as institutions serving all children.

interest and voice seriously. In her criticism of after-school clubs held in schools, Ingalls (2003) says that children need a change of scenery in the afterschool hours from their schools, which are largely built on an outdated "factory" model. As an educator committed to afterschool *and* school learning, I want to emphasize that many in K-12 education are actively fighting against the factory model, toward a more productive model with greater student engagement and active learning (e.g., Cazden, 2001). Schools and afterschool opportunities should perhaps always remain distinct: Just as afterschool programs should not be conducted as "just more school," so school programs need to be more concerned with the curricular demands our society places on them. No matter what we do, however, individual young people will be members of multiple communities, each with an associated identity. We should look for ways in which youths' school identities, club identities, and other identities—each of which has associated skills and practices—can work together, not against one another. Maintaining a strong separation from school may help prevent afterschool programs from being "poisoned" in cases where school environments are ineffective, but it also contributes to a situation in which even the youth with positive afterschool experiences must return during the school day to a negative identity. Knowing the risks of working on school territory allows us to manage them.

Instead of just providing youth with a change from bad scenery to good scenery when the school bell rings, let's build programs that have possibilities for transformative work for individuals (Townsend, 2003), as well as for transformative practices for schools as institutions serving all children. By keeping in mind that the locations of school and afterschool programs are turned into lived scenes, defined by the human activity that goes on within them, we can all work to improve the prospects for positive youth development on the school *and* afterschool stage.

References

- Ball, A., & Heath, S. B. (1993). Dances of identity: Finding an ethnic self in the arts. In S. B. Heath & M. W. McLaughlin (Eds.), *Identity and inner-city youth* (pp. 69–93). New York: Teachers College Press.
- Blanton, W. E., Moorman, G. B., Hayes, B. A., & Warner, M. L. (1997). Effects of participation in the Fifth Dimension on far transfer. *Journal of Educational Computing Research*, 16(4), 371–396.
- Burke, K. (1969). *A grammar of motives*. Berkeley: University of California Press.
- Cazden, C. B. (2001). *Classroom discourse: The language of teaching and learning*. Portsmouth, NH: Heinemann.
- Cole, M. (1996). *Cultural psychology: A once and future discipline*. Cambridge, MA: Belknap Press of Harvard University Press.
- Garner, R., Zhao, Y., & Gillingham, M. (2002). An alternative to self-care in a small Midwestern town. In R. Garner (Ed.), *Hanging out: Community-based after-school programs for children* (pp. 1–17). Westport: Bergin & Garvey.
- Goodman, S. (2003). *Teaching youth media: A critical guide to literacy, video production, and social change*. New York: Teachers College Press.
- Hull, G., & Schultz, K. (2002). Connecting schools with out-of-school worlds: Insights from recent research on literacy in non-school settings. In G. Hull & K. Schultz (Eds.), *School's out! Bridging out-of-school literacies with classroom practice* (pp. 32–57). New York: Teachers College Press.
- Ingalls, S. (2003). You don't need a weatherman . . . : The need for afterschool programs outside of school. *Afterschool Matters: Dialogues in Philosophy, Practice, and Evaluation*, 2, 23–31.
- McLaughlin, M. W. (1993). Embedded identities: Enabling balance in urban contexts. In S. B. Heath & M. W. McLaughlin (Eds.), *Identity and inner-city youth* (pp. 36–68). New York: Teachers College Press.
- McLaughlin, M. W. (2000). Community counts: How youth organizations matter for youth development. Washington, DC: Public Education Network.
- Polman, J. L. (2000). *Designing project-based science: Connecting learners through guided inquiry*. New York: Teachers College Press.
- Polman, J. L. (2001). Historical learning and identity development on the borders of school. In S. Mosborg (Chair), *History, identity, and construction of the self*. Symposium conducted at the annual meeting of the American Educational Research Association, Seattle, WA, April 2001.
- Polman, J. L. (2002a). Inquiry into local heritage as a means to foster multiple aspects of development. In J. L.

- Polman (Chair), *Connecting the transformation of communities and individuals through after school technology programs*. Symposium conducted at the annual meeting of the American Educational Research Association, New Orleans, LA, April, 2002.
- Polman, J. L. (2002b). Re-creating the past: Building historical simulations with hypermedia to learn history. In J. L. Polman (Chair), *Text, context, and perspective in learning history*. Symposium conducted at the annual meeting of the American Educational Research Association, New Orleans, LA, April, 2002.
- Resnick, M., & Rusk, N. (1996). The Computer Clubhouse: Helping youth develop fluency with new media. In D. C. Edelson & E.A. Domeshek (Eds.), *Proceedings of the International Conference on the Learning Science* (pp. 285–291). Evanston, IL: Association for the Advancement of Computing in Education.
- Ruffin, M. (2003). The acquisition of inquiry skills and computer skills by 8th grade urban middle school students in a technology-supported environment. Doctoral Dissertation. University of Missouri–St. Louis: ISBN 0-493-87182-9.
- Shakur, T. (1996). *Only God can judge me*. Death Row & Interscope Records.
- Simmons, P., Ruffin, M., Polman, J., Kirkendall, C., & Baumann, T. (2003). If stones could talk. *The Science Teacher*, 70 (5), pp. 52–54.
- Townsend, L. A. (2003). Transformative work in programs for children and youth. *Afterschool Matters: Dialogues in Philosophy, Practice, and Evaluation*, 2, 3–12.
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. New York: Cambridge University Press.
- Wertsch, J. V. (1998). *Mind as action*. New York: Oxford University Press.
- Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem-solving. *Journal of Child Psychology and Psychiatry*, 17, 89–100.
- Zhao, Y., & Gillingham, M. (2002). Commentary: Ingredients of successful after-school programs—The experience of KLINK. In R. Garner (Ed.), *Hanging out: Community-based after-school programs for children* (pp. 149–152). Westport: Bergin & Garvey.

About the Author

Joseph L. Polman is an assistant professor of educational technology at the University of Missouri–St. Louis, where he also serves as associate director of the College of Education's E. Desmond Lee Technology and Learning Center. He is interested in how people learn history and science through inquiry and with the support of technology, both in schools and in community-based settings. He has published a book, *Designing Project-Based Science: Connecting Learners through Guided Inquiry*, as well as research papers and curriculum materials based on his work related to these interests.

Author's Note

I wish to thank the James S. McDonnell Foundation and the United States Department of Education for supporting this research. The statements made and the views expressed are solely my responsibility. I am grateful as well for the guidance of James V. Wertsch; the collaboration of Monya Ruffin, Patricia Simmons, and Laura Westhoff; and the support of my other colleagues at Washington University in St. Louis and the University of Missouri–St. Louis. Thanks as well to the many youth and adults in these programs for their support, participation, and inspiration. Reports of this research were presented at AERA 2001 and 2002 and at the Third Conference for Sociocultural Research in São Paulo, Brazil.