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Direct Links: Using E-mail to Connect Preservice Teachers, Experienced Teachers, and High School Students within an Undergraduate Teacher Preparation Program

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Abstract

Much of pre-service teacher education at the undergraduate level is based on indirect links between those preparing to teach and those who spend their days in schools. This article describes two kinds of direct links based in the culminating courses required for state certification to teach at the secondary level through an undergraduate teacher education program: one between pre-service teachers and experienced teachers and one between pre-service teachers and high school students. Consisting primarily of weekly email exchanges, these dialogues constitute a unique forum for learning and teaching for all participants. The benefits participants identify—including the creation of a space that allows for immediate, frequent, individualized communication, careful analysis and reflection, and insights into others' perspectives—as well as the drawbacks—including time constraints, access problems, and the limits of email as a medium—offer new angles on perennial challenges in teacher preparation and in education in general as well as raise new issues for teacher educators to consider.

Much of pre-service teacher education at the undergraduate level is based on indirect links between those preparing to teach and those who spend their days in schools. Typically, during the first three years of their preparation, pre-service teachers study educational theory with their peers at the college or university and spend only an hour or so per week in practicing teachers' classrooms. Then, during student teaching, generally in the last semester of their undergraduate years, pre-service teachers take on full responsibility for several classes at a school, often feeling overwhelmed by the demands of their new responsibilities and unable to find the time or energy for reflective conversation with teachers and students. Thus, neither during the more distanced preparatory period nor during the intensive student teaching semester do the traditional structures and forums of undergraduate teacher preparation afford pre-service teachers the opportunity to engage in ongoing, thoughtful dialogue with school-based teachers and students.

I was first struck by this absence of space for dialogue in teacher preparation when ten years ago I became director of the Education Program at Bryn Mawr and Haverford Colleges. As a former high school teacher, I missed the daily contact I had had with high school students as well as the professional conversations I had enjoyed with fellow teachers, and I felt strongly that preparation to teach without those two kinds of interactions would be inadequate at best. A high school teacher friend and I discussed this problem and imagined together the project I have facilitated for the last ten years within the context of the culminating courses required for state certification to teach at the secondary level through the Bryn Mawr/Haverford Education Program. Called Teaching and Learning Together (TLT), the project creates two kinds of direct links: one between pre-service teachers and experienced teachers and one between pre-service

teachers and high school students. Through weekly exchanges of emails with both teachers and students, as well as through other forums I do not discuss in detail here, the pre-service teachers enrolled in the culminating certification courses have the opportunity to interact in immediate, extensive, and ongoing ways both with those whose work they are preparing to share and with those they are preparing to teach (see Cook-Sather, 2006a, 2006b, 2006c, 2002a and 2002b for other discussions of this project).

Participant feedback on the email exchange presents a complex picture of email's benefits and drawbacks. In their reflections on the project, the pre-service teachers, experienced teachers, and high school students who have participated in TLT have suggested that the email exchanges in which they have engaged can:

- create links outside of regular space, time, and relationships within which immediate, frequent, individualized communication can take place;

- alter for good and ill, because of the medium itself, the openness, honesty, and depth of communication interlocutors have;

- create problems with (real) time constraints, access, and inconsistent dialogue;

- facilitate careful analysis and reflection;

- give participants insight into others' perspectives; and

- constitute a record of the dialogues.

Like many forms of technology, email throws into relief existing issues in education and presents new problems and possibilities. The perspectives of participants in TLT, quoted extensively in my discussion of the project, articulate clearly the benefits of the direct links made possible by technology as well as the difficulties direct technological links both illuminate and themselves create. I focus on the participants' responses and the various issues they raise after introducing

the context of the project and the participants in it and after describing in more detail the direct

links.

Context and Participants

One of the premises of the Bryn Mawr/Haverford Education Program within which TLT

unfolds is the centrality of dialogue to education. Education courses within this program are

designed according to the conviction that people learn through action and reflection, dialogue

and silence, collaboration and struggle. Faculty members also recognize that different people

learn in different ways, and professors strive to tap students' multiple intelligences by including

visual, musical, dramatic, and other forms of exploration and expression to structure, extend, and

enrich students' inquiry and equip students to do the same with those they will serve.

The culminating courses required for certification to teach at the secondary level through

the Bryn Mawr/Haverford Education Program are the Curriculum & Pedagogy Seminar and the

Practice Teaching Seminar. Taken in pre-service teachers' senior year, and constituted by

observation in the classrooms in which they will practice teach in the spring semester,

exploration of educational theory, the development of a portfolio of their work, weekly college-

based conversations, and the two dialogues I will discuss, these courses challenge the pre-service

teachers both to clarify and to complicate the assumptions, beliefs, hopes, fears, plans, and goals

they bring to their preparation to teach.

The pre-service teachers who participate in TLT are 80% female and 90% white. They

major in a variety of subject areas, most commonly social studies, biology, math, Spanish, and

English, at the same time as they seek certification to teach at the secondary level. Most of these

pre-service teachers' education prior to college unfolded within the Honors and the AP tracks of

their schools.

The experienced teachers who participate in the one dialogue are either currently teaching high school, some at public high schools and some at private high schools, or former secondary teachers. All are Caucasian, eight are female, and two are male. The teachers are selected because of their excellent reputations at their schools and because I have worked with many of them before on a more informal basis. I have deliberately chosen to collaborate with experienced teachers who pursue critical and constructivist approaches to teaching and learning and who are interested in learning from as well as teaching pre-service teachers.

The high school students who participate in the other dialogue include roughly equal numbers of males and females (46% and 54%, respectively) who come from a variety of racial, cultural, and ethnic backgrounds in about the same proportions that they constitute at their suburban public school (70% European-American, 10% Indian, 6% each of other Asian students, African-American students, and Latino/a heritage students, and one Russian-American student). These students have been assigned to different tracks in the 10th, 11th, and 12th grades of their high school (45% labeled "Gifted," 37% labeled "Regular," and 16% labeled "Special Education"). They are recommended by teachers with whom I have worked, not selected according to any standard measure of who the "best" students might be, but rather according to who might be interested, engaged, and willing to speak their minds. They volunteer to participate, and my school-based collaborator and I secure permission for their participation from the students themselves, from their parents or guardians, and from the school. These high school students are positioned in this dialogue as authorities on teaching and learning. Like other "experts," they are paid for their contribution to the preparation of future teachers.

Description of the Links

Both of the direct links are forged initially in face-to-face meetings and maintained subsequently in weekly, private email exchanges between the pairs. I neither see nor read any of the emails. The reason I structure the project in this way is that I believe it is important for the pre-service teachers to have the opportunity to develop these two professional dialogues on their own, within guidelines that I provide and with support from me and one another when they need it, but primarily independently—without my management or surveillance. This opportunity prepares them for the responsibilities they will have as teachers, and it also gives all participants involved a chance to communicate more openly and frankly, knowing that their words are not being monitored by an authority figure. The guidelines I provide for the email exchanges are simply these: that the pre-service teachers need to inform me immediately if (1) they are not maintaining a weekly exchange for some logistical reason (i.e., problems accessing the Internet, emails bouncing back); (2) if their partners reveal something in the letters that is of concern (i.e., a health, psychological, or safety issue); or (3) they feel unable to compose a response or want to check that their response is appropriate before sending it. The experienced teachers communicate directly with me if they have concerns, and the high school students communicate with my school-based collaborator.

The email exchange between the pre-service teachers and the experienced teachers spans the entire, final year of certification candidates' preparation to teach, serving as a central component of both the Curriculum & Pedagogy Seminar they take in the fall semester prior to their student teaching and the Practice Teaching Seminar they take concurrent with student teaching in the spring. Each experienced teacher involved in the dialogue works with one or more certification candidates in his or her subject area within the two courses mentioned above,

both of which I am primarily responsible for teaching. The teachers also work with me during

the previous summer to plan the courses; participate in one third of the class meetings at the

college, working with pre-service teachers on subject-specific pedagogical approaches as well

any other pedagogical issues that come up; and serve as critical readers of the pre-service

teachers' portfolio drafts, which are due at specified points throughout the year.

Although there are few published studies of email exchanges between experienced and

pre-service teachers, those that exist report having similar goals to TLT. Rasmussen and Johnson

(2002) describe an email correspondence between experienced and pre-service teachers with the

goal of familiarizing pre-service teachers with the trials of being a first-year teacher. DeWert,

Babinski, and Jones (2003) describe an online collaborative consultation among beginning

teachers, experienced teachers, and teacher educators with the goal of providing social,

emotional, practical, and professional support to beginning teachers. TLT aims to offer exposure

to the realities of teaching as well as support, but it goes beyond these goals to challenge both the

pre-service teachers and the experienced teachers to examine, question, and work to change

existing educational structures and relationships.

The weekly email exchange between each pre-service teacher and a high school student

is based in the Curriculum & Pedagogy Seminar in the fall semester. The goal of this dialogue is

to give pre-service teachers the opportunity to develop a deep and productive exchange with a

high school student focused on questions of teaching and learning prior to the onset of student

teaching. And, like the exchange with the experienced teachers, it aims to challenge both the pre-

service teachers and the high school students to examine, question, and work to change existing

educational structures and relationships. This written dialogue is complemented and informed by

weekly conversations between the pre-service teachers and me in the college classroom and

weekly conversations between the high school students and my school-based collaborator at the high school. Both sets of conversations start with the same focus—topics listed on the course syllabus (such as creating a classroom environment conducive to learning, designing engaging lessons, creating effective tests, etc.)—but often branch out into other areas that the pairs feel are appropriate for exploration. The conversations held among the high school students are audiotaped, transcribed, and assigned to the pre-service teachers as part of their required reading for the course, giving those conversations legitimacy alongside other course texts. At the end of the semester the pre-service teachers draw on their email exchanges, course readings, and the transcripts to write formal analyses of what they have learned from participating in this project.

The email exchange between the pre-service teachers and the high school students is like some other email or other web-based forums that give pre-service teachers direct access to those they are preparing to teach. It aims to engage pre-service teachers "in active, authentic learning environments" through which the pre-service teachers "experience the excitement of reciprocal teaching and learning—learning about teaching from close instructional involvement with secondary students" (Sipe, 2000, p. 104). It differs from email exchanges through which university students and elementary school partners hold weekly discussions by email focused on traditional subject areas, such as literature (Sullivan, 1998) or writing as a tool for learning across the curriculum (Sipe, 2000), or school/university partnerships in which pre-service teachers are cast in a teacher role, such as Better Together project and website, which connected pre-service teachers with seventh-grade reluctant readers through pen-pal correspondences and email, a variety of small and large group technology-based activities, tutoring, and classroom visits and teaching (Bowman & Edenfield, 2000). It is unlike all of these projects in that the

subject of the email correspondence is issues of teaching and learning, and, even more unusual, the high school students are positioned as authorities on these issues.

Both email exchanges that constitute TLT aim to support participants as they build a "'community of inquiry'" that shares "in the investigation of conceptual issues," is "bound by collegiality and mutual learning," and relies "minimally on outside authorities for sources of knowledge" (Sernak & Wolfe, 1998, p. 323-324). The exchanges aim to accomplish these goals through the creation of two direct links and the challenge to engage with two very differently positioned interlocutors within those, both of whom are positioned as educational authorities as well as learners. Indeed, the structure of TLT suggests that to be an educational authority is, crucially, to be a learner, and the email exchanges provide a unique forum within which learning can unfold.

The Results of Linking Directly

Since I do not have access to the emails that constitute the direct links, I rely on participant feedback to analyze the project, and my analysis focuses primarily on the process or experience of the exchange rather than on the content. The sources upon which I draw for the following discussion include pre-service teachers' formal analyses written at the end of the fall semester and their responses to a brief questionnaire sent out subsequently, the experienced teachers' responses to the same brief questionnaire, and the high school students' responses on end-of-the-project feedback forms. I did not bring preconceived categories of analysis to the feedback I received; rather, I have organized my discussion of participant feedback into categories that emerged from that feedback—the categories I listed at the beginning of this article. I do not identify individual experienced teachers, pre-service teachers, or high school students both to preserve their confidentiality and because of the way in which this approach

keeps open the question of who is who, and who is learning from whom, as the project itself does.

Communication that is Immediate, Individualized, and Safe

Because email is asynchronous and its use does not depend upon interlocutors meeting in any actual place, communication can happen any time and anywhere—as needed for individuals/pairs—rather than be limited to unfolding within set, finite frames (such as weekly class meetings in particular classrooms) that must accommodate all participants' needs. One experienced teacher explains: "[My pre-service teacher partners] would email just as a problem/question/need arose and we were able to engage in dialog right away." A pre-service teacher identifies the same benefit: "We could communicate about any problems that came up in [the classes I was observing and teaching] and I could count on a quick response within a day or so." Another experienced teacher reflects on why this immediacy and individualized focus is so beneficial, even within a teacher preparation program that creates actual forums for dialogue between pre-service teachers and experienced teachers:

> The context of the seminars tends to limit the in-class interactions to what the class is covering, or to what is of interest to all the students in the small [subject area] group discussions. I think that fact makes the total flexibility and personalized approach of the email interaction all the more valuable since it allows each student one avenue to explore and pin-point the questions and anxieties of most specific interest to them. It also allows me the opportunity to bring up items that I feel are critical but specific to foreign language learning but which may not come up at all in the seminar or which students may not think to ask or notice on their own.

The kind of personal, individualized dialogue the email exchange allows also includes a benefit made possible by the technology itself. Several experienced and pre-service teachers point out that email as a medium offers users the ability to attach documents (lesson plans, notes from workshops, etc.) and exchange URLs instantly, whenever necessary. This is a benefit of the

web overall that has significantly changed how exchanges and building of knowledge takes place

(see http://serendip.brynmawr.edu/sci_edu/edtech04 for an interesting discussion of this issue).

Another experienced teacher's comments reinforce the importance of the immediate and

individualized nature of the exchange but also raise the issue of power dynamics in learning to

teach:

> In learning to teach there is an immediacy to many of the issues that come up on
> any given day. Depending on the relationship the student teacher has with the
> cooperating teacher and the context of the teaching, immediate feedback isn't
> always possible. The email exchange provides a place where the student teacher
> could engage another professional quickly and get a quick reply. There were
> several occasions where one of my student teachers needed an answer to a
> question about a student or class they were about to encounter that day. I could
> provide my opinion and suggestion right away. I think that having this sort of
> guardian angel on hand at any given moment is invaluable.

Pre-service teachers also comment on how invaluable it is to be in direct dialogue with an

experienced teacher who doesn't "judge or grade or otherwise evaluate." In this dialogue, pre-

service teachers feel they can bring up issues that they might not feel comfortable raising in the

standard contexts that constitute teacher preparation. In one pre-service teacher's words, the

email exchange is a "safe space to express the feelings that I have coming into student teaching."

Another pre-service teacher explains:

> Emailing with [my experienced teacher partner] has provided me with an outlet
> for my more off-the-wall questions. I have a lot of questions that I would never
> ask my host teacher, because I feel the need to retain her respect and trust. But if
> I want to know about teaching methods, or if I am questioning some of my host-
> teacher's practices, it is helpful to have a professional in the field who can answer
> my questions.

And another:

> If I have any concerns or questions, my [experienced teacher partner] is more than
> willing to offer advice and lend me guidance based upon his own personal
> experiences. One of the best parts of my correspondences is knowing that there is
> a teacher whom I can vent my stories to and who is open to just lending an ear or

responding to those venting sessions when need be. What makes corresponding with my [experienced teacher partner] so advantageous is that he is qualified to offer suggestions because he is a teacher and has been through the teacher preparation process. More importantly, it is obvious to me that he cares and feels passionately about his profession along with what would be most beneficial for the students.

Thus a particularly important quality of this direct link is that it is not as constraining as the hierarchical and evaluative relationships that constitute much of formal education, including teacher preparation. The benefits here are multiple: not only can pre-service teachers pose their "more off-the-wall questions" without fear of judgment, experienced teachers can convey their wisdom and passion unconstrained by, because outside of, their own teaching contexts and professional relationships. All of these comments convey clearly how beneficial it is to have a forum for communication—communication that would not otherwise be possible between people who work in different contexts and have many demands on their time.

The rebalancing of traditional power dynamics and the possibilities for forms of communication that would otherwise not exist work in a different way in the context of the direct link between the pre-service teachers and the high school students. The pre-service teachers articulate clearly how rare and beneficial it is to communicate directly with a high school student prior to assuming the responsibilities of a teacher. One emphasizes the importance of having an opportunity to explore "issues that are normally left undiscussed between a teacher and a student." Another writes:

> The dialogue project has allowed me to see the importance of student input. Communicating with my student this semester has provided me with an opportunity to put what I see as the importance of student input into action. I can ask my student all sorts of things—theory or practice related—and then use her responses in my own theory and practice. Telling someone that students should be heard is an effective argument in itself, but actually listening to students and hearing what they have to say and integrating their input into your own life is astronomically more effective.

Likewise, almost every student participant asserts that the best aspect of the email exchange is that it lets students get their opinions "out there"—something they are rarely if ever invited to do. One high school student writes: "The topics we spoke on are not commonly discussed with students. We don't often get the chance to give the constructive criticism that so many of us have thoughts on." Another writes: "Communicating with the [pre-service teachers] every week…let us actually share our opinions with future teachers." Comments such as these illustrate that students can be engaged, passionate, and thoughtful, contrary to many images of students as disaffected and apathetic. The students appreciate the complexity involved, as another student puts it, in helping "aspiring teachers to understand what students need today."

These comments reinforce the importance of providing spaces within which those preparing to teach can communicate directly with high school students. The various qualities of those spaces—they are immediate, flexible, individually focused, practical, and less strictly governed by standard power dynamics—make them particularly conducive to educative exchanges.

Virtual Direct Links Versus Actual Direct Links

While participants comment in unequivocally positive terms about the opportunity to communicate with people to whom they are not generally (if ever) directly connected, there are differences of opinion regarding the nature of that communication. Some participants feel email is extremely conducive to creative exchange and communication. One experienced teacher writes: "I think that email allows for thoughtful exchanges that may not occur in face-to-face exchanges because they are essentially disembodied, so I think both sides are freer to brainstorm, take risks, etc." Some pre-service teachers concur: "The fact that we used email instead of meeting face to face definitely affected [the dialogue]. I think it's much easier to be open with

someone when you can hide behind a computer screen." And another pre-service teacher: "The discussion with my high school dialogue partner really would not have happened in the same way face to face. Because e-mail has the effect of socially leveling student and teacher (we both are just e-mail addresses), the student was more comfortable 'talking' via e-mail than in person where my gender, age, and general 'presence' would shut her down." And yet another: "I find that people are more willing to open up in writing than they might be in person. There's a certain feel of anonymity to words traveling out in cyber-space, even when they're not anonymous." The terms participants use here to describe the space and possibilities that email creates— disembodied, hide behind a computer screen, social leveling as a result of absence, anonymity even when not anonymous—throw into relief the qualities of the medium of email that facilitate rich, imaginative interactions.

Other participants feel, however, that trying to converse in a virtual space rather than an actual space hinders communication. One pre-service teacher writes:

> I found it more challenging to speak my [high school partner's] "language" in email than in person. He expressed himself thoughtfully during our first meeting, with plenty to express (more in fact, than seemed to fit into our meeting time) and yet I found it challenging to find this piece of him again through email. I can't help but wonder if email fails to allow us to create the kind of dialogue we could if sitting across from one another.

An experienced teacher also comments that it is "difficult to have a creative, dynamic exchange. If a student-teacher wants some advice on a project they are developing, the exchange might be easier and more meaningful face to face." A pre-service teacher in Sernak & Wolfe's study also claimed: "I am more willing to open up to a person than I am to a blank computer screen" (1998, p. 312). These comments point to the importance for some participants of real-time, face-to-face exchange both for "reading" meaning and for co-constructing meaning, and thus throw into relief a drawback of using email as the primary medium of exchange.

Another problem with the dialogue that email creates is difficulty discerning an interlocutor's tone. Both experienced and pre-service teachers comment on this challenge: "A brief response can be misconstrued as a curt one" and "words out of context without the reading of emotion can be misinterpreted." One pre-service teacher expands on this point: "Email hinders your ability to pick up subtleties (I found this more in the high school dialogue than with the [experienced teacher]). You also can't pick up aspects of their personalities from typed letters that you can from conversations or handwritten letters." And an experienced teacher: "In face-to-face conversation, we can be less careful about how we word something, even less clear, because we have the immediate feedback when something we've said confuses or disturbs our listener." There is a uniquely impersonal quality to email, so even if participants are in direct dialogue, some feel they do not have enough information or input to make sense.

One pre-service teacher captures both the benefits and the drawbacks of virtual versus actual communication:

> I am a face person. I prefer contact one-on-one. Talking to someone forces me to be more engaged and to think on the spot. When I am talking, I am ten times more productive than when I am reading or writing. Thus, for me, I have found the meeting with the [experienced teachers] much more helpful than emailing. However, email provides most people with a period of time in which they can consider the questions asked and come up with well thought out answers. So, while I prefer to talk to a person's face, and as a result am not very comfortable with the email medium, I think most people appreciate the time it gives them to think about and respond to questions, and to ask questions of their own.

We discuss these problems with email during class at the college, brainstorming possible strategies for the pre-service teachers both to offer and to invite greater clarity in their emails. As the use of email becomes more widespread, we will need to concentrate even greater attention on how to ensure that communication via email is as productive as it can be.

The Challenges of Getting and Staying Connected

Perhaps in part because for some participants the medium is not conducive to deep communication, but also in part for different reasons, such as other demands on time and energy, problems of getting and staying connected arise. Experienced teachers comment that sometimes the pre-service teachers don't hold up their end of the correspondence. One experienced teacher recalls: "I have had [pre-service teachers] who neglect to send the '1 email per week' and then send 3-4 lengthy emails all at once! Related to this, I have had a few [pre-service teachers] send an email late Sunday evening looking for a thoughtful response before Monday's class!" And yet another:

> Another problem I found was in the differences in quality of the e-mails from my [pre-service teachers]. One [pre-service teacher] wrote consistently and eloquently on a regular basis. The other [pre-service teacher] seemed much more stressed and tended to use e-mail less frequently. She came to my class every week, but this visit did not provide us with time to de-brief. She did not take advantage of e-mail to follow up with questions and comments.

A comment one pre-service teacher offers explains why such unevenness might exist: "Even though I see it as an excellent space to share my feelings, I do have to omit or soften some of the things I am feeling. I just think some of the issues I have with class, student teaching, etc. cannot be said in an email situation. But I think that would be expected in any forum like this—I cannot simply say what I want all the time. So I guess I am learning tact as well!"

Pre-service teachers also have the experience of inconsistency of exchange, with email responses coming, as one pre-service teacher puts it, "slower than one would wish at times or sometimes not at all." Another pre-service teacher offers a more detailed account of this experience:

> The email exchanges with my [high school] dialogue partner are great when an actual exchange occurs. It took about a month for my dialogue partner to respond to my first email. After many attempts and some encouragement from [the school-based facilitator], he finally responded. Since that time, we have had four exchanges. It has currently been about two weeks since I have heard from him last. … I know that email has become the most convenient form of conversation, but I would rather have seven phone conversations with my [high school student] partner because that would give me a chance to connect to his questions and responses.

Finally, high school students also sometimes find the medium of email less than ideal. One writes:

> The email system of correspondence worked well convenience-wise. There were some times, however, occasions where I felt there weren't enough questions asked or there were questions that had a very simple answer or an answer that wasn't too broad. As a result, I felt that my [pre-service teacher] partner was maybe not getting the amount of information that she wanted from me.

These comments point to the fact that when emails back up, come at inconvenient times or not at all, or fail to convey complexity and depth, they throw into relief failure of communication that might not be as obvious were other media involved or might not occur if the forums of communication were more structured and circumscribed by real time and actual meeting places. Absence, variation in quality of work, self-sensoring, and lack of depth or focus are problems that plague traditional educational forums as well, but they are both thrown into relief and, in some cases, exacerbated by the medium of email.

The flip side of the frustration of failed or inconsistent exchanges is that it can be frustrating to maintain an exchange simply because emails take time to compose, read, and respond to. One experienced teacher explains:

> Sometimes, I feel like it becomes a sort of routine to try to clear the e-mails out of the inbox. I am forced to use it all day long to respond to parents, students, administrators and fellow teachers. It becomes a dreaded chore at times, so that I don't always approach the task with openness and enthusiasm. In very busy and

> hectic situations, my responses [to my pre-service teacher partners' emails] are probably more superficial than I would like them to be.

Another experienced teacher expands upon this point:

> Ironically, the better the system works, the harder it is to keep up with providing a really well thought out and carefully worded response. One recent email to a student was about 7 pages long (my dialogue interspersed with hers). I felt like it was a really ideal exchange—with several layers of the dialogue going back and forth—but it did take a very long time to compose!

Related to the issue of the time it takes to respond is the pressure emails exert to respond immediately. One experienced teacher explains: "I'm not implying that there was a demand [by the project] to do so but I think that the demand is implicit in the medium."

Finally, less an issue of choice is the question of whether or not participants have easy access to email. Some high school students who participate in the project do not have email access at home, but the problem of access can be misinterpreted as apathy. Based on the length and focus of his emails, one pre-service teacher initially judged her high school student partner as disengaged: "[My partner seems like he] doesn't really want to do this, and it is obvious in the way that he is writing, he's just doing it cause he has to." After learning that her partner did not have email access at home, this same pre-service teacher said: "Then he has to [write his messages] during school hours whereas somebody else could do it at home, so that I think that that is definitely part of it and he is the only one who has to do it that way and so like he probably feels like a little weird about it himself." This re-vision of the situation came about as a result of our class discussion at the college, but it throws into the relief the possibility that pre-service teachers can make assumptions about students that are inaccurate. This example should serve as a reminder to teacher educators that we must constantly be on the lookout for

assumptions such as these and that we must help pre-service teachers get a better sense of the

complicated, and various, challenges students face.

Direct Links Foster Critical Reflection on/by Oneself

So far I have focused on the complexities of creating and sustaining direct links between

pre-service teachers and experienced teachers and between pre-service teachers and high school

students. I turn now to some of the more uniformly beneficial aspects of the direct links: what

can happen when they are forged and sustained. When participants successfully establish and

maintain their direct links, they can generate thoughtful, insightful understandings made possible

not only by the fact that such communication would not occur otherwise but also by the fact that

writing is central to the communication. Because it involves composing thoughts in the mind and

either simultaneously or subsequently composing them in writing, email can foster particularly

rich, individual reflection and analysis. One pre-service teacher explains:

> While [my experienced teacher partner] may not receive my email at that
> moment, I am still able to effectively "talk" to her in real time, as I process
> reflections from course readings, or more commonly, to think through (in written
> words) an experience at my student teaching placement site. I have found myself
> doing this increasingly with increased exposure to the school, often leaving the
> site wanting to debrief my experiences with someone who has both the patience to
> listen and the interest and experience to share his or her insights. Having the
> ability to jot these thoughts in the form of an email provides some of this
> connection that I seek.

The experienced teachers confirm, from their perspective, this benefit. One writes:

> The pre-service teachers are forced to generate a certain amount of material in the
> form of description (telling me what they are seeing in their placements, for
> example), speculation (analysis of those placements or of other topics they are
> thinking about), and direct questions (asking why certain things seem to be
> working or not and why the observed teacher or observed students may be
> acting/reacting in certain ways). Putting this material in writing requires some
> distance for reflection and judgment, so I feel that even before I get involved in
> the interaction, an additional step in the thought process has been undertaken by
> the pre-service teachers.

Pre-service teachers in Sernak & Wolfe's (1998) study offered similar feedback on the value of corresponding with someone as part of their preparation to teach: "Having a correspondent…really helped me focus my thoughts. Through writing, I began to think critically about the topics at hand" (pre-service teacher quoted in Sernak & Wolfe, 1998, p. 321).

These benefits do not only accrue to pre-service teachers. One pre-service teacher explains that the email exchange "made both me and my [experienced teacher partner] really think through what we had to say before we said it, unlike a conversation where often the things said are the first things that come to mind." Another experienced teacher explains: "I enjoy having the time to read and re-read the e-mails sent to me [from my pre-service teacher partners] and value the time I have to reflect on questions and respond after I have had time to consider them carefully." And a third experienced teacher writes that the exchange "has made me reflect on my training and student teaching, a phase of life I haven't reflected on much. It makes me more aware of the stages I've been through in my professional development." As Sernak & Wolfe (1998) argue, making one's understanding clear to others and to oneself is a necessary process for pre-service, novice, and experienced teachers (p. 326). One experienced teacher confirms this assertion in particular reference to email as a medium: "I value the experience that the [pre-service teachers] have in trying to formulate their ideas and questions so that I can understand and respond. It's actually effective practice for the professional world when so much communication now occurs electronically."

The high school students also emphasize that the email exchange prompts them to reflect critically on their own education and behaviors as students. One student writes: "The emailing bit of the project was a lot of fun. I was asked some really good questions that took some thinking." And another: "Being a part of this project helped to make me a better student by re-

evaluating myself, my study habits, and my teachers' teaching methods." Another explains: "The

email correspondence forced me to think about certain complaints I have had about teachers, and

think about how that could be improved upon. The questions I received in the emails were

specific to me, but allowed for my experiences to be generalized about." And yet another

student: "Not only do I think these [dialogues] will be helpful to the up and coming teachers but

also to ourselves. They made us reevaluate what is important to us in a learning experience."

Often these reflections on the part of the high school students have led to an enhanced

sense of self-esteem and efficacy. Just as participating in the Better Together Project sparked in

the middle school student participants "an unprecedented interest in school and promoted self-

esteem and belonging" (Bowman & Edenfield, 2000, p. 118), participating in the email exchange

and conversation with pre-service teachers through TLT enhances the self-esteem of many

student participants. One explains:

> This project has helped me in a lot of ways. I came from South America about
> four years ago, to this country, and I still, up to this date, I found myself at a lower
> level than I wish I would be in being a student, intellectual-wise. So this project…
> has helped me in my thinking process and my thinking skills. I think they've
> developed a lot.

Direct Links Foster Critical Reflection on Others

While the dialogues that unfold through these direct links can prompt participants to

reflect critically on their own perspectives, they also can prompt participants to consider more

carefully the perspectives of others. In direct as opposed to mediated or nonexistent exchanges,

these perspectives become clearer as people who generally would not exchange points of view

have the opportunity to do so. Students explain that the project in general offers them insights

into teachers' perspectives. One student writes: "It made me realize the teacher's point of view,

like, I never really realized what they go through, that they even care about this." Another

student writes: "It made me realize how much the teachers have to think about what they're doing and that they don't just get up there every day and do their thing. That they actually think about ways that they can improve themselves and they work really hard to do what they do." And a third: "It made me respect teachers more. I never really thought that they wondered about some of the things that [my pre-service teacher partner] asked me. And just to think that they actually wondered about that or cared about that made me respect them a little more." Without the email exchanges, within which pre-service teachers articulate their unfolding thoughts and their questions, students would not know that pre-service teachers had such thoughts and questions.

Listening to students' perspectives benefits both the students and the pre-service teachers in immediate and powerful ways. It strengthens students' confidence, and it offers pre-service teachers invaluable insights as well as inspires them to want to continue to listen to and respect students. One student asserts: "The best way to master the art of teaching is to really listen to student feedback and to change based on what students say…This program provided an excellent way for new teachers to get an insider's perspective into education." Several pre-service teachers concur that the email exchange gives them insight into aspects of students they would not otherwise glimpse and into the high school student perspective in general: "You can see another side of kids through the way they express themselves in email (as opposed to other written forms of communication). Watching them express themselves in a manner that they are the first generation to have grown up with helps teachers to see things from their perspective." Another pre-service teacher writes:

> [Through the emails] I can look back and into the mind of a high schooler. Even though that was only a few years ago, being in an environment like [Bryn Mawr and Haverford Colleges], I have become so accustomed to the lifestyle here and have forgotten what it used to be like. Having this pathway to experience what it

was like helps me to understand what I can do in my classroom to teach as best as I can.

And yet another pre-service teacher articulates the importance of listening to students, better understanding their perspectives, especially in relation to the other perspectives that influence pre-service teachers:

> The most beneficial aspect of my email exchanges with my dialogue partner is the fresh perspective I receive on issues that are normally left undiscussed between a teacher and a student. Receiving responses from my [experienced teacher partner], hearing feedback from my co-op teacher, and personally reflecting on issues do not give me insight on how what I do in the classroom actually affects the types of educational experiences students feel they are receiving. Sometimes, responses from my [student] partner reveal something new and surprising to me, while other times, they reveal what I expected, which is comforting because I discover that I am on the same page as students on certain issues.

Gaining these insights can also include gaining the understanding that it is important to attend to student perspectives in an ongoing way. In discussing the final paper she wrote for the Curriculum & Pedagogy Seminar she took in the fall, one pre-service teacher comments:

> At the beginning I came in to the dialogue project with the idea that [my high school student partner] could probably learn something from me, and I was so wrong. I learned SO MUCH from her and the way I structured my paper, I put three main issues that I learned that struck me as, "I'm not listening. I'm not listening. I'm just saying things to her, and not listening…She was listening to me and I was not listening to her. You need to hear the student's voice, because that's the reason of teaching.

Another pre-service teacher came to a similar conclusion:

> [There] was a really big turning point in the dialogue project where I realized that I was dominating discussion [in the exchange of emails] and that's not what I believed… I know on paper I can say, 'Oh, I really want student voice to be a dominant part of my classroom.' But, when it really comes down to it, can I somehow foster an environment where that's true?

These pre-service teachers have learned the importance of not only gesturing at attending to student perspectives but genuinely attending and having that attention inform their thinking about practice.

Direct Links as Archives

Whatever the nature, frequency, or quality of the exchanges, email provides records to which participants can return. Both experienced and pre-service teachers point out that, because email documents and archives dialogues, it not only captures and records participants' thoughts as they are having them but also makes those thoughts available for subsequent revisiting and analysis. One experienced teacher states: "[Email] provides dialog in text form which can be kept and referred to." Another experienced teacher writes: "The interaction takes the form of a real 'dialogue,' but with the added benefit of leaving a written record of what was 'discussed' that both the student teacher and I can refer back to at later moments." And a pre-service teacher explains: "Email is preservable unlike the spoken word so you have something to refer back to later." This is useful in a purely practical way—participants have records to which they can refer—but it is also important in that it makes possible a recursive and ongoing form of critical reflection that is also not bounded by time or literal space.

Discussion

As participant feedback indicates, use of email to create direct links in the context of an undergraduate teacher preparation program is not a uniformly beneficial choice. There are perennial challenges that the advent of email throws into relief, and there are new issues the creation of direct links such as I have discussed here raise for teacher educators to consider.

One of the perennial challenges to which the current discussion adds a new possible solution is how to mend the schism between the K-12 schools and the college and university

contexts within which pre-service teachers prepare to teach. A wide variety of school/university

partnerships have emerged to try to mend that schism (see, for example, Fu & Shelton, 2002;

Johnston, 1997; Szuminiski, Zath, & Benton, 1999), and approaches to school/university

partnerships include the creation of "boundary spanners" who assume "cross-institutional roles"

(Sandholtz & Finan, 1999, p. 23, p. 14) and the advent of "blended communities" within which

to engage in "generating visionary teaching/learning relationships…and environments" (Luke,

Luke, & Mayer, 2000, p. 9). Using a different metaphor—that of forging direct links—I suggest

that email has a unique potential to bridge if not mend the schism between schools and colleges

by creating direct connections between the participants in both contexts without having to

literally reconnect or integrate those contexts. The immediate and open-ended communication

between pre-service teachers and experienced teachers and between pre-service teachers and

high school students that email makes possible has the potential to re-establish connections

between these two contexts and their respective participants and to honor the knowledge, skills,

and experiences of participants from both contexts (Cochran-Smith, 1991; Fullan & Hargreaves,

1992; White, Deegan, Allexsaht, 1997).

Whether direct, electronic links are a better solution than finding ways to bring the

participants from these different contexts into face-to-face communication throws into relief

another perennial issue in education: how to provide forums for communication that work well

for all participants. As participant feedback on TLT suggests, for some, the "disembodied"

quality of email helps communication—makes them feel more comfortable, more willing to take

risks—but for others it hinders communication because they miss the body language and real-

time back-and-forth that carry spoken words in face-to-face communication. Some participants

see having the time and distance to reflect, ponder, and compose as a benefit to email, whereas

others feel that the time and distance impede "a creative, dynamic exchange." Some feel able to be more open through email and some less. These divergent perspectives may reflect differences in the kinds of circumstances under which people feel more comfortable in daily life; Feng, Lazar, & Preece (2004) suggest that people who are more trusting in their daily life may experience more difficulty in developing trust online. The different responses participants had also reflect their different interests in and aptitudes for intrapersonal intelligence. The challenge to teacher educators is to continue to create forums that meet a range of needs. Adding technology-based forums extends the challenges and the possibilities.

Whether writing as a form of expression and communication is particularly beneficial to learning is a component of the larger question about modes and media of communication. Sernak & Wolfe (1998) suggest that the email correspondence they facilitated between their two teacher education courses resulted in "students' deepened conceptual understandings developed through the act of writing to their partners (Troyka, 1996)" (p. 320). They explain this phenomenon in the same terms as the experienced and pre-service teachers who participated in TLT: the process of writing allows students to examine a concept or issue critically "through the act of making meaning using text written for another to understand" (p. 321). Sernak & Wolfe (1998) also cite Knoblauch & Brannon's claim that "intellectual commitment and penetration is likely to improve, simply because writing forces any mind to confront new experience, make connection with other experience, and discover some personal coherence" (p. 321).

Issues of literal access, of comfort with particular modes of interaction, of commitment and engagement, and of time are issues that trouble traditional classroom contexts as well as the virtual spaces created by an email exchange. A challenge of creating spaces outside of real time is that they still require real time to sustain. In addition, these spaces are not easy to monitor, as

traditional attendance and participation are. Furthermore, because differently positioned

participants may have different perceptions of the import of participating in the exchange,

imbalances and inconsistencies can arise. And finally, there are access and equity issues to be

considered. In these ways the email exchanges are not as well defined, as easily controlled, or as

"open" as traditional classroom spaces and some more systematically inclusive structures for

participation. These challenges must be acknowledged and addressed if all participants in teacher

preparation and education in general are to be best served.

Another perennial problem in education is the absence of student perspectives in

conversations about teaching and learning—a problem taken up with some intensity in the early

1990s (Erickson & Shultz, 1992; Kozol, 1991; Nieto, 1994; Phelan, Davidson, & Cao, 1992).

Although they are "generous commentators and insightful critics" (MacBeath, Myers, &

Demetriou, 2001, p. 78), students are still rarely asked to contribute to discussions about what is

good or problematic about schooling. And yet when teachers listen to students, they can begin to

see the world from those students' perspectives and make what they teach more accessible to

students (Oldfather, 1995; Rodgers 2002; Rubin & Silva, 2003; Shultz & Cook-Sather, 2001),

and students feel more motivated to participate constructively in their education (Cook-Sather,

2002c; Oldfather et al., 1999; Rudduck, 2002; Smyth et al., 2004). This benefit to high school

students, although not the main purpose of the project discussed here, is nevertheless a very

important outcome. As Rudduck (2002) points out, "We know from an early age young people

are capable of insightful and constructive analysis of social situations and if their insights are not

harnessed in support of their own learning then they may use them to strategically avoid learning

in school and conspire unwittingly in their own under-achievement" (p. 124). The opportunity to

correspond with pre-service teachers offers student participants in TLT multiple ways to support

their own learning; the virtual space within which they correspond with the pre-service teachers becomes a space within which they can imagine themselves and begin to enact selves that are stronger and clearer in the reality of their daily lives.

Finally, the ongoing quality of the email exchanges and the fact that email records and archives those exchanges promotes a recursive and ongoing form of critical reflection that is also not bounded by time or literal space. This is particularly important since, as advocates of fostering the development of reflective practitioners argue, in the absence of reflection, "one runs the risk of relying on routinized teaching and . . .not developing as a teacher or as a person" (Reiman & Thies-Sprinthall, 1998, p. 262; see also Lesnick, 2005; Rudney & Guillaume, 1990; Zeichner & Liston, 1987). The ongoing interplay of reflection and action, or what Freire (1990) calls praxis, although not generally built into the "structure of teaching" (Elbaz, 1987, p. 45), is essential to good pedagogical practice. Teachers must alternately slow down their thinking enough to allow a shift of attention from their own action to student learning and then a shift in focus back to acting on what they attend to (Rodgers, 2002). Becoming a reflective practitioner means not only developing the disposition to reflect on practice, it also means "finding the words to express those reflections to others—through collaboration, building a shared language and a shared knowledge of practice" (Yinger cited in McLean, 1999, p. 68). Participant feedback and my own reflections on TLT suggest that participating in a project like TLT could also lead to more explicit inclusion of these reflections into the daily work of teaching and learning shared by teachers and students. In these ways, schooling itself, as well as teacher and student roles within schooling, might be transformed.

Conclusion

I conclude with just two examples of the very powerful ways in which pre-service teachers have capitalized on the benefits of the direct links the email exchanges constitute. These examples illustrate how these pre-service teachers clarify and begin to work toward enacting their principles of educational practice as well as their evolving identities as teachers—and ongoing learners.

One pre-service teacher reflects on her email exchange with her high school partner and the ways in which her expectations were and were not met:

> Were my original expectations of a regular exchange of letters and a somewhat continuous dialogue appropriate? Overall, I think they were. At the very least, they reflect the skills and habits of mind emerging to me as valuable to instill in the classroom—the ability communicate effectively through writing, show responsibility, and react or engage in a 'conversation' with another person. With all I have learned this semester…I can see that I should have made my expectations clearer at the beginning…An even better strategy than introducing my expectations at the outset would have been to work out expectations collaboratively with [my high school partner].

This pre-service teacher clarifies pedagogical commitments: teaching "the ability communicate effectively through writing, show responsibility, and react or engage in a 'conversation' with another person." She also clarifies her own responsibilities toward meeting those commitments: "I can see that I should have made my expectations clearer at the beginning…An even better strategy than introducing my expectations at the outset would have been to work out expectations collaboratively." Furthermore, she identifies areas for improvement without being immobilized by them and thus is not hindered from seeing the strengths of her participation—a stance towards learning and achievement she may thus be in a better place to assume towards students. Finally, her assertion that she could and should co-construct with students expectations for learning illustrates a movement toward changing existing educational structures and relationships, making teachers and learners more equal partners in the work of teaching and learning.

In dialogue with her experienced teacher partner about the challenge to white teachers of teaching students of color, another pre-service teacher reflects on how she can work toward crafting an identity for herself that is responsive to her students and true to herself. In response to the pre-service teacher's concern that, in order to be effective with students of color, she might have to forfeit her own identity, this pre-service teacher's experienced teacher partner shared his own struggle to "merge who I am with what I perceive the 'culture' of [the school where I teach] to be," a process that took him a long time because "the school's culture wasn't immediately obvious and I also hadn't developed a classroom style that was my own yet." In addition to sharing this process, the experienced teacher suggests that by trying on different demeanors, the pre-service teacher is not "giving up anything of yourself, rather you are adding to your experience as a teacher."

The pre-service teacher's response to her experienced teacher's email was this: "My favorite line of that email: 'rather you are adding to your experience as a teacher.' That really hit home for me. I don't have to give up anything of myself, but I just get to add more and more and see what I develop into as the years go on. I really like that." Applying this insight directly to her practice, this pre-service teacher continues: "It comes down to how effective my teaching style is to ensure good learning." While she knows that "it will definitely be a challenge molding into [students'] culture…there are hidden strengths that I don't even know about yet!" As important as the actual insight this pre-service teacher gains through this exchange is her optimism and enthusiasm, her belief that she can become an effective teacher for students who are not like her without losing her sense of herself. And, like the example of the pre-service teacher's reflection on her dialogue with her high school student partner, this example illustrates a co-construction of knowledge, in this case about teaching, between the pre-service teacher and the experienced

teacher, and thus another kind of movement toward changing existing educational structures and relationships.

As these two examples suggest, the email dialogues allow for communication, exchanges of information, and certain kinds of critical reflection and perspective gaining that otherwise simply would not exist in the context of undergraduate teacher preparation. Participant feedback and my own reflections suggest to me that it is particularly important that pre-service teachers be afforded the opportunity to engage in both kinds of direct links I discuss here—with experienced teachers and with high school students. One or the other would be beneficial, but having both makes a qualitative difference of balance and perspective. A single mooring point across space and time still allows for some instability and a skewed perspective on the world of school and the participants in schooling. The two moorings that the direct links I have discussed provide allow for greater stability and promote the development of a wider perspective.

Author's Note

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