"I Want to Listen to My Students' Lives": Developing an Ecological Perspective in Learning to Teach

By Alison Cook-Sather & Heather Curl

Introduction

Listening to the student's perspective can be more than just listening to the student's perspective on school. I want to listen to my students' lives. I want to listen to what makes them unique individuals. I want to listen to their quirks, their rich personalities, and their heritages. I want to listen to their culture of one: the unique combination of their experiences that make them one of a kind, their humanity.

—Preservice teacher

Preparing teachers who want to "listen to their students' lives" in the ways the

Alison Cook-Sather is Mary Katherine Woodworth Professor of Education and Heather Curl is a lecturer, both with the Department of Education at Bryn Mawr College, Bryn Mawr, Pennsylvania. preservice teacher describes above requires creating opportunities for prospective teachers to perceive and learn about their students' lives and how those unfold within and as part of complex systems. That means supporting prospective teachers not only in understanding students as complex beings who have to navigate different contexts (e.g., home, school, community) but actually seeing students in those contexts and understanding the contexts as multiple and intersecting ecologies. An ecological perspective challenges the separation of theory from practice, the

university classroom from the secondary classroom, and the world of schooling from the home and community worlds among which secondary students move. Such a challenge, we argue, prepares teachers who are attentive and responsive to students as complex beings situated in multiple structures and sets of relationships.

In this article we provide a theoretical framework that outlines the notion of ecology with which we are working and a description of a project called Teaching and Learning Together (TLT) that supports the development of an ecological perspective. Taking a collaborative approach to teacher education, this nearly 20-year-old project positions secondary students enrolled in urban and suburban public schools as partners to prospective teachers, offering glimpses into students' lived realities and advice about creating classrooms that support diverse learners. Seeing students so richly situated in context and relationship challenges preservice teachers to question the assumption that many make: that their students' experiences are the same as theirs. TLT is based in the secondary methods course required for state certification to teach through the bi-college Education Program at Bryn Mawr and Haverford Colleges, two small, selective, liberal arts colleges that enroll students from diverse socio-economic, cultural, and educational backgrounds.

The majority of the article draws on the reflective writing of prospective teachers who have participated in TLT, produced as part of their work for the methods course. These excerpts highlight three ways in which these preservice teachers develop and demonstrate an ecological perspective on their emerging teaching practice. First, through structured and supported direct engagement with and writing about secondary students, preservice teachers become aware of the multiple contexts and components of students' worlds. Second, through their dialogue with the secondary students, preservice teachers learn about and develop pedagogical strategies that take the complexity of students' lives into consideration in order to create more responsive classrooms. Third, through these experiences, pre-service teachers reframe teaching and engagement with students as a complex, unending process of exchange, one in which people try to communicate, understand, and work with one another but understand these efforts as necessarily partial and unpredictable. We conclude with implications not only of this project in this context but for other, larger teacher preparation programs in other contexts as well.

Theoretical Framework

A critical dimension of becoming a teacher is developing an understanding of the larger context within which one's own teaching and learning are situated (Darling-Hammond et al., 2005). Educators in the United States are beginning to recognize that the forces that create injustice and environmental degradation around the world are identical to those that create inequities here: racism, classism, and an irrational expectation of privilege (Gandin & Apple, 2004; Li, 2006; Light, 2002). Within the context of teacher education, becoming aware of those forces as part

of a whole system — as intertwined dimensions of a single structure and set of relationships — is to think of learning to teach in the terms offered by ecology.

In this discussion we use the notion of ecology in its broadest sense as a new paradigm for the preparation of teachers (Nolet, 2009) that is not so much "about sustainability" or "for particular sustainable development outcomes," but rather re-conceptualizes education as teaching sustainability: "nurturing critical, systemic and reflective thinking; creativity; self organization; and adaptive management" (Sterling, 2004, pp. 56-57). We are interested in thinking about learning to teach as developing resilience within teaching-learning relationships in a way that acknowledges and aims to deal with uncertainty (Fazey, 2010). We embrace a "new ecology," which apprehends that "stable structures like equilibrium or homeostasis do not accurately reflect natural systems...[and acknowledges that] wherever we seek to find constancy we discover change" (Mentz, 2001, pp. 156-157). We see sustainability as the preservation and development of life and further capacity for life in and through change.

The current trend in districts across the United States involves a separation of the lives of students and teachers from teaching method instruction and an increased focus on standardization and evaluation within teacher education (Mead, 2012). This tendency toward routine, checklists, and assessment found in celebrated texts such as Lemov's *Teach Like a Champion* (2010) or Jones' *Tools for Teaching* (2007) frames teaching as a list of predictable and controllable practices teachers can learn and demonstrate regardless of who their students are or the contexts in which they are teaching and from which their students come. This perspective misses the important interconnectedness thrown into relief within an ecological perspective. By paying attention to the ways in which teaching is complex, unpredictable, and not subject to list-based notions of control, rather than forcing standardization, we might better support preservice teachers in preparing for and accommodating these complexities.

In his discussion of ecology, Nolet (2009) argues for the development of "a willingness and ability to engage intellectually and personally with the tensions that are created by the interconnectedness" of various systems (p. 421). The language preservice teachers in TLT use of discerning the complexity of students' beings and lives and developing a commitment to seek and work with that complexity speaks to their development of higher order thinking. Such language and thinking indicate that they will be better able to discern and adapt to larger ecological challenges within the world of teaching and learning. More sophisticated personal epistemological beliefs are necessary for achieving broad sustainability goals and a more pluralistic, involved, and politically aware society (Hofer & Pintrich, 1997; Fazey, 2010).

Distinct, then, from other teacher development perspectives that posit finite outcomes and particular behaviors as central, an ecological perspective asserts that teacher action and behaviors necessarily shift based on the changing and complex spaces of the classroom and school. TLT focuses on developing the capacity to

teach in this complex way; it focuses on developing the "ecological literacy" that requires a "merger of landscape and mindscape" (Orr, 1992, p. 86). While it can be challenging to sustain the commitments one develops during teacher preparation when confronted with some of the realities of schools (Bickmore, Smagorinsky, & O'Donnell-Allen, 2005), previous research on TLT suggests that prospective teachers who participate in the project continue to be attentive and responsive to students as diverse learners, recognizing them as part of complex systems and relationships (see, for example, Cook-Sather, 2009a).

Description of Teaching and Learning Together (TLT)

Based since 1995 in the secondary methods course both of us have taught at Bryn Mawr and Haverford Colleges, TLT invites high school students to take up the role of pedagogical consultant to prospective teachers enrolled in the course. An integral part of the penultimate course required for certification to teach at the secondary level in the semester prior to practice teaching, this project has four components. Component one is a weekly email exchange between preservice teachers and high school students. Each pair explores topics addressed in weekly seminars at the college (i.e., what makes a good teacher, lesson plan, test, etc.) but also includes topics the pairs feel are relevant to teaching and learning more generally. Component two is weekly conversations among high school students convened by school-based educators and held at the students' school. The discussions last for approximately 30 minutes and are held after school or during lunch. Like the email exchange, they are based on the topics explored in the college seminar, and they are audiotaped, uploaded as podcasts, and assigned as required reading to the preservice teachers. Component three is weekly discussions in the college course focused on how the email exchange is going and what preservice teachers are struggling with, learning, and integrating into their plans for practice. Component four is an end-of-semester analysis paper for which each preservice teacher selects a focus for analysis and draws on and quotes excerpts from the email exchanges, podcasts of discussions among the high school students, and college-based class discussions.

This project is situated within a wider set of assignments for the preservice teachers, including reading theoretical and practical texts, shadowing their student partners at the students' schools for a full school day, and visiting their student partners at home with the school-based educator who facilitates their weekly dialogue. The high school student participants are selected by the school-based educators with whom we have collaborated. The goal is to recruit a diverse group, including male and female students who are assigned to different tracks and who claim different racial, ethnic, and class backgrounds. Students are paid modest stipends for their participation, and the school-based teachers are also remunerated. To date, over 250 high school students and secondary certification candidates have participated in the project. Originally supported by grants from the Ford Foundation and the

Arthur Vining Davis Foundations, TLT has been fully supported by Bryn Mawr and Haverford Colleges since 2000. (See Cook-Sather, 2010, 2009b, 2007, 2006, 2003, and 2002 for other discussions of this project).

Methods

Since the advent of TLT, both facilitators and preservice teacher participants have engaged in systematically documented reflective practice. Being reflective "encompasses both the capacity for critical inquiry and for self-reflection" (Larrivee 2000, p. 294). Because opportunities for reflection are not generally built into the "structure of teaching" (Elbaz 1987, p. 45; Felten et al., 2013), it is essential to develop reflective habits of mind before embarking on classroom practice. In the absence of opportunities to reflect on our "knowledge in action" (Schön 1987, p. 12), we run the risk of "relying on routinized teaching" and "not developing as a teacher or as a person" (Reiman & Thies-Sprinthall 1998, p. 262; Zeichner & Liston 1987). Reflective habits of mind are particularly well fostered through the kind of dialogue and analysis invited and required by TLT.

Working toward a dynamic notion of reflection, Lesnick (2005) uses the image of a "mirror in motion" to argue for "an understanding of reflection that admits of ongoing movement, change, and interaction, so that 'success' in reflective practice is a matter of agility, mobility, flexibility, and, importantly, of the interdependence of one's movements with those of others on and beyond the reflected scene" (p. 38). This notion of reflective practice is in keeping with arguments for an ecological perspective in learning to teach. And in particular, when students are invited into the "cycle of interpretation and action" (Rodgers 2002) that constitutes reflective practice, both student and faculty participants in that cycle experience a unique opportunity to access and revise their assumptions, engage in reflective discourse, and take action in their work (Cook-Sather, 2008, 2011a; Lawler 2003).

As indicated in the previous section, "Description of Teaching and Learning Together (TLT)," participating preservice teachers engage in regular reflection throughout the semester. The quotations that we include in the present discussion are drawn from preservice teachers' portfolios and comments during reflective sessions. The data were coded using constant comparison/grounded theory (Creswell, 2006; Glaser & Strauss, 1967) in order to determine themes and trends in the experiences and perspectives of the preservice teachers within the larger frame of ecology. The categories we use to organize the preservice teachers' reflections were generated through open coding: "the process of breaking down, examining, comparing, conceptualizing, and categorizing data" (Strauss & Corbin, 1990, p. 61). All preservice teachers whose writing is included were asked for their permission, and although we thank them in the Acknowledgements section, we preserve their confidentiality throughout this discussion. Also to preserve confidentiality, all names used for secondary students are pseudonyms.

Each quotation we include under the various categories represents a perspective or insight shared by the majority of participants. We do not mean to imply that all participants have uniform experiences but rather that the themes and issues we identified were raised by the majority of preservice teachers who have participated in TLT. Particular quotations were chosen because they directly addressed the question of ecology, but they are representative of the ways that the majority of preservice teachers who have participated in the project engaged with these issues, as evidenced in class discussions and papers.

The 250 preservice teachers who have participated in this project represent the diversity of undergraduates enrolled at Bryn Mawr and Haverford Colleges. The diverse cultural, socio-economic, and educational backgrounds of these prospective teachers, the critical frame adopted by the Education Program, and the emphasis at Bryn Mawr and Haverford Colleges on critical thinking and social justice issues ensure that there is a high level of awareness and commitment among the prospective teachers to equitable teaching practices. However, without the frame of ecology, such a commitment can become impositional. Certification candidates, between five and 15 per year, major in a range of disciplines (e.g., math, science, languages, social studies) and plan to teach in a wide variety of school settings at both the middle and high school levels. Individuals come from a range of racial, ethnic, and social class backgrounds and are often from various locations across the United States. There are often more females than males in the certification group. These aspects of identity are not foregrounded in the analysis presented in this article because the perspectives we present were so similar across the preservice teachers.

Developing an Ecological Perspective in Learning to Teach

In the following several sections we draw on preservice teachers' spoken and written reflections to highlight the ways that TLT (1) structures and supports preservice teachers raising their awareness through which they (2) develop insights and practices that (3) prepare them to embrace, be comfortable with, and structure opportunities for their own students to engage in the multiple, intersecting ecologies of students, teachers, classrooms, schools, and the larger systems of which all are a part.

(1) Structuring Support and Raising Awareness

Through the various TLT forums within which the preservice teachers interact with the secondary students, they become aware of the multiple dimensions, components, and contexts within and across which the secondary students live and move. Preservice teachers gain a deeper understanding of students' lives in school as those students represent them in email exchanges and podcasts of weekly meetings, students' lives in school as they appear to prospective teachers when they shadow students in their schools, and students' lives in home and community through the

home visits. Preservice teachers' raised awareness helps them articulate their own more ecologically framed pedagogical commitments.

Written and Spoken Exchanges. The email exchanges and weekly meetings, transcribed into texts for the preservice teachers to read or uploaded as podcasts for them to listen to, provide detailed, individual, as well as collective reflections of students' experiences. As one preservice teacher put it, "The student dialogues provided nuanced insight into the lives of students in and outside of the classroom. Most importantly, they made me think about students as humans, as real emotional and intellectual beings, and not just the audience of my profession."

Being in dialogue with students helps prospective teachers see students as whole people and teaching as a relationship that is influenced in various ways and always evolving. Recognizing the situated and shifting nature of relationship and engagement, preservice teachers come to understand that class participation is not always a true representation of a student's insight or capacity. As another preservice teacher reflected: while her partner, Lila, is "sometimes short on words" when she is in class, "when you get her started writing about something, she can go for a while and she's really really astute." This preservice teacher realizes that getting to see "a student a little bit differently than I might have gotten to see in a classroom" is important because "we only get to see for particular students what they produce in class and sometimes that's not best for communicating who a person really is." This is the beginning of seeing students as part of larger, complex systems.

The exchanges preservice teachers have with their high school student partners make real the complexities of the worlds in which students move. The preservice teachers remember "how much of a balancing act and how exhausting high school is" and "how unimportant one specific class can feel" at any given moment, when a lot is going on in one's life," which is "an important thing to keep in mind as I become a teacher of one specific class." But they also have the opportunity to reaffirm and clarify, and sometimes revise, their own perspectives. One preservice teacher talked about the ways that the students "kept me really honest to the things that I really wanted to be as a teacher." The insights preservice teachers gain and the awareness they build through TLT supports viewing their role as teacher also as part of a complex, shifting set of ecologies.

School Visits. Actual visits to students' schools provide a second angle of vision on students' lives in school and help situate students' individual experiences within larger systems and relationships. The vivid reality of schools, so easily forgotten once one has left high school, is re-evoked through the school visit in a different way than it is through spoken and written exchanges. As one preservice teacher explained: "Shadowing Natalie put me at her level and allowed me to relate to her everyday problems, from noisy classrooms to uninviting classmates." This preservice teacher continued, "The experience of shadowing Natalie offered yet another crucial step in truly getting to know a student. This time, it was through trying to

walk in her shoes for a change." Through this experience, preservice teachers actually experience, rather than just hear, read, and think about, the complex ecology of the school.

Another preservice teacher highlighted the insight she gained into students' relationships. As she put it in a message to her high school student partner, she saw "how important your relationships are all to each other," and she reflected, "that's just not something that a teacher sees very often when they're in their own classroom." Seeing students outside of class adds another dimension to this understanding. Another preservice teacher talked about how he attended "a meeting for girls in the school to discuss issues of gender equality and women's rights." Watching his partner interact with the other students, he explained, he "began to see Lily as a student with beliefs and opinions that are important to her." He saw Lily "as a human being with a personality and distinct interests."

When preservice teachers see for themselves not only the "fragmented nature of a day at high school," the "abrupt transitions between classes," and the "highly stressful schedule," but also the "different expectations" teachers hold, they come to see clearly the need to develop teaching strategies that might directly address these concerns:

Many of Sarah's comments this semester have focused on her need to have her teachers clarify expectations and assignments. Even before I shadowed my partner, I understood why this was an important thing for teachers to do. After completing my shadowing experience, my goal to provide students with clear expectations has become paramount. Days in school are chaotic, and clear expectations work to relieve some of the stress inherent in this chaos because they provide a predictable and dependable structure for students to rely on.

Through this awareness, grounded in her student partner, Sarah's, comments and clarified in her visit to the school, this preservice teacher developed a pedagogical stance that might help to mediate this "fragmented" aspect of high school. Paying attention to the aspects of teaching and learning that might be predictable creates more space and flexibility for the larger (sometimes chaotic) ecology within which students learn and attend school. Within an ecological perspective, then, it is important for preservice teachers to understand that providing predictable and dependable structures within class does not eliminate the larger, less predictable realities of students' lives.

Home Visits. The third arena within which preservice teachers have the opportunity to observe and learn from students and to gain further insight into the multiple ecologies within which students function is the home visit they make. One preservice teacher captured the importance of this experience: "It was wonderful to be welcomed into someone's home, but it was also really important to remember that everyone has a life outside of the class, that I am going to teach you for one subject for one period and you have this amazing and complicated life outside of that."

This deepening understanding is a result of observing out-of-school contexts and relationships. Another preservice teacher explained that he could have not understood his student partner as well "without seeing her in her familial context." Inspired by this experience, this preservice teacher mused:

My experience with Natalie illuminated the importance of humanizing one's students through trying to understand their many contexts. This can happen through a home visit or through informal conversations but regardless of the means, the process must be grounded in a genuine effort to understand our students—not just who they are, but why they are who they are.

Preservice teachers learn through their home visits what complicated realities students experience. After listing circumstances under which her student partner lives, including a long commute, parents who speak limited English, and demanding extracurricular activities, one preservice teacher reflected: "This is just a reminder that a student performing well in the classroom does not automatically signal that he or she has an i asible tool in my pedagogy, it is important to consider that what goes on at home is relevant to what goes on at school." This preservice teacher demonstrates an aw areness of the complicated and intersecting ecologies present in a student's learning through experiencing various aspects of the student's life firsthand.

(2) Developing Insights into and Plans for Creating Responsive Classrooms

The various forums described above and the dialogue about them in which preservice teachers in TLT participate provide those preservice teachers with insight into how to take the complexity of students' lives into consideration in thinking about, planning for, and engaging in developing responsive classroom environments. Such classrooms can better support students in navigating the "chaos" of school and feeling able to express their feelings as people engaged in that navigation. Several capacities contribute to the development of responsive classrooms, including recognizing, valuing, and fostering diversity; conceptualizing students as partners in teaching and learning; and striving to communicate across differences of position and perspective.

Recognizing, Valuing, and Fostering Diversity. Because preservice teachers necessarily start from their own experiences and often assume that their students' experiences are the same, engaging in dialogue with secondary students provides a reminder that contexts and students' experiences within their contexts vary. As one preservice teacher explained, though his dialogue with his student partner, whose school context was very different from his own, he "came face-to-face" with his "assumptions, biases and understandings of the real diversity of schools, culture, power and social class." When such recognition leads to receptivity, then preservice teachers can expand their thinking and plans for practice. This same preservice teacher described "a working toolbox" he developed in which his "number one

method should always be empathy." Empathy is a way of recognizing the complexity of difference without eliminating it (Cook-Sather, forthcoming).

Conceptualizing Students as Partners in Teaching and Learning. Among the most important insights and changes preservice teachers experience when they participate in TLT is that they come to see learning and teaching as more reciprocal, with both parties learning and teaching. As one preservice teacher put it in a conversation with the secondary students: "Learning and teaching don't go in one direction. In [TLT] we learned from you guys." Projecting forward to her own classroom practice, this preservice teacher continued: "Learning from students doesn't stop. As teachers we're still learners and as students you are teachers in the sense that you are teaching us about yourselves and what matters to you." This ongoing learning process acknowledges that the unknown is expansive because the world and those in it are unknowable in any final way. The partnership, then, is about the process of navigating together the unknown.

Striving to Communicate Across Differences of Role and Perspective. When students become partners in dialogue and in practice, clear communication becomes key. To bring together their different roles and perspectives, teachers and students need to create forums within which to communicate. Within classrooms, such communication often revolves around planning and experiencing subject matter.

As one preservice teacher explained, while teachers may do lots of thoughtful planning, "all that students see are what we present to them." The result can be a gap in perception. As this preservice teacher continued: "I may have a differentiated curriculum and my tests may be what I think of as authentic, but if it just looks like a test that doesn't make any sense, then I haven't really done my job." This recognition of responsibility leads to an awareness of the need to be explicit. In this preservice teacher's words again: "So I'm really learning the importance of transparency in the whole process as well." However, transparency does not ensure in any complete or final way clarity of communication or understanding.

The complement of teacher communication about why one takes the approaches one does is inviting students to have input on those approaches. One preservice teacher paired her learning about "the complex lives students face and the sources/explanations of challenges teachers face" with "suggestions for solutions" that the students provided. This preservice teacher explained that "the awareness and solutions the students shared and inspired has positively affected my teaching practices. They allowed me to experience and have explained theory in practice." Eliciting student perspectives and input, framing teaching and learning as ongoing dialogues, prepares preservice teachers and students with whom they work to be more flexible and responsive. It prepares both teachers and students to be more willing and able "to engage intellectually and personally with the tensions that are created by the interconnectedness" of various systems (Nolet, 2009, p. 421).

Drawing on All of These Approaches to Create Responsive Classrooms. When preservice teachers develop the insights and practices outlined above, they are taking steps toward creating responsive classrooms. They recognize "why it is so important for us as teachers to communicate with our students, to address them as individuals, and to create a safe space for them in our classrooms." As another preservice teacher put it: "I believe that one of my roles as a teacher is creating a classroom environment where student voices are heard, where students feel safe, and students do not feel as if they are being treated as simply one of many." This same preservice teacher outlined for herself an approach to creating a responsive classroom: "By engaging my students in conversation, by taking interest in my students' lives outside of the classroom, and by speaking up when it seems as if something is wrong, I show my students that they are not simply cogs in the school machine." The care with which these preservice teachers come to consider their students demonstrates their understanding of the need for support structures within which students can evolve as their complex selves. Developing the capacity to be responsive to diverse students prepares these preservice teachers to embrace diversity and uncertainty.

The awareness student teachers build alongside the experience of getting to know the complex life of one individual student through each component of TLT supports the development of a pedagogical stance that is responsive to students' needs and interests. Rather than focusing on a checklist of what responsive teachers might do, the project supports the development of a lens as a teacher through which pedagogical decisions are made, across a variety of contexts and subjects, that always considers the students and their complex lives.

(3) Reframing Engagement with Students as a Complex, Unending Process of Exchange

Participating in TLT reframes engagement with students as people trying to communicate, understand, and work with one another. Being able to create and sustain such exchanges successfully requires the development of several related capacities that preservice teachers' reflections highlight, all of which are dynamic and always evolving. These include balancing care and attention with respect for privacy; learning how to frame and ask questions; and remembering that what we know is always partial and incomplete.

Balancing Care and Attention with Respect for Separateness. Through participating in TLT, preservice teachers come to recognize the importance of striving for a balance between inquiring about students and respecting their separateness. In one preservice teacher's words: "As a teacher, I realize I have to balance being aware, supportive and respectful without being too nosy." Another stated: "While some students are forthcoming with information about themselves, others are more private, and it is necessary that I respect that."

Care and respect also entail recognizing when students do not want to connect. Some preservice teachers found their high school partners more removed than they would have liked but made that into a learning experience as well. As one preservice teacher explained:

Struggling through this dialogue may be one of the most important takeaways that I am getting from this larger project. I have been presented with the fact that you do not always connect with students. That no matter how many questions you ask, on some days, you don't get an answer. That a teacher to talk to is not what every student needs or looks for.

Struggling to engage in an ongoing exchange that can be unpredictable and unmanageable prepares preservice teachers to question their assumptions about connection but not give up on their engagement with students.

Learning How to Frame and Ask Questions. Given this conception of teaching as an ongoing exchange, specific strategies for how to engage in that exchange, or what communication might look like, emerged as an area of investigation and interest for many preservice teachers. Through drawing on course texts and through harnessing learning they accomplished through their individual dialogues with their student partners, preservice teachers came closer to understanding how to engage with students.

One pre-service teacher shared: "In my exchanges with Liz, I learned how easy it is to ask our students the wrong questions and be unable to engage them in the ways in which we would like to." Although preservice teachers might spend considerable time crafting careful questions, taking "a more direct approach" and simply asking students what they are doing can elicit far more. In this preservice teacher's words: "I learned that consulting students in a casual, non-complicated way is sometimes the best way to get students to share their experiences."

One particular insight preservice teachers gained regarding asking questions was the importance of reciprocity. As one explained: "It is important for a teacher, or more generally, the person initiating a dialogue, to share a bit of herself with the person with whom she is talking." Applying this insight, she explained: "When asking my partner questions about herself, especially personal questions related to family or hobbies, I always began by answering them myself." This approach makes question posing a more reciprocal exchange: "In sharing a bit of myself with my partner, my goal was to establish a relationship of mutual respect; I did not want to assume a superior position through interrogating her. Rather, I wanted to make it clear that my intentions were to get to know her, and for her to know me."

Remembering That What We Know Is Always Partial and Incomplete. It is easy to generalize and make assumptions based on what we see and perceive of others. One of the most important aspects of reframing engagement with students as an ongoing exchange is remembering that what we know is always partial and incomplete.

One preservice teacher explained how he was surprised by something his high school student partner wrote in an email. He explained: "The experience made me realize that as much as I thought I knew Hakim, by listening to him, I found something surprising that demonstrated a richness and deepness to his personality and experiences I hadn't previously known and appreciated." This particular realization prompted this preservice teacher to generalize the importance of this insight: "It motivated me to assert that when I'm a teacher I have to realize that there is a lot about each of my students that I don't know, but if I take the time to listen to them talk, their narratives, I will find something new and wonderful."

Another preservice teacher offered a different example of the partiality of her knowledge. Describing a scenario during the home visit to her high school student partner's house, she explained how her partner fixed a machine that none of the adults in the room had been able to make work. She applied the insight she gained from this experience to her teaching:

This experience made me question what gives me my authority as a teacher. After all, neither I nor my partner's teacher had been able to do what my partner had. After some reflection, I realized that my authority comes from the fact that I have more knowledge and experience, in my subject, in schooling, and in some other areas. However, as this experience showed, there may be some instances where my students have more expertise than I do. And this is okay...If I do not give my students a chance to be the experts every once in a while, I may miss out on important opportunities.

A significant aspect of the "ecological literacy" supported through TLT is this willingness as a teacher to stay open to the potential opportunities offered by our students to teach us about their contexts, offer insights, and reveal their expertise. Staying open to the incompleteness of everyone's knowledge remains a central aspect of "teaching sustainability" through actively preparing preservice teachers to engage in the uncertainty of teaching and learning.

Discussion

The awareness preservice teachers gain through the various components of TLT supports the development of a pedagogical stance that reflects the complex lives students lead. Building a pedagogy based on the heightened awareness provided by participation in this project is a cornerstone of developing teachers who might work well within the complex terrain of teaching and learning, inspired as they are by their students yet aware of their limits as teachers. They recognize each of these as aspects of a larger ecological system that is education.

TLT increases preservice teachers' awareness of the complex lives and experiences of students while developing pedagogical and relationship-building skills that can be used in their teaching practice. The project also supports the notion that the process of understanding or building awareness of students' complex lives is a

continual one that they are just beginning to develop when they participate in the project. The various forums for dialogue reveal the variation and complexities of students' voices and how they use (and do not use) them in relation to the same variation and complexity of teacher voices. Seeing students in context and relationship helps preservice teachers not make as many assumptions and commit themselves to learning about and being responsive to their students' particular circumstances and experiences.

Through engaging in these various forums, preservice teachers develop capacities as well as informed and intentional practices that acknowledge students in their diversity and make teaching and learning more reciprocal and more of a shared responsibility. As one preservice teacher explained: "We were all in it for a particular purpose, but the generating of knowledge that occurred was based on human interaction, needs, and lives." She highlights, once again, the reciprocal exchange that is the process of becoming a teacher: "Within this context, we were all growing as students and as teachers... Students shared that they grew—as young adults—in their experience talking to educators. They recognized the challenges of the teaching process and profession. The teacher who acknowledges the potential for such growth is acknowledging the potential in students."

In addition to the insights experienced by the preservice teachers involved in TLT the current school-based educator, who is a full-time mathematics teacher and facilitator of the recorded weekly student dialogues, was reminded anew of the potential to counter standardized notions of teaching and embrace a more ecological model. She juxtaposes her heightened awareness of the relational aspects of teaching through TLT with the more quantitative expectations to which she and her colleagues are held:

Teaching is this thing that is so incredibly human, yet so dehumanizing at the same time. So there's this curriculum, and these test scores, and these grades, and these GPA's, and these scores, scores and tests, tests, tests and these numbers and all this quantitative analysis around something that is completely human and not really about a number.

The teacher-facilitator experiences firsthand the disparity between what she knows is at the core of her work as a teacher—her students—and what she is expected to do in terms of scores and tests. Despite this intense difference between the work she does and the ways in which that work is measured, she describes being reunited with her knowledge of her students as complex people through her role in TLT, particularly via the home visits. Addressing the students, she said:

Meeting your families and being in your contexts was so powerful for me and it really reminded me in this powerful way that students are humans too and you have contexts and families that care in particular ways and it's what makes you who you are. These things all matter and they provide layers to who my students are. The more I get to know those layers, the more incredibly fun my job becomes. You've all brought some fun and some love back into my teaching and I'm really thankful for that.

Recognizing the dynamic contexts from which her students come provides the catalyst for the regaining of what this teacher calls the "fun" of her job. It is this aspect of the work of teaching and viewing the work within an ecological framework that provides sustainability in a profession that struggles with retention.

According to the National Commission on Teaching and American's Future (2007), just under 50% of all teachers leave the classroom before completing their fifth year teaching. Considering the work of teaching and teacher education through an ecology lens enables more nuanced consideration of what is entailed in teaching and learning, how that work is and should be measured, and how preservice teachers might be prepared to take on this complex work. The work discussed here has implications, then, beyond the immediate project at Bryn Mawr and Haverford Colleges.

Implications

While TLT has been facilitated in the context of a small, secondary certification program in selective liberal arts colleges, the basic premises of the project can be generalized. Practice building a relationship with a student can be facilitated even when the structure or funding of the program does not allow for a complete project such as TLT; a commitment to student perspective and teacher-student relationships can occur across contexts. The student teachers in TLT themselves recognized that, particularly in regard to the home visits, they would be unable to accomplish this for each of their students, every year. However, they (and we) maintain that there are ways to pay attention and respond to student perspective, identity, and complexity even without the support of the larger program. Included in this section are a few implications, then, which might work across contexts toward the development of teachers who are responsive to and aware of the ecological landscape of teaching and learning.

All prospective teachers in teacher education programs take education courses into which could be integrated an electronic exchange with school students. Most students have computers or smart phones they could use with which to communicate, and the principle of opening dialogue between school students and preservice teachers could be enacted in a variety of low-cost ways. This is not an approach that uses technology for technology's sake but rather uses it for bridging the worlds of and fostering meaning making between prospective teachers and experienced students.

Similarly, all prospective teachers in teacher education programs across contexts experience a student teaching placement of some kind. A dialogue component could be included in this aspect of the class in which student teachers (with the guidance and support of the university professor and the cooperating teacher) focus in on learning the perspective of one or two students in depth. They might spend time before and after class asking what the students thought, give them post-it notes at the start of each day and request those back if the students had insights or input from the lesson. Or once a week each student teacher could conduct "focus group"

lunches during which a few students joined the student teacher to discuss what they are learning in class and how their experiences in school more broadly affect the learning they are accomplishing.

Another expansion of the traditional teaching placement might include a mandatory 'shadow' day, perhaps just before or after their official student teaching begins, during which student teachers shadow a student for the day and witness the energy, rhythm, and complexity associated with being a middle or high school student. This would require no additional organization or funds, since the student teachers are already on site.

The opportunity to connect with and learn from students is possible when considering the complex lives of the student teachers as well. Many will already know or be close to young people, whose perspectives they might learn from across a wide range of contexts and ages. A course assignment could include a dialogue with a young person the student teacher already knows (a sibling, cousin, niece or nephew, neighbor, friend's sibling, etc.). Drawing on course readings, the members of the class could brainstorm together a list of questions to ask or topics to consider and each conduct one dialogue, or a series of dialogues, with a young person they know already. Analysis could include the content of the dialogue, but also how learning this information might influence a teacher who has that particular young person in class. In each case, the potential for student input and dialogue toward the goal of developing an ecological stance on teaching and learning is possible.

Conclusion

Learning to be engaged in dialogue with students, not only teaching to or for or at them, prepares preservice teachers to be attuned or at least receptive to the complex ecologies of the classrooms, schools, and communities in which they will teach. It opens them to the complexity of students' beings, lives, and worlds and the interaction between those and the larger contexts (community, culture, society, world) within which their lives are situated and unfolding.

Developing within a space that is structured, supportive, and challenging helps preservice teachers think about how to create similar spaces for students: environments in which they can be their complex selves, learn, struggle, and grow as part of unending, unpredictable, and largely uncontrollable processes. This important intersection between awareness of students' lives, strategies for connecting with and learning from students, and developing pedagogical strategies that support navigating this complex landscape of teaching and learning contributes to current conceptions of teacher education. This is particularly true when considering teaching and learning from an ecological perspective.

The Teaching and Learning Together project at Bryn Mawr and Haverford Colleges offers structures, scaffolding, and support to build awareness among prospective teachers. Such support provides preservice teachers engaging with students the

context to develop insights and practices that they can employ as teachers. These structures and supports allow prospective teachers to acknowledge the complexity of the educational process and prepare themselves to be teachers who will embrace, be comfortable with, and structure opportunities for their own students to engage in the multiple intersecting ecologies of students, teachers, classrooms, schools, and the larger worlds of which they are a part. It is incumbent upon us as teacher educators to create programs, projects, and assignments that contribute to the preparation of teachers who are critical, systemic, and reflective thinkers (Sterling, 2004); who approach teaching in imaginative ways (Fettes & Judson, 2011); who "dig deeper," to look for "hidden relationships," and "consider multiple possible interpretations" (Fazey, 2010). These are the kinds of teachers who will be able to manage complexity and uncertainty such that they develop and support in their students further capacity for life.

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Note

¹ These are the real names of the colleges, but all student names are pseudonyms.

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