

**APPROPRIATING CONCEPTUAL AND PEDAGOGICAL TOOLS
FOR TEACHING ENGLISH: A CONCEPTUAL FRAMEWORK
FOR STUDYING PROFESSIONAL DEVELOPMENT**

PAMELA L. GROSSMAN
PETER SMAGORINSKY
SHEILA VALENCIA

National Research Center on English Learning & Achievement
University at Albany
State University of New York
1400 Washington Avenue, Albany, New York 12222

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National Research Center on English Learning & Achievement

University at Albany, School of Education, B-9
1400 Washington Avenue, Albany, NY 12222
<http://cela.albany.edu/>
518-442-5026

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ABSTRACT

In this article we propose that activity theory—following from the work of Vygotsky (1987), Leont'ev (1981), Wertsch (1981), Cole (1996), and others—provides a useful framework for studying the conceptual development of teachers. Activity theory's emphasis on the settings in which development takes place distinguishes it from theoretical perspectives that assume that teaching is a solitary profession. It shifts attention instead to the social and cultural factors that mediate development in particular contexts, thus allowing an understanding of how particular preservice and inservice environments guide early-career teachers toward particular beliefs and practices about teaching and learning. We begin by outlining the central tenets of activity theory and applying them to issues of professional development. We then discuss what an activity setting is and how it suggests both motive and means for developing in particular ways; the role of conceptual and pedagogical tools in teaching and what leads teachers to gravitate toward some tools rather than others; and the manner in which teachers appropriate particular tools for their teaching in relation to mediating factors in the activity settings of their work. We illustrate each of these concepts with examples from our current research on the transition that teachers make from preservice programs to their first jobs, a project involving diverse schools and participants from several states. We conclude by asserting the rich potential of activity theory as a lens for studying professional development because it allows for an understanding of how settings affect conceptualizations of teaching. Reform efforts that focus on changing individual teachers have little chance of having widespread effect. Restructuring settings, however, can change both preservice and workforce practices on a larger scale, if the assumptions behind activity theory are valid.

We begin with a dilemma. Dorothy, an elementary teacher, and Frank, a middle school teacher, both encountered the practice of writing workshop in their teacher preparation programs. This approach allows students to choose the topic and form of their writing, produce multiple drafts of their papers, and write for audiences of their own choice. Teachers serve as both facilitators and instructors, targeting their instruction to the particular needs of the students. Excited by the potential of this approach, Dorothy was eager to try out writing workshop during her student teaching in an elementary school classroom. Her cooperating teacher, however, did not share her enthusiasm, and Dorothy soon discovered that trying to implement a writing

workshop approach in an unsupportive environment was not possible for her. Despite this experience, in her first year of teaching, Dorothy launched enthusiastically into a writing workshop with her first graders. By the middle of the year, Dorothy was implementing a full-range of activities associated with this approach.

Frank, too, was inspired by the writing workshop approach he learned about in his methods course. In contrast to Dorothy, Frank had a mentor teacher who supported his use of a workshop approach during student teaching. He found, however, that his students resisted coming up with their own topics and found it difficult to stay on task given the open-ended parameters of the approach. His dismay at the resulting chaos led him to reject the approach altogether. In his first year of teaching, Frank did not use a workshop approach and struggled with ways to teach writing.

How do we understand the differences between Dorothy's and Frank's experiences? How did the ways in which they initially encountered the concept of writing workshop shape their later experiences? How did the particular settings in which they first experimented with the approach affect their subsequent decisions? Perhaps most importantly, what do we learn from their stories about the influence of teacher education programs on teachers' conceptions of teaching? Frank's experience conforms to both conventional wisdom and some research arguing for the weak influence of teacher education. Dorothy's experience, however, provides a compelling counter-example and suggests the possibility that the effects of teacher education programs can only be viewed in conjunction with a variety of variables having to do with the *settings* in which teachers learn and practice their work. Relevant setting-related factors are often found in the different goals and practices valued in university-based preservice programs and school-based teaching communities.

Research on the professional development of teachers has consistently revealed a disjuncture between the values and practices avowed in teacher education programs and the ultimate values and practices adopted by teachers upon entering full-time teaching. Studies of teacher education programs (e.g., Borko & Eisenhart, 1992; Kennedy, 1998; Smagorinsky & Whiting, 1995) suggest that in many programs, preservice teachers are exposed to textbooks and methods that follow a reform agenda that includes instruction that is experiential, learner-centered, activity-oriented, interconnected, and constructivist; writing workshops exemplify the kinds of approaches frequently endorsed by university faculty. However, observational studies of schools

show that the practice of teaching in schools remains much as it has always been: content-oriented, teacher-centered, authoritarian, mimetic, and recitative (Applebee, 1981, 1993; Cuban, 1993; Goodlad, 1984; Sizer, 1984). This incongruity between the teaching approaches advocated by university education faculty and those typically practiced in schools—even by their own program graduates—has been the source of much concern and vexation for those whose livelihood centers on the preparation of teachers (Grossman, Valencia, & Hamel, 1997; Wideen, Mayer-Smith, & Moon, 1998).

Researchers have offered a variety of reasons for this disjuncture. A number of studies suggest that teachers feel that their education course work is too theoretical and that their student teaching provides them with their greatest learning (e.g., Fagan & Laine, 1980). Some researchers (Borko & Eisenhart, 1992; Ritchie & Wilson, 1993) have argued that students learn progressive pedagogies in their preservice programs but that the social environment of schools promotes an ethic more geared toward content coverage and control, thus overcoming the value placed on student-centered teaching methods learned in university programs. Others (e.g., Zeichner & Tabachnik, 1981) argue that preservice teachers never adopt the values and practices promoted in universities to begin with, thus questioning the assumption that preservice teachers accept the values of teacher education programs only to abandon them in the school culture. The plethora of explanations only underscores how little we really understand about how teachers learn to teach.

The finding that teachers tend to gravitate to the values of the institutions in which they are employed, while consistent across studies, is thus explained quite differently by different investigators. The reasons behind these differing accounts could easily have conventional explanations: different samples yield different results, researchers' predispositions may influence data collection and analysis and thus interpretation, multiple causes are responsible for the same effect. We propose that, by using a different theoretical framework for studying professional development than has been used thus far, these findings may be viewed as less contradictory and more as pieces to a larger puzzle. The framework we propose is generally known as *activity theory*.

Through its emphasis on the *settings* in which development occurs, activity theory has the potential to illuminate how teachers' progression through a series of settings can mediate their beliefs about teaching and learning and consequently their practices. Activity theory can

therefore help account for changes in teachers' thinking and practice, even when those changes differ from case to case. Rather than seeking a uniform explanation for the reasons behind teachers' gravitation to institutional values, an approach grounded in activity theory is more concerned with issues of enculturation and their myriad causes and effects. From this theoretical perspective, then, the question is not to discover which cause accounts for all change, but rather to ask, under what circumstances do particular kinds of changes take place? What led Dorothy to hold on to her commitment to a writing workshop approach, while Frank quickly abandoned it?

AN ACTIVITY THEORY FRAMEWORK FOR STUDYING TEACHER EDUCATION

Activity theory (Cole, 1996; Leont'ev, 1981; Tulviste, 1991; Wertsch, 1981) is predicated on the assumption that a person's frameworks for thinking are developed through problem-solving action carried out in specific settings whose social structures have been developed through historical, culturally-grounded actions. Activity theory is useful for understanding the process of learning to teach, particularly in illuminating how teachers choose conceptual and pedagogical tools to inform and conduct their teaching. This framework directs our attention to the predominant value systems and social practices that characterize the settings in which learning to teach occurs.

One of the central concepts of activity theory, and sociocultural theory more generally, is that of *appropriation* (Leont'ev, 1981; Newman, Griffin, & Cole, 1989; Wertsch; 1991). Appropriation refers to the ways in which people adopt ways of thinking and acting through their participation in social practices. Wertsch stresses the ways in which appropriation is a developmental process that comes about through socially-formulated, goal-directed, and tool-mediated actions. From a Vygotskian (1978, 1987) perspective, social structures provide the frameworks for the ways in which people learn how to think, communicate, and act. Any social context constrains the choices of those practicing within it. The term "constrain" as we use it is not pejorative but rather describes the ways in which environments provide facilitative structures to foster development (Valsiner, 1998). These developmental channels lead in particular directions toward value-laden endpoints and thus toward culturally-valued concepts

(Smagorinsky & O'Donnell-Allen, in press). While contexts may limit choices, they also provide clearer paths for reaching particular destinations.

Activity theory also calls attention to the goals of development (*telos*) and the ways in which environments are structured to promote development toward these goals (*prolepsis*). Cultures are infused with notions of ideal personal and societal futures that are promoted through the ways in which cultural activity is structured. *Telos* refers to a sense of optimal developmental outcomes (Wertsch, in press), while *prolepsis* describes the ways in which cultures structure environments and activities to bring about those outcomes (Cole, 1996). A central concern of activity theory, then, is to understand the kinds of culturally defined futures that motivate people's activity and the sorts of tools they develop in order to help mediate one another's progress toward those futures.

Within the context of teacher education, the ultimate goal for preservice teachers is to assume the professional responsibilities of a teacher and to teach competently. However, the specific images of what professional responsibilities entail or what it means to be a competent teacher may differ dramatically in different settings. Similarly, all participants in teacher education, including school-based faculty and administrators and university-based faculty and supervisors, hold beliefs about how someone learns to teach. These beliefs help shape how they interact with and support beginning teachers. These varying and often conflicting belief systems and their relative authority and influence over preservice teachers often result in both multiple conceptions of the ideal teacher and multiple environmental structures to guide career development toward those ideals. In short, student teachers often find themselves tugged in different directions, with university faculty and supervisors promoting one approach to teaching and mentor teachers and school systems encouraging others.

In this article we will illustrate the potential of using an activity theory framework for studying how the cultural settings of preservice and inservice environments mediate teachers' concept development. As part of their development, teachers develop both concepts and practices related to teaching. The research we are conducting through an activity theory framework focuses on how preservice teachers develop both conceptual understandings and specific practices for teaching English/language arts across the disparate settings that comprise teacher education and initial job placements. Our current sample includes students from two large state university programs in the Northwest and Southwest. As our research proceeds, we will be

supplementing our data with new cases from two additional institutions, one located in the Southeast and one in the Northeast. This will increase the diversity of both program features and school settings.

Case study participants in the current study include teachers from elementary and secondary preservice programs. The schools in which they have taught during both preservice years and first jobs have varied in size, structure, grade level, demographics, and pedagogical emphasis, thus providing us with diverse settings in which to study how concept development is mediated by involvement in activity settings.

At this point we have followed 15 teachers from their last year of teacher education into their first year of full-time teaching. Ten of these teachers are participating in a longer-term study in which they will be followed through their third year of teaching. In the next section we discuss key concepts from activity theory that frame our understanding of the transition made by teachers from preservice programs to their first jobs

KEY CONCEPTS WITHIN AN ACTIVITY THEORY FRAMEWORK

In using an activity theory framework we rely on the key concepts of *activity settings*, *tools*, and *appropriation*. We define and illustrate each in the sections that follow.

Activity Settings

Activity settings are the social contexts in which learners are engaged. These settings encourage particular social practices that presumably participants will come to see as worthwhile tools to a better future. Activity settings provide constraints and affordances that channel, limit, and support learners' efforts to adopt the prevailing social practices. In this sense a constraint is a positive set of limitations that provide the structure for productive activity (Valsiner, 1998). Central to an activity setting is the *motive* or outcome implicit in the setting. Wertsch (1985) maintains that "the motive that is involved in a particular activity setting specifies what is to be maximized in that setting. By maximizing one goal, one set of behaviors, and the like over

others, the motive also determines what will be given up if need be in order to accomplish something else" (p. 212).

An activity setting has a cultural history through which community members have established specific outcomes that guide action within the setting. Multiple and competing desired outcomes often coexist within an activity setting, though typically some predominate. The overriding motive for a setting, then, while not specifying the actions that take place, provides channels that encourage and discourage particular ways of thinking and acting. For example, student teaching, as an activity setting, has multiple, and sometimes competing, goals. From one perspective, student teaching is an opportunity to experiment, to try out practices in a supportive environment (e.g., Dewey, 1904). On the other hand, student teaching is also a high-stakes demonstration of one's competence as a teacher, successful completion of which is prerequisite to graduation or certification. The first purpose, experimentation and learning, might have encouraged Frank, for example, to try out the writing workshop approach he had learned in his methods class. However, the classroom management problems he quickly encountered detracted from the second goal: that of demonstrating his competence.

Activity settings typically overlap. That is, they do not exist as insular social contexts but rather as sets of relationships that coexist with others. Some exist side by side, while others are subsumed within larger settings. Each classroom participant, for instance, acts within an activity setting bounded by the classroom, which is a subset of different, coexisting settings: the classroom is part of a school, which is part of a district, which exists within a statewide system. At the same time, an English class is situated within a set of departmentally-governed English classes that are typically responsive to local and state English/language arts frameworks (Grossman & Stodolsky, 1994).

Teacher education is comprised of a number of distinct activity settings, including: university coursework, and the specific classes that make up the curriculum; field experiences, including initial observations as well as full-time student teaching; supervision; and the overall program, including the ways in which students are admitted and organized and the ways in which all participants relate to one another. Each of these activity settings has its own specific motive, structural features, sets of relationships, and resources for learning to teach. These examples are illustrative rather than comprehensive. The likelihood is that the more activity settings that are available, the greater the prospects for incompatible goals to coexist, each competing for

primacy. With each participant involved in overlapping activity settings, the likelihood that all will wholeheartedly pursue the same goals is diminished. In cases where there is consistency of purpose across activity settings, the overall congruence is likely to be much stronger.

Activity theory can help illustrate the *two-worlds* pitfall (Feiman-Nemser & Buchmann, 1984) because it draws attention to the ways in which individuals develop goals within settings that themselves suggest particular goals and activities. In the setting of the university, preservice teachers are exposed to one set of conceptions and practices related to the teaching of English. These conceptions may or may not be consistent with their prior experiences and beliefs (Agee, 1998). In addition, the university setting reinforces a *student* role for preservice teachers; both professors' and preservice teachers' goals in the university involve success in this student role.

Simultaneously, preservice teachers are also being exposed to conceptions and practices for teaching English when they enter schools for field experiences and student teaching. Again, these conceptions may or may not conform to their prior beliefs or experiences or to the university's conceptions. In contrast to the university, the school setting reinforces the *teacher* role of the preservice teacher, albeit as an apprentice and mentee. Since the ultimate goal of the preservice teacher's development is to assume the role of teacher, the teaching role impressed by schools is likely to supercede the values and practices that are stressed in the university. Preservice teachers' goals in the school setting have little to do with success in coursework and much to do with establishing oneself as a teacher, winning the respect of the cooperating teacher, developing relationships with students, and being deemed competent within the value system that governs the school. While the student role is still in effect during visits from university supervisors, these occasions are relatively infrequent compared to those involving the influence and guidance of the cooperating teacher and school institution.

Activity theory also focuses on the ways in which individuals begin to adopt particular practices and ways of thinking to solve specific problems or challenges within a setting. Learning to teach poses a number of challenges for novices, many of which have been amply described in the literature. These problems, or concerns as they are sometimes labeled, include but are not limited to: developing an identity as a teacher (e.g., Britzman, 1991), developing a conception of the subject matter and how to teach it (e.g., Grossman & Stodolsky, 1994), developing a conception of teaching and learning and their role as a teacher (e.g., Grossman, 1990), learning to manage student behavior (e.g., Bullough, 1989), learning to teach bored

students (e.g., Kennedy, 1998), and learning to work with colleagues (e.g., Smylie, 1994). While there are a general set of problems involved in learning to teach, individuals will encounter specific variations of these problems in their own practice. Part of our effort is to understand how prospective teachers and those around them define the problems they face and how they engage in solving these problems, using the resources around them.

Sociocultural History of Activity Settings

One of the contributions of sociocultural theory is its emphasis on the ways in which human activity is embedded within a sociohistorical context. The very existence of structures such as student teaching or university coursework in pedagogy is rooted in history. Similarly, many prospective teachers enter teacher education imbued with cultural beliefs about the dubious worth of their formal preparation for teaching. As one of our participants commented, she had heard from a friend that teacher education was redundant, so "that's what I was expecting, a lot of redundant information."

In trying to understand the ready dismissal of the formal study of pedagogy in learning to teach, one must look not only to the ultimate goal of teacher development but to the past. The tools of teacher education most taken for granted (e.g., lesson and unit plans, courses on educational psychology and foundations, supervision) all have histories that are linked to their current forms and utility. In our interviews with mentor teachers and other school-based supervisors, we have found that teacher education programs in general are not highly regarded, a view routinely expressed in recurrent condemnations of university education programs (e.g., Conant, 1963; Kramer, 1991). One assistant principal, for instance, was a former English teacher who presided over an innovative series of professional development opportunities in her school, including literature book clubs for faculty and workshops on student-centered teaching methods. She commented:

I had great English/language arts teachers in college, but I have no pleasant memories of my undergraduate college education experience. . . . you know I still remember sitting in those [education] classes and I don't think it was the education I got there as much as it was my own excitement at what I was about to do . . . [that] made me the teacher I was.

Her comments echo the cultural emphasis on the dismissal of professional education as a factor in learning to teach. Sociocultural theory helps focus attention on the culture existing within schools that often disregards the importance of university preparation for teaching, one that strengthens the authority of the school as the venue for learning to teach.

We should note that the emphasis on cultural history presents a conundrum for activity theorists because, while considered essential, it is often difficult to document clearly. Although some efforts have been made to study classrooms over time in order to understand the development of the prevailing practices, routines, and values (e.g., Gutierrez & Stone, in press; Smagorinsky & O'Donnell-Allen, 1998a, 1998b), a deeper sense of individual or institutional history is available primarily through interviews and suggestive artifacts rather than direct, empirical study.

Individual Constructions of the Activity Settings

A school has properties that are indisputable (e.g., classroom walls physically exist; some classrooms have access to computers while others do not). In addition, individuals construe the school in particular ways through their internal representations of the situation. Lave (1988) makes a distinction between an *arena*, which has visible structural features, and a *setting*, which represents the individual's construal of that arena. Thus, while two teachers may work at the same arena (e.g., a school), they may have distinctly different understandings of the school setting based on their own goals, histories, and activities within the school arena.

The experiences of one university supervisor with a group of elementary school student teachers illustrates well how one activity setting is open to multiple construals. The university supervisor, Imelda, was a native of the Philippines and was working toward a Ph.D. in mathematics education. Her style of supervision was to observe a class (preferably a math lesson, although for our study she agreed to observe some language arts lessons) and then, rather than providing an assessment of the lesson, to ask the student teacher how the lesson had gone. The sessions were designed, she said, to get the student teacher to reflect on the lesson and think about how it had worked. Student teachers consistently said that they would have preferred a direct critical evaluation of the lesson that pointed out their mistakes and suggested methods for improvement. When asked for the rationale behind her method of response, however, Imelda

said that American students do not like direct feedback and prefer a less critical approach; that if she were in her native country, she would respond with a critical appraisal. If the relationship between university supervisor and student teacher is viewed as an activity setting, then the setting was constructed and interpreted quite differently by each participant. The cases in our research yielded a number of instances in which activity settings were construed differently by different participants.

In the study we are using to illustrate activity theory, part of our effort is to examine the relationships within and across the specific activity settings in which prospective teachers learn to teach. While supervision of student teaching represents a type of distinct activity setting—with its own structure, goals, resources, tasks, and tools—the specific relationship between each supervisor and student teacher helps determine the nature of the activity setting. Bakhtin's (1981, 1984) constructs of *dialogism*, *heteroglossia*, and *multivoicedness*, frequently used by activity theorists (e.g., Wertsch, 1991) to account for the internalization of ways of thinking, are relevant to our efforts to understand how prospective teachers draw on and use the languages of their professors, cooperating teachers, supervisors, and peers to inform their approach to teaching English/language arts.

Tools

An activity theory framework for studying teacher learning would need to be concerned with identifying the tools that teachers use to guide and implement their classroom practice. Psychological tools, like the more familiar tools of handiwork and construction, enable people to act on their environments. In our research we are concerned with the tools through which teachers construct and carry out teaching practices. We distinguish two types of tools, *conceptual* and *pedagogical*, which we define next.

Conceptual Tools

Conceptual tools are principles, frameworks, and ideas about teaching, learning, and English/language arts acquisition that teachers use as heuristics to guide decisions about teaching and learning. Conceptual tools can include: broadly-applicable theories such as constructivism or

reader-response theory; and theoretical principles and concepts such as instructional scaffolding that can serve as guidelines for instructional practice across the different strands of the curriculum. A good illustration of a conceptual tool comes from one of our research sites, a preservice program that stressed attention to assessment. One course in this program emphasized the need for the alignment of goals, curriculum, instruction, and assessment. Students gave evidence of internalizing this framework for alignment. One secondary preservice teacher, for instance, described the broad applicability of this assessment framework for developing goal-oriented instruction in a variety of areas:

[The assessment class] really made me realize that every single thing I do, every little activity that I do should have a purpose, and it should be working [toward] some kind of an educational goal. I think, knowing that, I had to always focus on what I wanted them to get out of the lesson before teaching it. Don't think afterwards, "Well, what did they learn?" but think ahead of time, "What are they going to learn from this?"

A second preservice teacher from this program also articulated the need for assessment to be aligned with instructional goals and practices:

[The instructor says] "you're going to stand up in front of people and teach. What are you teaching them? Why is it important? How is it important? . . . Are you assessing your students on the thing that you say you're teaching them, or are you assessing them on some other thing? Have you taught them the thing you're about to test them on? And if you are . . . why is it important, and if you're not . . . why are you going to do it anyway?"

Both statements illustrate how these preservice teachers used the alignment framework as a conceptual tool for thinking about planning, instruction, and assessment. For many of the students in this program, this framework became an implicit part of how they thought about and critiqued their own teaching.

Pedagogical Tools

Pedagogical tools are classroom practices, strategies, and resources that do not serve as broad conceptions to guide an array of decisions, but instead have more local and immediate utility. These might include: instructional practices such as journal writing or using Daily Oral Language exercises; or resources such as textbooks or curriculum materials that provide such instructional practices. One example of a pedagogical tool used by participants in our study was

a unit plan for teaching writing that came complete with peer feedback sheets and other ready-made resources. One of the teachers used this unit plan several times for quite different writing assignments, never adapting the peer feedback sheet for the different genres or purposes for writing. While she eagerly used the pedagogical tool of this unit plan, she did not necessarily have a conceptual understanding that guided her use of it.

In activity theory parlance this process of adoption carries the name of *appropriation* (Newman et al., 1989; Wertsch, 1991). We next elucidate what we mean when we refer to appropriation of conceptual and pedagogical tools for teaching, again using our current research to illustrate how the concept of appropriation helps illuminate teacher learning.

Appropriation

Appropriation refers to the process through which a person adopts the conceptual and pedagogical tools available for use in particular social environments (e.g., schools, preservice programs) and through this process internalizes ways of thinking endemic to specific cultural practices (e.g., using phonics to teach reading). The extent of this adoption depends on the congruence of a learner's values, prior experiences, and goals with those of more experienced members of a culture such as school-based teachers or university faculty (see Cole, 1996; Newman et al., 1989; Smagorinsky, 1995; Wertsch, 1991). Fundamental to appropriation is the learner's active role in these practices. Through the process of appropriation, learners reconstruct the knowledge they are internalizing, thus transforming both their conception of the knowledge and in turn that knowledge as it is construed and used by others. Cazden's (1988) idea of *performance before competence* is useful to our understanding of the concept of appropriation because it emphasizes the role of active participation as a means of becoming competent in social practices. From this perspective, transmission-oriented instruction has weaker potential for enabling new learning than does participation in joint activity (Marshall, Smagorinsky, & Smith, 1995).

From an activity theory perspective, then, the central questions about learning to teach include these: How do activity settings mediate teachers' thinking? Which activity settings mediate teachers' thinking most powerfully and effectively? What kinds of social structures are prevalent in different settings, and in what manner do they mediate the appropriation of

particular conceptual and pedagogical tools for teaching? To what extent are different tools for teaching appropriated for use in different settings? To answer these questions, we first differentiate among degrees of appropriation.

Five Degrees of Appropriation

Appropriation can take place in varying degrees, including a lack of appropriation. Each represents a depth of understanding of a particular tool's functions.

Lack of appropriation. Learners might not appropriate a conceptual or pedagogical tool for several reasons. The concept may be too difficult to comprehend at the point in someone's development when it is initially encountered. Alternatively, the concept may be too foreign to their prior frameworks at that point in their development. Learners might also understand the concepts as intended but reject them for a variety of reasons. For instance, in our data there was a cultural mismatch between Penny, a student teacher, and her cooperating teacher (see Smagorinsky, in press). The cooperating teacher was a highly efficient, well-organized nine-year veteran who encouraged Penny to teach within the confines of the overall school schedule and within the boundaries of time scheduled for each lesson in the planning book. Penny resisted her mentor's efforts to become more efficient because she preferred to explore each lesson in depth, even if that meant running over the scheduled time and infringing on the next lesson's allotment. In interviews she located her conception of time in both her university's constructivist philosophy, which viewed knowledge as constructed rather than readily transmitted; and in her Native American background, which did not emphasize the precise measurement of time. She understood the concept that her cooperating teacher was urging her to appropriate but rejected it as an alien way to regard time and as a constraint on implementing process-oriented instruction. She was therefore at odds with her cooperating teacher's daily planning that moved crisply from lesson to lesson. She was much more likely to allow a lesson or discussion to extend well beyond its scheduled limits, thus, in the cooperating teacher's eyes, compromising the overall coverage goals of the curriculum. In this example the conceptual tool of efficient instruction was resisted because of Penny's different framework for viewing time and curricular goals.

Appropriating a label. The most superficial type of appropriation comes when a person learns the name of a tool but knows none of its features. For instance, one cooperating teacher in

our sample was familiar with the term *whole language* and knew vaguely that it involved noisy classrooms but was not aware of any specific whole language practices or their conceptual underpinnings.

Appropriating surface features. The next level of appropriation comes when a person learns some or most of the features of a tool yet does not understand how those features contribute to a conceptual whole. For instance, in a prior study (Smagorinsky, 1996), a student teacher claimed to be engaging her students in cooperative learning because she had told them to work in groups and to share their work. The assignment, however, consisted of a three-page summary of a story with blanks provided for students to fill in missing information; students were placed in groups of three and told that each student should do one page independently and when finished, they should read the three pages consecutively for a whole understanding of the story. The teacher thus grasped some features of the tool of cooperative learning yet did not understand the overall concept of cooperative learning's emphasis on interdependence. Another example of surface understanding appeared in our current research during one beginning teacher's use of the practice of peer response groups. She used the term to describe breaking students up into groups to read each other's papers. She also used a guidesheet borrowed from a pre-packaged unit to focus students' responses. However, she seemed less clear about what students could gain from the experience or how to structure the response groups to fit the genre of writing in which the students were engaged.

Appropriating conceptual underpinnings. At the conceptual level one grasps the theoretical basis that informs and motivates the use of a tool. Teachers who grasp the conceptual underpinnings of a tool are likely to be able to make use of it in new contexts and for solving new problems. A person could conceivably understand and use the conceptual underpinnings of a tool but not know its label; a teacher could also conceivably understand the conceptual underpinnings without knowing its pedagogical applications. For instance, in one elementary preservice program we studied, the university faculty emphasized constructivism as its umbrella concept, reinforcing it across a series of five teaching methods classes. Preservice teachers whom we interviewed were able to provide textbook definitions of constructivism, contrast different professors' versions of it, critique professors who espoused constructivism but did not practice it, critique cooperating teachers for teaching in traditional rather than constructivist ways, and plan and carry out lessons and units that were faithful to their definitions of constructivism. They

therefore demonstrated an ability to apply the concept to a variety of new situations and to classify various teaching practices as constructivist.

Another example of conceptual understanding involved Dorothy's use of writing workshop. Although she had been introduced to the concept in her teacher education class, she had not had the opportunity to try the ideas out in her student teaching. Her frustration with her cooperating teacher provided an opportunity to explore more deeply aspects of a classroom that facilitated writing workshop and those that got in the way. By her first year of teaching, she was able to create an environment that supported her writing workshop and to discuss how the various features of her approach supported her first graders' writing.

Achieving mastery. Preservice teachers in our study also gave evidence that they had appropriated the conceptual underpinnings of a pedagogical practice, such as performance assessment, but were not yet able to implement such assessments in their own classrooms. Several of the preservice teachers in our study were able to use their conceptual understanding of performance assessment to critique their current practices, but found themselves unable to actually develop and use performance assessments in their classes. This example raises the distinction between *appropriation* and *mastery* (Herrenkohl & Wertsch, in press). If mastery means the skill to use a tool effectively, then this more fully realized grasp of a concept most likely would take years of practice to achieve. This distinction argues for a longitudinal look at teachers' development, since they may only be able to master some of the conceptual and pedagogical tools after several years of classroom practice.

SUMMARY

Appropriation can occur at different levels for both pedagogical and conceptual tools. A conceptual tool such as constructivism may be appropriated as a label only and can also be grasped in terms of its conceptual underpinnings. A pedagogical tool such as writing workshop can also be understood at each level. We should stress that appropriation does not necessarily involve an endorsement; one might understand the conceptual underpinnings of writing workshop but reject the premises that support it. One might also understand a tool but find that the environment makes it difficult to use effectively, such as when Dorothy embraced writing

workshop values yet was discouraged from using them during her student teaching. Appropriating a tool and using it, then, do not necessarily co-occur for a variety of reasons.

Factors Affecting Appropriation

Through the process of appropriation, learners may alter the surface features and/or conceptual underpinnings of the tool and perhaps re-label its features to account for changes in the way in which they use it. Whether the reconstruction is consistent or inconsistent with the original conception depends on the social context of learning and the individual characteristics of the learner.

Social context of learning

The social context of learning provides the environment in which one learns how to use tools. The notion of context is often associated with a physical structure (e.g., an arena such as a school, a university, a university department) that embodies a set of human values. The sense of context that we are concerned with here primarily refers to the related set of social practices in and through which learning takes place among people whose lives intersect in a particular activity (in this case, learning to teach)—what we previously referred to as a setting. Drawing on activity theory, we view social contexts as structures that are products of cultural history in which individual histories converge. Social contexts are thus inherently relational and value-laden. The social contexts of learning to teach include the imagined outcomes, relationships among participants, underlying philosophies of a program, and kinds of activities that engage the different participants.

The social context of a setting also includes how, and by whom, tools are introduced and used. A tool may be presented through a text, instructor, school-based teacher, or classmates in varying degrees of faith to its original conception and in varying degrees of complexity corresponding to the levels of appropriation we have outlined. If a tool is presented without its conceptual underpinnings, students may appropriate only what is available, i.e., the label and surface features. Some textbooks are written with the intention of providing an overview of teaching ideas without their conceptual underpinnings and thus create situations in which

teachers' initial learning of tools is potentially limited to labels and surface features (Smagorinsky & Whiting, 1995). We hypothesize that such approaches limit teachers' likelihood of understanding the conceptual underpinnings of the tool and their chances of applying it to new situations or to solve new problems.

Pedagogy represents another layer of the social context of learning to teach. Students may have opportunities to understand conceptual underpinnings of a tool, but the pedagogy of teacher education itself may run counter to the conception of teaching being espoused. A truism in teacher education and teacher development concerns the need for teachers to experience a pedagogical approach from the standpoint of a learner before they are able to implement this approach in their own classrooms (Duckworth, 1987; Feiman-Nemser & Featherstone, 1992; Schifter & Fosnot, 1993). The opportunity to experience a pedagogical tool in the social setting of teacher education may also affect appropriation.

Once teachers join the work force, the school becomes the primary activity setting for developing conceptions of teaching and learning. Researchers have found that the culture of school mediates teachers' thinking in powerful and lasting ways. We see the strong influence of the school culture throughout our data. One example illustrates well the power of the social context of schools. Sharon, a student teacher from a constructivist elementary preservice program, was placed with Caroline, an extremely authoritarian mentoring teacher whose teaching was conducted almost exclusively through basal readers and their accompanying worksheets. Caroline's mentoring style was consistent with her teaching style. Her method was for Sharon to follow her lesson plans and imitate her teaching style as faithfully as possible. In Sharon's view there was little opportunity for constructing a personal teaching style within Caroline's mimetic mentoring approach. She often expressed frustration at the lack of opportunity she had to teach according to the principles she had learned in her preservice program. During one interview she said in frustration, "Sometimes I'm afraid I'm going over to her side." When asked to elaborate, she said that because she had been provided so little opportunity to practice the methods learned in her university program, she was afraid that she would lose that knowledge altogether. Of particular concern to Sharon was the prospect of getting her first teaching job in a school with values similar to those of her student teaching site, where the prevailing practices would pressure her to teach with basals, with an emphasis on classroom management, and with a curriculum built around isolated literacy building blocks.

Such an environment, she said, would likely lead to further erosion of the constructivist principles she had learned. Without an opportunity to engage in constructivist practices, she might find herself on the other side of the profession, which conceptually she had learned to critique and avoid.

The culture of the schools, however, is not always in opposition to the culture of the university. Another preservice teacher, Allison, was placed with a cooperating teacher whose practices and beliefs closely mirrored the perspectives of the university coursework. Seen from the context of this student teaching experience, the influence of the university paled in comparison, and Allison came to believe that she had learned virtually everything of importance during her student teaching, even when the university program had been her first point of contact with the ideas she attributed to the school site. It may be that the contrasts between the two cultures helps students further articulate and define their own beliefs (Hollingsworth, 1989). When a preservice teacher's prior beliefs, university coursework, and student teaching experience are all in concert, the influence of the university may become invisible (Grossman & Richert, 1988). We see here the importance of seeing the roles that preservice teachers are expected to assume in the contexts of university and school. Allison's attribution of knowledge about teaching to the school experience suggest that her role as teacher in that setting had powerful consequences for her locus of learning.

Individual characteristics of the learner

Activity theory focuses primary attention on the cultural-historical setting in which the development of both individuals and their social groups takes place. Our discussion thus far has focused on the settings of development and how they mediate individuals' (e.g., preservice teachers) and social groups' (e.g., faculty, student cohorts,) conceptions of teaching. We also see the need to attend to individual characteristics as factors that are implicated in the process of appropriation. Wertsch (1998) argues that debates about human development typically cast the individual and society as antinomies in ways that caricature one position or the other and believes instead in the need to view the individual as fundamental to the construction of social groups, rather than as a separate entity. Doing so requires that we take into account how individuals act within social frameworks. We next review important characteristics of individual

teachers that, in conjunction with contextual mediators, affect the ways in which teachers develop conceptions of teaching.

Apprenticeship of observation. A teacher's apprenticeship of observation is the set of experiences accrued through years of being a student. Grossman (1991), Lortie (1975), and others have discussed the influence of the apprenticeship of observation on teachers' beliefs and classroom practices. Prospective teachers emerge from their own schooling with strong views about what it means to teach. These views will constrain how prospective teachers are able to appropriate new ideas about teaching and learning.

For example, one preservice teacher in our sample, Dale, described his most influential teachers as being charismatic and believed that a teacher's personality was the dominant factor in his or her success. This belief overrode his methods course professor's emphasis on thematic units taught through scaffolded engagement in inductive activities. Dale's student teaching was highly problematic because he eschewed the need to plan thematic units involving scaffolded learning and instead relied on his witty personality to sway students to his way of thinking, as his own favorite charismatic teachers had done with him. Students, however, did not find him amusing, and his student teaching was troubled throughout by his failure to either captivate his students or effectively plan instruction. Dale's cooperating teacher was highly regarded for her constructivist approach (she was the reigning Teacher of the Year for a large school district and finalist for state Teacher of the Year honors) and was in strong agreement with Dale's methods course professor's approach of teaching through thematic units of instruction. However, Dale's own positive experiences with charismatic teachers and his misplaced confidence in his own personal magnetism led him to underestimate the importance of preparation. Ultimately, his student teaching received low evaluations from both his cooperating teacher and university supervisor. An apprenticeship of observation, then, can influence both the types of assumptions teachers have about the way schooling ought to occur and the success of those practices in particular institutional contexts.

Personal goals and expectations. Teachers teach for a variety of reasons. Many prospective teachers may focus primarily on the relationship between student and teacher and overlook the academic dimensions of the job. Conversely, others may see teaching as a way to continue their involvement with and love for the subject matter. Still others may be attracted to teaching as a

means toward social justice. Whatever the specific goal or expectation that leads someone to teach, it is likely to mediate what prospective teachers expect from their professional preparation.

Teachers in our sample described different goals for their teaching. One secondary teacher, for instance, distinguished between her best and worst teachers as being "fun" and "boring"; her goal was to conduct classes that the students found fun so that they would enjoy school. An elementary teacher, on the other hand, had entered teaching following careers in both the U.S. Marines and the local police force. Her decision to teach resulted from her observation as a police officer that most criminals she encountered were illiterate. Seeking to intervene in a positive and constructive way early in children's lives, she decided to go into teaching as a way to provide students with tools for productive civic life and make lives of crime less likely. These different sets of goals—one to make instruction fun, the other to provide productive tools for literacy—led to different degrees of value on pragmatic literacy skills and their role in the language arts curriculum.

Knowledge and beliefs about content. Another critical factor affecting the appropriation of conceptions and practices for teaching English/language arts concerns teachers' knowledge and beliefs about both the content and teaching of language arts. Conceptions of how to teach language arts invariably draw on knowledge of the specific content of the discipline (Ball & McDiarmid, 1990; Cohen, 1990; Grossman, 1991; Shulman, 1986). It would be difficult, for example, to appropriate the conceptual underpinnings of teaching a literature-based curriculum without having a conception of literature and literary understanding. Similarly, how one teaches writing depends heavily on one's prior understanding of the nature of writing processes and how writers employ different strategies in their work. These assumptions then inform whether instruction should follow a workshop approach, rely on the imitation of model essays, emphasize expressive or analytic stances, and influence other decisions about how to teach writing.

For example, one of the elementary teachers in our sample was a strong and committed writer. Drawing on his own experience as a writer, he was able to successfully base his writing instruction on a writing workshop model, modifying the structure throughout the year to meet his young writers' changing needs. He provided many opportunities for writing and frequently gave individual in-depth feedback to his students as well as mini-lessons based on his appraisal of their needs. His students rewarded his efforts by developing a love of writing so strong that they were observed spontaneously continuing their writing at lunch on more than one occasion. For

this teacher, writing was the one subject where he felt he was "not following any curriculum. It's coming from me." His teaching of reading, however, stood in stark contrast to his fluid and creative approach to teaching writing. He struggled to incorporate skill lessons for different levels of readers into his instruction. In the midpoint of his first year, he turned to a commercial skills program as a way to meet the needs of his students instead of assessing his students and teaching to their strengths and weaknesses, as he was able to do in writing. In addition, many of his reading activities were based on procedural concerns as opposed to instructional concerns (e.g., asking students to read aloud in literature circles so that the groups would stay on task.). While this teacher's background in writing gave him a deep understanding of desirable learning outcomes in writing, he lacked this same clarity in reading.

Potential Benefits of Using Activity Theory to Study Professional Development

Activity theory, like other perspectives evolving from the work of Vygotsky (1978, 1987), is fundamentally concerned with socially mediated human development (Wertsch, 1985). Its developmental focus makes it a powerful framework for studying teachers' professional development, particularly in longitudinal studies that follow teachers as they progress through different social contexts. We see this perspective as particularly beneficial for illuminating a number of perplexities posed by research on teachers' professional development.

Activity theory highlights the importance of context in learning to teach. Just as research on teaching has begun to focus on context (McLaughlin & Talbert, 1993), research on teacher education needs to take up the analytic challenge of portraying the features of settings that matter most in learning to teach. Much of the research in teacher education has been focused on the individual teacher (e.g., Bullough, 1989) and has offered individualistic explanations for preservice teachers' success or failure in appropriating approaches to teaching. With this premise, the profession is offered little hope for change, if changing teaching requires changing teachers one at a time. The prospect is daunting to say the least.

A focus on social contexts, however, shifts attention from the individual to the setting. Changing settings is much more possible than changing individuals. Studies that focus on the settings for professional development can reveal the kinds of social structures that promote the appropriation of conceptual and pedagogical tools that in turn result in particular kinds of

teaching. An activity theory perspective allows for an analysis of the consequences of different approaches to professional development, including university programs, district-wide inservice programs, voluntary participation in professional organizations, school-based activities, and other structures with particular goals and supportive practices. Identifying the consequences of different activity settings can be a fruitful avenue for instituting educational reform.

A second advantage afforded by activity theory is that it provides a rich theoretical basis for the importance of field experiences. All too often, research on teacher education has polarized the university and school settings and bemoaned the university's lack of influence. From an activity theory perspective, however, the predominance of school values seems eminently reasonable. The ultimate goal of the enterprise of teacher education involves identification with the role of teacher, not the role of university student. Similarly, teachers cannot learn to teach without engaging in the activities of teaching. From this perspective, the design of field experiences is absolutely critical to the enterprise of learning to teach. At the same time, activity theory allows researchers to look at the ways in which teachers have appropriated conceptual and pedagogical tools from their experiences in teacher education that frame how they construct their actions and beliefs once they are in the school setting.

We are convinced that research on professional development is best-informed by well-articulated theory. We have found activity theory to have unique power in informing our study of teachers' professional development, both in developing our research method and in interpreting the data. Later reports will detail the findings; our purpose here has been to outline the theory as it pertains to teacher education and professional development and argue for its potential as a framing theory.

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