Every summer for the last ten years I have taught the first course in our teacher education program, entitled “Learning, Teaching, and Schooling in a Diverse Society.” In the very first few days I ask the students to write a “Learning Autobiography.” My aim is to provide an occasion for these prospective teachers to reflect on their own trajectories as learners: to think about when and how they learn most effectively and about the conditions that facilitate or impede their learning. As I explain when giving them this assignment, it is only when we understand what we mean by “learning” that we can talk sensibly about what is involved in “teaching”.

Each year the results are very similar: while some students include accounts of their learning experiences at home and, for example, at camps or on trips overseas, the majority write only about their learning in K-12 classrooms. In this latter context, many describe teachers that helped them or that made them feel incompetent; and, significantly, nearly all describe themselves as “good” (or “bad”) students, often offering the evidence that they always (rarely) got A grades.

Once I have read all their autobiographies, I open a discussion by describing briefly the relative frequency of the issues that they have chosen to write about and then invite them to talk about what they have learned from carrying out this assignment. Many of those who have written only about their learning in school have an “ah-ha” moment as they recognize from others’ comments that perhaps they have also learned more outside school than they had realized at the time of writing. Nearly always someone remarks on how little they remember of what they learned in school, whether or not they got A grades for their work, and immediately others offer confirmation of this ironical state of affairs. At this point, however, few can imagine how things could be different. Successful
learning in school is about memorizing what the teacher or text-book presents as important, and being able to deliver correct answers on the end-of-unit test. It is the hope of achieving the teacher’s approval in the form of a good grade that provides the motivation to work hard at doing what they believe the teacher expects. It therefore follows that to be a successful teacher, one has to learn how to motivate one’s students to be willing participants in this “economy of grades.”

There are several problems with this conception of the relationship between learning and teaching, most important of which is the dependent status in which it places the students. When the teacher decides what questions may be asked and what is an acceptable answer, student initiative in asking their own questions or proposing alternative perspectives on the teacher’s chosen topic is suppressed; instead they learn not to think outside the prescribed box and to evaluate their own ideas only against the criterion of what is acceptable to the teacher. This unidirectional relationship is also unrewarding for the teacher. By attending only to the correctness or otherwise of student contributions, she or he does not discover the potential for enriching the class’s understanding that can occur when students’ own experiences and their wonderings and counter-arguments are allowed to enter the discussion. The teacher also limits his or her own opportunity to provide encouragement and assistance to individual students as they try to make their own sense of the material they are studying.

That so many of the prospective teachers I have met hold this restricted and restricting conception of their future roles as the arbiter with respect to what should be learned and whether it has been learned correctly is particularly disturbing at the present time, when the need for new and diverse ways of thinking is both apparent and urgent if our planet and its inhabitants are to survive into the next century - although this state of affairs is perhaps not surprising in the light of these students’ own experiences. For this reason, the beginning of a program of preparation for teaching provides a particularly critical opportunity to help them to reconsider their beliefs and to develop a more open-minded conception. The question I address in this chapter, then, is: To what extent is my course
successful in achieving this goal? Before attempting to answer it, though, I wish to explore the relationship between learning and motivation.

**Learning in Home and Community and at School**

To ask why young children learn seems odd. The answer is self-evident. Human infants need to interact with their caregivers in order to survive; they are also naturally curious. So, as they engage with the world around them, they learn about their own developing capabilities and about the affordances and constraints the world presents for their action on and in it. Furthermore, since other humans are a very significant part of this world, both historically in having in many ways shaped the environment to meet their needs, and in their ongoing caregiving interactions with the infant, from the beginning his or her learning can also be seen as enculturation. This process of cultural learning accelerates as infants become able to engage in communicative interaction and begin to learn the language of their community for, in so doing, they begin to construe their experience in terms of the meanings that that language makes available. As Halliday puts it, "Language has the power to shape our consciousness; and it does so for each human child, by providing the theory that he or she uses to interpret and manipulate their environment" (1993, p. 107). This form of learning is probably the most important that human beings ever undertake and they do so mostly without conscious intention.

Then, as the child grows older, he or she becomes involved in a variety of practices that are necessary for obtaining food and clothing and in maintaining the family home; she or he also begins to participates in cultural and peer-group practices in the local community. All of these practices involve a coordination of practical activity with the use of language and other forms of communication necessary for planning and coordinating these activities. However, little deliberate instruction is involved; instead, learning occurs through observation and involvement in what Lave and Wenger (1991) term “legitimate peripheral participation”. For this reason such learning is often described as “incidental” for, as Nelson (2007) argues, young children are not engaged in an attempt to construct
an abstract, coherent theory of their experience, but rather to master the knowledgeable skills they need to act effectively in the world around them. Such learning, together with identity development, is therefore best understood as an intrinsic aspect of participation in the practices of family and community.

Learning through participation occurs in all human societies. However, as some societies became more technologically developed, this form of learning was found to be no longer sufficient. Where inter-generational oral transmission of collective memory had formerly been effective, with increasing specialization of the tasks to be performed and of the knowledge required to perform them, it became necessary to create a way of storing and sharing important information that was not dependent on individual or collective memory. This was achieved through the invention and development of systems of representing meaning in the permanent form of written symbols. Furthermore, since the production and interpretation of written texts required a new set of skills that were not so directly involved in the situations to which they referred, it also became necessary to create a separate time and space in which expertise could be achieved through instruction and practice. This was the start of formal schooling; and, despite the enormous increase in quantity and complexity of what students are required to learn, this form of schooling has remained very similar in its basic goals and organization (Cole, 1996).

While the overall goal of schooling is admirable, namely to prepare young people to be able to participate responsibly and productively in the wider society and to fulfill their potential through participation in communities of practice to which they can make a personally meaningful contribution, the actual practices through which schooling takes place are, in important ways, at odds with the practices beyond the school for which they are intended to provide a preparation. Chief among the reasons for this are the encapsulation of schooling (Engeström, 1991b) and the imposition of a curriculum that is to a large extent unrelated to individual students’ experiential backgrounds, their personal interests and values, and their future orientations. As a result, whereas, outside school,
learning is an intrinsic aspect of participating in activities that meet personal and community needs, in school, learning becomes an activity in its own right in which all students are required to participate, often for reasons that are not at all clear to them. Not surprisingly, therefore, the issue of motivation becomes problematic.

**Motive and Motivation**

While the words “motive” and “motivation” can often function as synonyms, it is helpful to make a distinction between them when considering the relationship between learning and the activities in which people engage. In developing his theory of activity, Leontiev (1978) proposed that, in general terms, activities take their particular form when a basic human need can be met by a specific object in the material world. This object, or end in view, he argued, is the true motive of an activity. Furthermore, such activities are not individual in origin but are socially and historically developed over time in the course of jointly undertaken activities in particular times and places.

Activities are thus collective endeavors, which are constantly being reenacted, although variously realized according to the participants involved on each occasion and the historical and cultural situations in which they are carried out. Individuals are drawn into these cultural activities from early childhood onwards, initially as peripheral participants but gradually assuming more central roles. However, because the activities are always ongoing within society, individual participants do not need to be fully conscious of the objects and motives of such activities. Furthermore, since they are motivated to become effective and respected participants in the relevant activity and its community of practice, it can be argued that, in such activities, motive and motivation are for practical purposes identical.

Nevertheless, theoretically, the underlying concepts are different. Motives are what drive activity systems, independently of the specific individuals who enact the necessary roles
on any particular occasion. On the other hand, motivation is individual; it is the individuals’ need to achieve personal well-being through participation that engages them in the activity on a particular occasion (Damasio, 2003). In many situations, the motivations of the participants are to a considerable degree aligned with the motive of the activity in which they are engaged; when this is the case, their socially congruent emotions energize their actions. However, because individuals participate in many activity systems over a period of time, more than one alternative activity may seem to be appropriate on a particular occasion, as for example if an off-duty law enforcement officer finds himself or herself accidentally caught up in a rowdy political demonstration for a cause to which he or she is personally committed. In such a situation, a conflict of motivations occurs, which requires a choice based on a calculation of which activity will be likely to lead to greater well-being. In some situations, therefore, the motivations of some participants may not be fully congruent with the societal motive of the activity in which they are putatively involved.

More generally, then, I propose that when an individual is participating in a societally valued activity system, whether as a full or as a peripheral member, his or her motivation is likely to be closely aligned with the motive of the activity. By contrast, when an individual is required to be a participant but fails to understand the motive of the activity or does not value its object, he or she may be motivated to participate to the minimum degree necessary to avoid negative consequences or even to choose an alternative form of participation that subverts the motive of the activity.

This, unfortunately, is how many students react to the lessons that fill the hours that they spend in school. While enjoying the opportunity to socialize with their peers, and to varying degrees accepting the necessity of undergoing preparation for a future in which they will need to be gainfully employed, they are unable to find personal relevance in many of the activities in which they are currently required to engage and so are not emotionally committed to them. These activities therefore have little intrinsic motivation
for them. However, instead of addressing the mismatch between the societal motive for the activity of school learning and students’ individual motivations, those responsible for ensuring that students master the curriculum content that is judged to be important for them to learn have created a structure of extrinsic motivation based on test scores, grades and various forms of positive and negative reinforcement.\(^3\)

As I argued in the introduction to this chapter, this strategy is only partially successful. While humans’ basic need to achieve and to be approved of by those in positions of power motivates many students to attempt to demonstrate their ability to do what is required of them, the strategies they use to succeed militate against the societal motive of education, namely that students should achieve deep understanding of the topics they study and develop the dispositions that will enable the to be both self-directed and collaborative in using their knowledge to seek solutions to the challenges they will encounter in their lives beyond school, both as citizens and as participants in the activity systems of the global economy.

The question is can the need to prepare each new generation to participate productively and responsibly in the interlocking activity systems that make up society be achieved more successfully? Given that schooling has been found to be a necessary component of the overall system, can schools be reimagined in ways that meet both society’s motives and the motivations of the students who spend a substantial part of their early lives within them?

**The Object of Learning Activity**

As suggested above, the institutionalization of learning as a separate activity sets it apart from the other activity systems in which humans in all societies engage. Whereas most other activity systems have developed over time to meet humans’ basic needs to survive and improve the world in which they live, either directly or indirectly, learning activity
remains encapsulated in itself unless it can be productively integrated with life beyond the learning institution.

Drawing on Lave and Wenger’s (1991) work on communities of practice, several recent proposals have suggested that the traditional model of apprenticeship can be developed to achieve this goal. One particularly well-known example is “cognitive apprenticeship” (Brown, Collins, & Duguid, 1989; Collins, Brown, & Holum, 1991), an approach to the skills of reading, writing and arithmetic that works to make thinking visible and to provide learners with scaffolding and coaching in the progressive mastery of these skills. However, while demonstrably effective in achieving these goals, such approaches tend to limit concern to mastery of the focused skills without seriously attempting to bring those skills to bear on activities that are of significance in students’ lives outside school.

Put differently, a major reason for the encapsulation of school learning is that the purpose of learning is typically thought of as the acquisition of knowledge – as is apparent in the emphasis on standardized testing. But as Ryle (1949) pointed out, in addition to coming to “know that X”, learning also includes “knowing how to do X.” Indeed, it could be argued, the chief value of “knowing that X” is being able to use that knowledge to act effectively in an activity where that knowledge is relevant. This is borne out by what is implied in everyday speech when saying that someone is intelligent; an intelligent person is not only knowledgeable but is also able to discern what kind of knowledge is needed in a particular situation and to act accordingly. Moreover, situations vary in the kinds of intelligence that are called for, as is suggested by Gardner’s (1983) theory of Multiple Intelligences, which offers a useful set of distinctions for thinking about the different kinds of knowledge and learning that are needed for everyday life. However, his categories should not be taken as independent of each other in practice, since many activities call for a coordination of several different kinds of intelligence and, therefore, for simultaneous engagement in different kinds of learning.

A further point about most kinds of learning is that they are cumulative. While certain kinds of factual information can be learned and committed to memory on the basis of one
or a small number of encounters, most learning extends over a considerable period of
time, with each new encounter building on what has been learned from previous
experiences in relevantly similar settings. Furthermore since learning is almost always
multi-faceted, involving emotional, attitudinal and actional aspects as well as the purely
cognitive, each occasion potentially involves relevant information of these kinds that
contributes to the development of the whole person. Consider, for example, the different
kinds of information that are involved in such activities as planning and making a long
automobile trip or behaving appropriately in a highly charged argument about living
arrangements with other family members.

In what follows, I propose a schematic model of learning from the above perspective,
with particular reference to learning activity in the context of formal education (see figure
1). Cumulative learning over time can be thought of in very general terms as successive
cycles through the four quadrants of the diagram, which together represent what is
involved in learning in any new situation. On such an occasion, one starts with a personal
resource of interpreted past *experience*, which provides the initial orientation for making
sense of what is new in the current situation. The new is encountered as *information*,
either through feedback from action into the world, or from reading, viewing and
listening to representations of the experiences, explanations and reflections of others.
However, for this information to lead to an enhancement of *understanding* – which is the
goal of all useful learning – it must be actively transformed and articulated with personal
experience through *knowledge building*, which is defined as the production and continual
improvement of ideas of value to a community, through means that increase the likelihood
that what the community accomplishes will be greater than the sum of individual
contributions and part of broader cultural efforts (Scardamalia & Bereiter, 2006).

*[Insert Figure 1 about here]*
Knowledge building is thus a form of situated collaborative action in relation to new information. It is most powerful when it is focused on the creation or improvement of an “object” of some kind, for example, a theory to explain a set of observations, the design of a web page, the creation of an organic garden, or the composition of a short story. As a goal-directed action, it is also mediated by material tools, semiotic representations, such as graphs and diagrams, and written texts by both participants and recognized authorities. Most typically it takes place through interpersonal interaction, even though not all the participants need be co-present in time and place. However, knowledge building can also take place in the dialogue of inner speech (Vygotsky, 1987).

This way of conceptualizing the process of coming to understand new information (that is to say, of learning) is well expressed by Popper with respect to theoretical knowledge:

We can grasp a theory only by trying to reinvent it or to reconstruct it, and by trying out, with the help of our imagination, all the consequences of the theory which seem to us to be interesting and important… One could say that the process of understanding and the process of the actual production or discovery are very much alike. (Popper & Eccles 1977, p.461)
Another way of putting this is that understanding not only involves “internalizing” new knowledge but also “externalizing” the enhanced understanding in some form of contribution to the action or interaction in progress (Bakhtin, 1986). In other words, knowledge building and understanding are, in an important sense, two faces of the same process, the first being other-directed and undertaken in collaboration with others, while the second is inner-directed in that the understanding collectively achieved is appropriated by the individual participants to be put to use in further action.

A final point to be made about learning, seen as developing understanding is that, although knowledge in the sense of “what is known” can be formulated in generalizations that are neutral with respect to time and place, individual knowers’ engagements with such knowledge are always situated, not only in time and space, but also in relation to particular cultural settings and co-participants, all having their own developmental histories. Furthermore, it is not only knowledge that is constructed but also personal and group identity as members of particular communities of practice: “learning, thinking and knowing are relations among people in activity in, with, and arising from the socially and culturally structured world” (Lave & Wenger, 1991).

On the other hand, when an individual or group stands back from the activity in which they are immediately engaged in order to reflect on and bring to conscious awareness the knowledge that is implicitly at work in what they are doing, knowledge building of a different order can take place. In this context the aim is to generalize from the particular situation to other possible applications of the knowledge in use and to make connections between this and other knowledge “objects”, such that a more powerful – in the sense of more widely applicable – tool is created. It is in this way that general principles and theories are developed. While such knowledge building is itself situated in the ways described above, the objects that are created are independent of the situation and can be brought to bear in a wider variety of situations in which they are potentially relevant (Bereiter, 1997).

While knowledge building as just described certainly occurs in problem-solving situations
in everyday life, as well as in those arising in many kinds of organizations, my argument is that it should also be a focal feature of formal educational activity. For when learning activity is organized in relation to improvable objects of relevance beyond the classroom, students’ learning makes meaningful connections to activity systems in the wider society. To provide opportunities for this sort of learning to occur, two of the teacher’s most important tasks are, first, to select themes that connect curriculum standards to real life issues of interest to his or her students and to create challenging situations that call for collaborative knowledge building and, second, to help students to develop the dispositions and necessary skills to engage with such challenges in a constructive and focused manner. When this is successfully achieved, the result can be “progressive,” in the sense that, while the issues students are grappling with may already have been understood by experts elsewhere, the understandings that they themselves are generating are new to them and superior to their own previous understanding (Bereiter, 1994). Ideally, these understandings will also make a positive contribution to the local community and its ecological environment (Roseberry, Warren, & Conant, 1992; Roth & Barton, 2004). This is the conception of learning-and-teaching that I have tried to present in the course for preservice teachers that I described in the introduction to this chapter. In the following sections I will briefly describe the organization of the course as a whole and then focus on the culminating activity in more detail.

Learning and Teaching with Preservice Teachers

The overall plan of the course is to focus first on learning, through reading and through reflection on our own experiences as learners, and then to explore approaches to teaching that are congruent with our understanding of the conditions that guide and support learning. While selecting readings that ensure that students will become aware of the contributions of all the major theories of learning to the organization of public education, I suggest, following Case (1996), that with its emphasis on the role of culture, the need to
achieve intersubjectivity, and providing and receiving assistance in the ‘zone of proximal
development’, sociocultural theory offers the most comprehensive account of learning
and a firm basis for exploring the characteristics of effective teaching. In the second half of
the course, articles by teachers with whom I have previously collaborated and
videorecordings from their classrooms are particularly useful in enabling the students to
recognize how this theory can be realized in practice. When possible, I invite a local
teacher with whom I have collaborated to come and talk about how he organizes his
classroom.

In teaching the course, I particularly try to enact the principles of learning-and-teaching
that I have derived from the work of Vygotsky, Dewey and other sociocultural scholars; I
also want the students to become aware that this is what is happening. One of the ways
in which I do this is to divide the class into small groups and to meet with each group for
about half an hour each week to have what Tharp and Gallimore (1988) call an
“instructional conversation” about the readings for the week. Since “externalizing” what
they have gained from their reading is challenging for many students, these small group
meetings are much appreciated, as the students find that, in this participant structure,
they are much more comfortable in offering their ideas and having others respond to them
than they are in the whole class setting.

A second activity that proves valuable is to have the students choose one of a collection
of books on learning and teaching that I have selected in advance and then, on the basis of
their choice, to form groups to read the chosen book and, together, write a review of it.
When they have completed their reviews, they form new groups, each containing one
member of each of the review groups; in these new groups they share their respective
reviews and, as experts on their own book, answer questions from other group members.
Finally, we have a class discussion about what they have learned from this experience.
Almost all the students are both surprised and impressed at how fruitful this activity has
proved to be. Many admit that, initially, they were averse to group work, having had
unsatisfactory experiences in earlier years; some could not imagine how they could compose a review together, except by each reading and reviewing one chapter and then combining their contributions – a strategy that I strongly discourage. In the end, however, each group discovers (almost without fail) that by working together as a team they have learned more about the author’s ideas and written a better review than any of them could have done on their own. At this point, they begin to make connections to the Vygotskian idea of “joint productive activity” and providing assistance in each other’s zone of proximal development.

After this group activity, I introduce the major assignment of the course, which is for the class as a whole to investigate an overall theme, with each student selecting an aspect of particular interest to them and carrying out appropriate research to answer their own questions about their chosen topic. Meanwhile, groups form on the basis of shared or similar interests and time is scheduled during class meetings for groups to work together on what they choose as their “improvable object.” Finally the class as a whole decides how to bring together the work of the different groups in some kind of permanent form.

For several years, the theme selected was that of “sustainable living”, which was a theme of interest to the students and one that they agreed should ideally be addressed at every grade level from K to 12. Students individually chose topics under this umbrella and then formed groups based on related interests, first to research some aspect of sustainability and then to create a curriculum unit about their topic for a particular grade level. In this latter phase, they were asked to design their unit according to the principles that we, as a class, had by then developed. From our reflective discussion of both process and outcome in the final class meeting the students seemed to find this a very worthwhile project and many finally realized that, in the process, we had been putting the theory they had been reading about into practice and gaining ideas about how they could do the same in their future careers as teachers.
Imagining and Designing an Ideal School

Three years ago, I had what I thought was an even better plan for this major assignment. We would work together on the design of an “ideal school” that would incorporate collaboration and sustainability as key aspects of its mission. In introducing the project in the first week, I made it clear that I did not have a preconceived idea about the object to be created and improved; instead, the decisions would be made on the basis of discussion of everyone’s suggestions. Then I took the students to a topologically interesting site on campus which seemed to have considerable potential for innovative design. However, since the campus is some distance from the city, I proposed that we imagine the site being located in a place some distance away in a neighborhood that included both typical middle class homes as well as housing projects for poor families, mainly immigrants from Mexico and other Hispanic countries.

The next stage involved a brainstorming session in which we generated a list of aspects of the overall design that would merit research; individual students then signed up for the one that most interested them and, at my suggestion, formed small groups on the basis of overlapping interests. Over the following weeks students researched their chosen topic outside class; some time was also allotted in class for the groups to share and coordinate what their individual members had been doing. The aspects selected for attention varied over the three years, but the layout of the campus, the interior design of classrooms, the inclusion of Spanish-English dual immersion, the development of a garden to produce food and to learn about plant growth, planning a curriculum to include the arts, and involving parents and other community members were seen as important every time. Other aspects that were selected at least once included: the design and equipping of a playground; planning a before/after school program; deciding what specialist teachers would be needed; and developing a mission statement.

It was quickly realized that some basic issues needed to be resolved before the various
groups could proceed with their research. These included the age range of students that the school would cater for and on what principles students would be assigned to classes. While most wanted to focus on Kindergarten to Grade 6, there was strong support for including a community center on the site and adding a High School in the future. The issue of class composition also gave rise to much discussion. The standard organization of age-based grades was seen as harmful for a substantial proportion of students, particularly those who develop more slowly than average; so various alternatives were proposed, many involving classes with wider, overlapping age-ranges, with children moving to the next class when they were ready. Another suggestion that gained considerable support was to have teachers with different areas of expertise working in small teams in connected classrooms, with students spending more or less time with each teacher according to their needs.

There have been many other issues that have given rise to worthwhile discussion in the different year groups but one in particular that had to be resolved each year: What form should the final “product” take? In other words, what exactly was the nature of the object we were trying to improve? Final solutions have ranged from a large artistic representation of the campus layout, on the one hand, with little booklets attached to different locations explaining what happens in them, to a class website which allowed each group to present their contribution in whatever mode they wished, including video clips and links to other internet sites. Whatever format was finally chosen, however, the enthusiasm of most students remained high until it was brought to a successful conclusion.

It may seem, therefore, that this project is an effective way of enacting the principles outlined above. It certainly provides prospective teachers with a lived experience of learning through engaging with a (virtual) improvable object of real significance for their lives beyond the university classroom. It also models the value of giving students choice while they simultaneously benefit from collaborative group work. The resolution of
central issues, such as those mentioned above, also engages everyone in knowledge building about aspects of schooling that are often assumed to be immutable and therefore not capable of improvement. Here, they are able to see the relevance of the theoretical readings as a means of supporting or rejecting alternative proposals. As one student wrote after the end of the course:

I really enjoyed the Ideal School project. I thought it was a great opportunity to work together and really experience the sociocultural perspective first hand. This is a perspective that many of us have not experienced throughout our school career. It was so nice to be able to freely inquire about something meaningful and really own it. … Working with others and having open-ended, inquiry projects do tend to motivate me to want to learn. I really enjoy finding things out instead of being told things.

There were many similar evaluations. However, there were also some causes for concern, as in the following response:

I was motivated and enthusiastic about this project because I decided to involve myself in an area that I am curious and passionate about (environmentalism). I found that throughout the project I had more questions about how schools are run and why they make the choices they make (how to implement healthy school lunch program, recycling program). What I found in my research is information I know will benefit me in some way some day. It was fun to do the research. I know some people felt discouraged at times but this is because I think people need different levels of motivation or structure. For me motivation and structure was not something I had a problem creating myself.

In fact, the issue of motivation was mentioned by a number of respondents, sometimes about their own fluctuating motivation and sometimes about other students’ apparent lack of it. In the following section, I shall consider these responses in the light of the earlier discussion of motive and motivation in activity theory.
When Motive and Motivation are in Conflict

Earlier I proposed that, while motivation is most frequently attributed to individuals, motive, in activity theory, is societal in nature. Ideally, individual participants’ motivations align with the motive of the activity system in which they are involved. In the present case, the motive was for students to deepen their understanding of how schools might best achieve the overall motive of education and the object of the activity was to design an ideal school. However, as several of the students’ responses to an end-of-course questionnaire made clear, this object did not always fully engage their motivation.

Building on Leontiev’s (1978) exposition of activity theory, Engeström has developed a now well-known representation of an activity system that provides a useful tool for exploring why this may have been the case. In his model he nests the basic triangle of artifact-mediated activity proposed by Vygotsky (1981) in a larger triangle that includes the community that is involved in the activity system, as well as the way in which the labor is divided between different participants and the rules and conventions that govern the activity. He also recognizes that an activity system may not be functioning as effectively as it might and uses the model to identify potential causes of breakdown.

At the level of the preservice teacher education program as a whole, the object is to prepare novices to teach elementary school children in ways that are considered to be effective. However, at the level of my course, it is the design of an Ideal School that is the object of the activity; the individual students are the subjects who are using various artifacts – theories, information gained through research, and a variety of technical tools – to create a representation of their collective ideal. However, at each level, the activities just described take place in a wider cultural historical context which includes the other students taking my course, the students and teachers they encounter in other parts of the program and, ultimately, the complex organization of the university in which the program is situated, and also the local schools. At each of these levels, too, there is a division of labor between participants, and there are rules and expectations that guide how the relevant activities are carried out.
In this complex structure of interrelated activity systems, there are many possibilities for breakdown but, for reasons of space, I shall focus here on the problems that were mentioned in student responses to my questionnaire. Here are some representative quotations.

Our group was so overwhelmed by the many possibilities that we had difficulty figuring out how to narrow our focus. In this respect, guidelines could have helped us concentrate on important aspects, faster.

I think the class would have been greatly improved if we had more structure.

I think my motivation changed [diminished] because the group I was working with didn’t have much direction and we weren’t very proactive in creating that direction for ourselves.

Since the guidelines were limited I believe that my group felt that the project held low priority when standing next to projects and mandated readings which had more solid requirements. Sadly, I believe that the freedom to choose how we worked and what we worked on hindered our expectations of our final outcome.

I think you had too much faith in the class that they could handle an assignment that the class directed.

Using Engeström’s model, it can be seen that several components of the activity system caused problems for some students. In figure 2, I have shown only the most important of these with the warning lightning flashes.

[Insert figure 2 about here]
It was the absence of ‘rules’ that seemed to cause the most difficulty. No parameters were set in advance with respect to the form that the school should take, and no procedures were specified as to how to proceed. This was perceived by many as “a lack of structure.” Equally problematic was the ‘division of labor’. In some students’ view, the absence of a clear structure was a failure on the part of the teacher to provide firm guidance, the lack of which made the activity too challenging. And either or both of these problems caused some students to lose their motivation to participate in alignment with the (teacher’s) assumptions about the societal motive for the activity.

A probable reason for the emergence of these problems was offered in the response of one student to the questionnaire.

I believe that projects like this one might work well with students who have not been so institutionalized. After so many years of working for a product, I believe it was difficult to feel motivated to do my best work. I learned that I have been
trained by systems of rewards and punishment and that this system has damaged my intrinsic motivation.

Having been educated to be dependent on teacher direction, some students had difficulty in accepting the challenge to be self-directed, even when they were initially interested by the relevance of the activity itself. Put differently, while their overall motivation was in alignment with the motive of the teacher education program as a whole, at the level of this particular course they required the degree of teacher direction with which they were familiar from previous learning activities to be motivated to align with the societal motive for the Ideal School project. Other motivations took over when this direction was not forthcoming.

**Improving the Object of Activity**

Looking back over the years that I have been teaching this course, I feel I have become clearer in my own mind about its object and have made several improvements. But where I have not succeeded is in taking sufficient account of the initial discrepancy between my beliefs about learning-and-teaching and those that my students have appropriated from their prior experiences as learners in educational settings at school and university. It seems that, in addition to enacting my beliefs, I need to be much more explicit with them about what I am doing and why, and to engage them more in discussion about their reactions to the expectations I have for their mode of participation in the various component activities.

The desire for more structure in the design of the Ideal School is an obvious case in point. Clearly, asking for their reactions after the project was completed left it too late for adjustments to be made that would have enabled them to be more agentive in their participation. The complaint about the lack of structure was understandable. However, rather than accepting the assumption expressed by some students that it was my responsibility as teacher to provide that structure, I believe this issue should be resolved collectively. If the actions by means of which the community plans to carry out the activity can be negotiated in advance, together with the ‘rules’ and ‘division of labor’,
small groups and individual members will be better able to develop their contributions so that the object of the collective activity is more fully and coherently achieved. This should also make it easier for individual students to align their motivation with the motive of the activity, seen as both envisaging the ideal they will strive for in their future careers and as contributing to the development of their identities as educators. This is an aspect of the course I shall try to improve in future years.

Looking to the Future

As I suggested in the introduction, the first course of the teacher education program is a critical moment in the trajectory from student in school to teacher who is responsible for creating settings that provide for and support the development of their own students. Since who we become depends on the company we keep and what we do and say together, if we want those students to develop as self-directed, collaborative and responsible members of society, their future teachers must have similar opportunities for development. In other words, since the way in which future teachers come to interpret their responsibility for creating appropriate settings in their classrooms depends in part on their own experiences as learners, it is crucial that the preparation program enacts the principles it preaches and, in addition, engages them in an investigation of the competing motives that shape public education and a conscious deliberation about which of those motives they intend to align themselves with and what this will involve.

Like many teacher education programs, ours is committed to preparing teachers who, in the interests of social justice, will proactively strive to create equitable learning opportunities for all students so that they are enabled to achieve their full potential. This is a daunting challenge, and for many reasons. First, is the current educational climate, with its assumption that one curriculum is appropriate for all students and with the accountability requirement that schools ensure that all students demonstrate satisfactory performance on a narrow range of standardized tests. To this can be added the encapsulation of schooling. Second, is the fact that the school districts in which our students gain their practicum experience and hope eventually to be employed tend to have a high proportion of recent immigrants, most of whom speak a language other than
English at home. Taken together, these conditions militate against new teachers adopting ways of teaching that depart from those prescribed by the district office, which are geared largely towards improving test scores. Indeed, in one local district this means that teachers must exactly follow the externally scripted curriculum, which specifies in detail what activities must be carried out, in what order, and for exactly how long.

New teachers are therefore, for the most part, allowed little autonomy in making decisions about how to create settings that match their students’ particular life experiences, interests and needs. Nor do they have much discretion in selecting activities that are appropriately challenging for their students or for scheduling time such that they can provide the support in individual students’ zones of proximal development that a cultural historical conception of learning-and-teaching requires. And even if they start their career with the intention to act in ways that they consider to be in the best interests of their students, they will find little support in doing so from their mentor teachers and their colleagues, if what they propose does not fit with the existing regime (Smagorinsky, 2010).

Thus, viewed from the theoretical perspective developed in this chapter, many new teachers find themselves struggling to create a personal way of reconciling the motives of two conflicting activity systems. In the light of what they have come to understand about the activity of learning-and-teaching as enunciated by cultural historical activity theory, they may be strongly motivated to act in accordance with the principles derived from that theory. However, they will also be required to participate in an activity system that has a very different motive, one which is focused on shaping students to fit a predetermined model by means of the delivery of a standardized curriculum and the use of a variety of incentives and modes of reinforcement to ensure they do so. To some degree new teachers must align their practice with this latter activity system and there will be similar incentives and forms of reinforcement that will create extrinsic motivation to accept the motive of this system. Experiencing daily the stress of managing this conflict, it is not surprising that so many leave the profession within the first few years or that, for those who remain, many gradually come to align their motivation with the motive of an officially endorsed activity system which can provide the security of employment and the
approval of colleagues and administrators that meet their equally important human need for ‘well-being’ (Damasio, 2003).

Against this backdrop, it may seem over-optimistic to believe that one course at the start of a teacher education program can enable prospective teachers to appropriate and sustain the motivation to bring about a change in the motive of public education, such that schools become settings in which all students have equitable opportunities to develop their potential to contribute to the creation of a more just, productive, and democratic society. However, while there is little prospect of radical change in the current educational climate in the near future, there is some reason for hope in the longer term. As our students start their first practicum at the end of my course, some are fortunate enough to find themselves placed with graduates of our program who have found ways to make changes that enable them to enact the vision they developed during the program – at least in their own classrooms. If these teachers can be joined by further like-minded graduates who embrace this vision, together they may be able to bring about change in individual schools and, in this way, improve the life chances of a significant number of students whose needs are not currently being met.

References


Smagorinsky, P. (2010). A Vygotskian analysis of the construction of setting in learning to teach. In V. Ellis, A. Edwards & P. Smagorinsky (Eds.), *Cultural historical*
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1 It is worth noting in passing that quite a high proportion of these students report that their learning at college was not significantly different in this respect.

2 In recent developments of activity theory, activities are seen as being realized within activity systems (Engeström, 1991a); these correspond in many respects to communities of practice as described by Lave and Wenger (1991). I shall therefore use the two terms interchangeably.

3 It could be argued that the current organization of schools does succeed in meeting what many believe to be society’s needs: to control young people while training them to function as participants in the activities of mass production and consumption.

4 Between 1991 and 2001, I participated in a collaborative action research project with public elementary and middle school teachers with the collective aim of creating communities of inquiry in our classrooms and of forming such a community ourselves. Together, we read and discussed work in the cultural historical tradition as well as sharing our individual research and working on joint conference presentations and publications (Wells, 2001).