

Critical Psychology and the Praxis of School Transformation: From Praxis to Theory to Praxis . . .

Wolff-Michael Roth, *University of Victoria*

Abstract

In this paper, I report and theorize the manner in which two forms of revolutionary praxis led to changes in the teaching and learning of under-class and working-class students. This revolutionary praxis led to new theoretical understandings, which, consistent with Marx's eleventh thesis on Feuerbach and Mao's understanding of societal praxis, immediately formed the basis for subsequent revolutionary praxis of school transformation.

Philosophers have only interpreted the world in different ways; but what matters is to transform it. (Marx/Engels 1958: 535)

The pre-Marxian materialism considered the problem of knowledge separate from the societal character of man and his historical development, and therefore could not understand the determination of knowledge by societal praxis, that is, the dependence of knowledge from production and class conflict. (Mao 1968: 347)

Critical psychologists recognize that mainstream psychology plays into the hands of the ruling classes, which exploit working class people and third-world nations to enrich themselves. Critical psychology – grounded in a lineage of ideas that reaches from Karl Marx via Alexei Leont'ev to Klaus Holzkamp – offers a different perspective on the world. This perspective, though highly theoretical, has as its essential object/motive the transformation of the world that we inhabit. That is, critical psychology strives to realize Marx's eleventh thesis on Feuerbach as presented in the opening quote: It is a form of revolutionary praxis that continuously develops and deepens its understanding *in and through revolutionary praxis and reflections thereon and thereof*. The authors of the introductory quotes also point out that it is insufficient to merely want to understand the world, to create theory for theory's sake – this is what idealist philosophers have done for millennia. The real point is to transform the world and make it a better place for *all* people. In the second introductory quote, Mao notes that the problem of knowledge has been stated inappropriately in pre-Marxian materialism – and had been so even more in idealism. Thus, the real determination of knowledge occurs in societal praxis. That is, even the most theoretical framework, if it is to be of any use to societal reform, transformation, and revolution, *presupposes* practical understanding of the everyday world. This practical understanding constitutes the *abstract* form of knowledge in dialectical materialism, and it develops in an ascension to the concrete, which also is the most theoretical because the most finely articulated, concrete realization of theoretical knowledge (Ilyenkov 1982). In productive activity, not only activity itself is transformed but also human knowledge and consciousness thereof so that society as a whole and every one of its constitutive moments develops “step by step from lower to higher levels, that is, from the surface to the depth, the one-sided to the many-sided” (Mao 1937/1968: 348). Only societal praxis can be the true criterion for the truth-

value of knowledge: “The criterion of truth can only be societal praxis. The perspective of praxis is the first and foundational perspective of dialectical materialist epistemology” (ibid: 350). Moreover, “it is impossible to have knowledge independent of praxis” (ibid: 354).

The purpose of this paper is to illustrate and theoretically articulate critical psychological perspectives on the organizational mediation of learning and the development of schools using as concrete case one of my research projects. Because, as articulated above, any useful theory has its origin in praxis, I will use this project of school transformation as the context for my argument. The critical psychological framework both guided our transformational work in the schools and was further developed as part of the research and schooling praxis. This article itself therefore is structured in a manner that represents the “dialectical-materialist movement of knowledge, which emerges on the basis of the reality-changing praxis – a movement of the gradual deepening of knowledge” (Mao 1937/1968: 354). This movement, as Marx shows in his cultural-historical analysis of political economy (Marx/Engels 1962) – can only be shown in the actual manner of following the concrete manner in which a system unfolds. For, more important than any conceivable form of knowledge is the movement of knowledge itself, which is associated with and a function of praxis. Therefore, to define a “concept fully, i.e., concretely, also mean to ‘write’ Logic, because a full description cannot by any means be given by a ‘definition’ but only by ‘developing the essence of the matter’” (Ilyenkov 1977: 9). In this paper, I write the cultural-historical movement of two forms of praxis – coteaching and cogenerative dialoguing – that we have evolved over a period of 15 years of revolutionary praxis in schools.

An Ethnographer Observes the Praxis of School Reform

Beginning with sensual experience and develop it to rational knowledge, then again, beginning with rational knowledge, actively guide revolutionary praxis, transforming the subjective and objective world. (Mao 1937/1968: 363)

My interest in assisting school districts in improving the teaching of science in inner-city (urban) high schools, not only about individual classes but for clusters of classes and schools as a whole, has brought me to University City High School (UCHS) in Philadelphia. I begin this account of our work with a description of the sensual experience, which is to be developed and deepened to guide the revolutionary praxis of school transformation. Any ethnographer visiting this school can experience the *contradictions* – outer manifestations of the generally unrecognized *inner contradictions* (of this microcosm of capitalist society) that constitute the movement of the system (Ilyenkov 1977) – that mediate learning even on casual visits. This particular school is situated in a part of the city marked by high unemployment rates and poverty; it is also the area of the city where in 1985, police helicopters dropped a bomb on the house of a radical group called MOVE. The bomb sparked a fire that killed 11 residents and burned much of the neighborhood. The research I conducted in this school had the explicit purpose of generating knowledge *with* its members in order to transform the conditions and thereby concretize – thereby developing knowledge as per Mao – the purpose of research according to Marx/Engels in the opening quote.

Upon approaching the school, the first-time visitor feels to be entering a prison. All entrances are blocked and the visitor may come in only through the main gate and

through a weapons detector. Behind, two police officers and several school guards ascertain that everybody, including the teachers and researchers from the nearby university, move through the detector rather than bypassing it. Regular visitors from the university have a special ID that allows the guards to easily identify them for much more rapid access. All visitors sign in by name and hour.

This morning, a researcher colleague and I stop at the main office to ascertain that our meeting with the assistant principal was still on for later in the afternoon. At the bar that separates the front part of the room, an African American man with a teenager is talking to an individual on the other side. I think, “Perhaps this is his daughter and he had to come in because she had gotten herself into some trouble?” A few other students sit or stand in this area as if without purpose. In the background, on the other side of the bar, several women at their desks talk to one another. Nobody seems to pay attention to our presence. We wait for a while and then catch the attention of the assistant principal, which allows us to set our meeting for four o’clock.

We walk over to the stairwell and up to the third floor where the science-engineering-mathematics academy is located where we have done much of our revolutionary praxis described in this text. The assistant principal Claire, whom we know from earlier research stays when she still was the coordinator of the science-engineering-math academy, has told us that her successor, Cristobal, was probably in his science classroom, involved in the lunch period tutoring sessions. As we walk over to the designated classroom, we pass a few students, and then find the Cuban-African-American teacher Cristobal and two students, who are speaking in Spanish. One of the two pupils is, as we find out later, a twelfth-grade student participating in the tutoring program as a mentor to the second student. Cristobal points out two other females in their early twenties, one Asian the other European, each working with two African American students. He explains that they are engineering students from the nearby private, very well endowed university, helping UCHS students with their science and mathematics.

This science classroom becomes our home base for the remainder of the day, for Cristobal, whom we interview this afternoon, has made the place his headquarters. Those needing to talk to him apparently know that they can find him there. In the course of the next three hours, the new Spanish teacher in the academy comes to pick up the materials left by the previous Spanish teacher, who had gone on sick leave. Two students, who have been asked by their science teacher to leave their classroom – one for sleeping, the other one for doing homework for another course – also arrive in the room but still do not get to learn science. Cristobal, after briefly talking to them about having a meeting with the teacher later, asks the students to sit down (and the first one to sleep) until he had time to accompany them to “have a chat with the teacher” and resolve the contentious issues. There are also several twelfth-grade students apparently returning with class sets of completed forms, and leaving, after having been instructed to go to another classroom, with a fresh set of forms. All afternoon, Cristobal is busy attending to the needs of others. In fact, he had asked the twelfth-grade students previously to assist him, because attending to the needs of others allows him to do the task in only one tenth-grade chemistry classroom taught by Anita.

We spend some time in this chemistry classroom, which begins with a considerable, 20-minute delay, during which no chemistry is learned, because the students have been asked to complete the cover sheet for a standardized examination that the school district main office has scheduled for one of the following three days.

Cristobal talks to Anita repeatedly and at length, both to organize the time for completing the form, and about other things, while they are waiting for the students to complete their task. While moving back and forth from the classroom to his room to get the forms, Cristobal interacts with what turns out to be a physics teacher and another academy coordinator, respectively. Although they evidently want to talk to him, the interactions are icy. I find out that the first had been competing for his coordinator position and he had “stepped on the other’s toes,” while attempting to place a student in her academy who, because of a problem with his roster so that she could not take the courses in the science-engineering-math academy that she had wanted.

At the end of the day, we return to the main office. When we arrive at the assistant principal’s office, she invites us in, although she is currently talking with a school police officer in her office. Their topic is an incidence that occurred during the day, where he had taken an unruly female student at her arm, and she had come back to school with a parent, after having been expelled, to complain that the police officer had “roughed her up.” It was the same parent that we had seen when we entered the school some five hours earlier.

In the course of this one day at UCS – where I had already conducted transformational research for 6 years – it becomes apparent that there are contradictions throughout the school that make it difficult for students to learn school subjects, new teachers to learn to teach, and regular teachers to continue to developing. The school structures themselves provided powerful constraints not only on learning but also on the willingness of any stakeholder to change the existing situation. These structures in fact are a form of determination by the ruling classes that discipline the mind by disciplining the body (Foucault 1975). Even the security at the school entrance and the weapons detector have the function of ascertaining and maintaining the status quo imposed by the ruling classes. Although the status quo is far less than ideal for everyone involved – it is not in the common, general interest – keeping the lid on the situation so that it would not explode became the primary object/motive for the administrations, teachers, and non-teaching staff.

The presence of Cristobal and Claire in leadership positions is an outcome of the work we had conducted with students, teachers, and administrators in this school over the past 6 years. Cristobal had followed the new director of teacher education at the nearby university from Miami to Philadelphia and had become a teacher in a school within school at the time led headed by Claire. Because of two main forms of praxis that we developed with them, their section of the school had become so successful that Claire had moved up to become vice principal of the 2,300-student school whereas Cristobal had become the new director of the science-engineering-mathematics academy.

In the course of my work at the school, I observed not only students learn science and teachers-in-training to learn how to teach in challenging inner-city schools, but also I observed the school organization as a whole change and improve working conditions for staff and learning conditions for student. That is, I observed the school organization as a whole to have learned, visible in the much greater room to maneuver it had to deal with the many conflicts that arose as a result of the inner contradictions within schooling generally and within schooling largely poor African American students particularly. This work was not in the form of traditional ethnography, watching what people were doing, but consistent with the notion that we only get to know and recognize the truth in praxis by being involved in praxis (Mao 1937/1968), I was teaching science with other teachers, and debriefing this teaching with them and

their students. It was out of our early beginnings that we began, in 1998, a revolutionary praxis that transformed the school and led us to a unity of knowing and acting.

When I first arrived at the school in 1998, the school was a difficult one to work in. Teachers were burned out and they wanted to be transferred into other schools of the district that served more affluent student populations – the children of the ruling classes. On the standardized achievement tests administered by the state of Pennsylvania, the students of this school scored so low that the institution was eventually taken over by the state. Why would students of this school score so much below the mean of other schools? Our observations in classroom provided evidence that these students were not less able or intelligent than students in other schools so that the reasons for their abnormally low achievement especially in mathematics and science had to be found elsewhere. Thus, we observed that the school culture and organizational structures were systemically biased against students (Roth 2005). Our research program as a whole arose from the contradictions that we experienced, while teaching and participating in school process, on a daily basis. Our primary goal was to work with all stakeholders to change praxis by gaining greater control over the life conditions, and subsequently to understand and theorize what was happening. Our research process began with participation in praxis, which led to learning and change, followed, leading us to better theoretical understandings, that subsequently transformed our praxis.

Together with a colleague, director of teacher education at the university not far from UCS, I decided to assist the school in transforming itself. We knew from our reading of critical psychology (e.g., Holzkamp 1993) that this change could not come from the outside, for the inhabitants of the school had to become conscious of the problem themselves and, in the pursuit of addressing them, change their conditions. But this meant that there needed to be a change of consciousness for the inhabitants of this school to recognize the oppressive structures that were not allowing them to change. Our first attempt in assisting the school to bring about change was in mobilizing teacher education as a resource. Thus, the teacher education program that was up till then largely lecture-hall based shifted its emphasis into practice. All students in the program were to participate in the day-to-day affairs of the school, participate in its praxis and thereby enhance teaching, and they attended university classes and seminars in the afternoons and evenings. One of the three daily classes they had to teach with the supervising teacher or with another teacher-in-training. A second class each day they had to teach on their own, whereas they had a choice how to teach the third class. Most students, even if they initially opted for teaching on their own, sought a coteaching partner for their third option.

Cultural-Historical Ethnography of the Organization

UCHS is nothing like the high schools I have experienced in other parts of the world. It is an urban high school with an enrollment of more than 2,000 students, 98% of whom are African American, 90% of whom live in poverty. The average daily attendance rate is 72%. In the 1999–2000 Pennsylvania statewide school assessments, 84% of the eleventh grade students scored in the bottom quartile for math and 86% scored in the bottom quartile for reading. These figures for reading and math are higher than the statewide percentages of 25% and 24% respectively. More interestingly, percentages for bottom quartile scores in similar schools show 70% in reading and 73% in mathematics. The university professor working at the site has had

as an initial tendency to notice the undesirable features of what was there and those missing features that would in our opinion have enhanced the school. As others, I, too, was reminded of a prison by the expansive brick and concrete wall, the few, barred windows, and the heavy metal door at the front of the school. The building was not an architectural masterpiece and from our perspective it was welcoming neither to students nor to faculty. But more than anything else, especially after becoming more familiar with the place and the people who inhabit it, one begins to see the positive side, the ceramic murals and other decorative contributions of graduating seniors. Learning to regard a school in its true reality – as more than bricks, cement, and metal bars – requires developing a perspective of it as a social organization, a perspective that evolved as my colleague and I became accepted members of the UCHS community.

The school district adheres to a policy of creating *small learning communities* within each school. The idea is to allow students to experience a small school and to thereby create a feeling of family, belonging, school loyalty, and shared values. At UCHS the 10 small learning communities each contain approximately 200 students. Student select a specific small learning community according to their career or academic goals. However, not all students choose the small learning communities in which they will spend their high school lives. Some fail to meet the entry requirements and others are unable to maintain satisfactory performance levels. In these circumstances they are assigned to an SLC.

Our transformations of teaching and learning took place in an small learning community known as *Opportunity*. The school bulletin lists *Opportunity* as “an academic and resource program to assist students who need to acquire additional academic credits because of extended absences or other extenuating circumstances. These credits will enable the students to achieve appropriate grade level or graduation requirements.” However, the description in the bulletin is at odds with the perspectives of most students in *Opportunity*. Students in this small learning community described the situation in this way: “*Opportunity* is the bottom of the trash can.” Our research confirmed what participants alluded to: the block schedule, with its longer periods, resulted in a great deal more time being wasted in each of the class periods. Some of the students noted that they “don’t like it because what they are teaching me is too easy.” They completed their assignments in about 20 minutes and then were merely sitting around for the remaining 55 minutes doing nothing. The students were riled because they were not allowed to listen to music on their Walkmans, even when they had finished their work. Thus, there was a definite clash in the cultures of the school and those of the students it was supposedly to serve. Such clashes are known from the research literature, where it has been reported that the school structures and school ethos are consistent with those of the ruling classes but are antagonistic with those that characterize the under-class and working-class students (Eckert 1989).

In this chapter, I do not follow most of my Anglo-Saxon colleagues, who confuse two very different concepts that Marx/Engels (in German) and, following him, Leont’ev (in Russian) and the critical psychologists had developed: *Tätigkeit / deyatel’nost’* (Engl. activity) and *Aktivität / aktivnost’* (Engl. activity). That is, because in English the two concepts are conflated, *activity* is actually a more general, that is, less developed and therefore earlier form of theoretical development (Ilyenkov 1977) than the pairs of terms in German and Russian. The English “activity” tends to be associated with tasks students do rather than to societal praxis, which is the way in which Marx, Leont’ev, and Holzkamp have developed this theoretical category. I

have come to this conclusion of the less-developed state of “activity,” because the ultimate product that students produce and take away from the work of schooling are grades and grade reports, which are the artifacts that are transported to other activity systems, where they are “traded” (e.g., to access coveted places in competitive universities and programs) and “consumed.”

Expansive Learning

Intersubjective learning conditions thereby imply that one does not censor and holds back the Other in his learning efforts, but in freeing him, that is, in consciously renouncing the wish to keep him in and under control. (Holzkamp 1993: 528)

According to Marx/Engels (1958), humans are not subject to their conditions but are capable to change them; changing conditions entail changing consciousness. Learning ought to be measured in terms of the increase in the room to maneuver and control over conditions subjects of activity have; such learning, therefore, is *expansive*. There are two theoretical formulations of *expansive learning*, one in a Western, structuralist approach to cultural-historical activity theory (Engeström 1987), the other in a critical psychological approach (Holzkamp 1993) that actually continues the dialectical materialist path that Leont’ev had paved. Thus, the latter author views expansive learning from the individual subject, where it means expansion of my subjective life quality, increased understanding of the significations of my lived-in world, and augmented action possibilities. Not only does it matter that revolutionary praxis changes the world, but also it must increase the agential room to maneuver and thereby increase the individual and collective control over the salient life conditions. The former author describes expansive learning as a historically new type of learning that emerges in collaborative, sympractical activity. Thus, “expansive learning comes about when new activity structures are formed or generated, which requires solving societally essential dilemmas that *‘cannot be resolved through separate individual actions alone – but in which joint co-operative actions can push a historically new form of activity into emergence’*” (Engeström 1987: 162–163, original emphasis). Rather than viewing the two approaches as incompatible, my colleagues and I thought that expansive learning occurs at multiple levels that are dialectically related. At the level of the individual, expansive learning means increasing one’s room to maneuver for acting; this increase constitutes expansive learning because it is inherently imbued with a positive valence: who would refuse to participate in some event that promises to yield greater control over one’s life conditions? Thus, “in as far as a learning action, from the perspective of the subject, is grounded in an expansion/enlargement of the control/life quality and, in this sense having to be realizable in a *motivated* manner, I must be able to immediately experience and anticipate the inner *connection between a learning-based revelation of the world, expansion of action potency, and higher quality of life* that derives from the specific learning problem” (Holzkamp 1993: 190). It is precisely the recognition of the inner connections that the concepts that emerge from praxis “captures the essence of things, their tonality” (Mao 1937/1968: 350). On the other hand, expansive learning can be viewed at the level of the activity system, where it means expansion of the possibilities for the system as a whole, which derive, for example, from new means of production. These new means of production allow outcomes to be attained that exceed those of the original activity system. In our situation, we viewed the

changes that occur at the organizational level in the school as contributing to such an expansion.

Coteaching: Teaching Together, Learning Together

As noted above, coteaching constituted our first approach to assist the school in transforming itself. Coteaching was a revolutionary praxis, as it did not exist in this form and transformed the way in which teachers at this school were teaching. We began this coteaching practice in response to a real need. This need was a manifestation an inner contradiction (Il'enkov 1982), which led to changes in our praxis and in our consciousness – because of the “dependency of knowledge on societal praxis” (Mao 1937/1968: 347). While working with elementary teachers to assist them in using more hands-on approaches in the teaching of science, it turned out that they felt uncomfortable with it because of their own perceived limitation with science (Roth 1998). On the other hand, they had substantial historical knowledge of the students in this school generally and those that were in their own classroom specifically. One of the solutions these elementary teachers and I arrived at was to teach together, thereby mobilize the competencies of science experts, on the one hand – e.g., I am a physicist by training and a long-time high school teacher of science – and those with expertise in working with young students, on the other hand. We began by saying that we needed to teach “together,” for it was only then that we felt to be able to mobilize the different forms of expertise in one unit. In a way, we had changed the activity system. Today I understand what we have done as creating the conditions for *expansive learning*, even though it took many years for this form of understanding, this concept, to emerge for us. At the time of that revolutionary praxis, we used practice theory (Bourdieu 1980), especially based on our understanding of the practices in some fields to introduce newcomers to a field such as piloting airplanes, conducting surgeries, or becoming a midwife among the Maya of Yucatan, Mexico. Coteaching thereby became a practice where two or more teachers took full responsibility for teaching a school subject – rather than splitting a task and enacting a division of labor – working simultaneously from the front of the classroom or interacting with individual students and groups.



Figure 1. The supervising teacher (back) teaches together with the new (practicum) teacher (front).

Our research on coteaching gave evidence of the tremendous potential for teacher training and teacher development; it also became a recipe for coming to grips with teacher burnout, which had its origin in the fact that teachers find themselves alone in the classroom confronted with classes of 20 to 30 students. Thus, rather than having

teachers-in-training observe and then teach on their own, they were teaching together with experienced teachers (Figure 1). Although they planned the lessons together, the experienced teacher initially led, then made space for the teacher-in-training to take over at certain times. Then, when the experienced teacher saw where the teaching could be enhanced, he stepped in adding to the teaching in a way that continued the teaching process in a natural way and also allowed the teacher-in-training to experience in the here and now of the situation, how to approach teaching this topic differently and perhaps more effectively. In this manner, our coteaching was a form of classless society, in which “the individual human being, qua member of the society, works together with the other members, entering specific conditions of production and exercises a productive activity, contributes to the solution of the question of material existence of humanity” (Mao 1937/1968: 348).

Subsequently, in part dealing with the contradictions that in this school teachers often reported to be ill or left all of a sudden, we expanded this way of teaching allowing teachers-in-training to pair up or teach in groups of three even when there was no experienced teacher available. In this way, the needs of school and students were met – a course was offered rather than cancelled – and the new teachers were provided with opportunities to learn together. Here, teaching collectively expanded the room to maneuver of each individual, thereby creating a *zone of proximal development* (Vygotsky 1978), that is, a zone in which participants could maximally expand the range of actions at their disposition. In some cases, two new teachers worked together in the same classroom with the supervising teacher, who may or may not have been present. In Figure 2, for example, the two new teachers of chemistry instruct the class from the front of the room, whereas the regular teacher (visible between observer and back door) interacts with an individual student to address the learning needs that this student had expressed just before this instant. Our research showed that even in these cases, tremendous learning occurred. We later came to understand that this situation realized the two ways of understanding *expansive learning*. On the one hand, the room to maneuver of the individual was enlarged because of the collective approach to teaching, which in fact changed the mediations in this form of realizing the activity (schooling). On the other hand, from the perspective of the subject, there also was an increased room to maneuver so that it was not surprising that the new teachers chose coteaching as *the* form of teaching for their third course in the day.

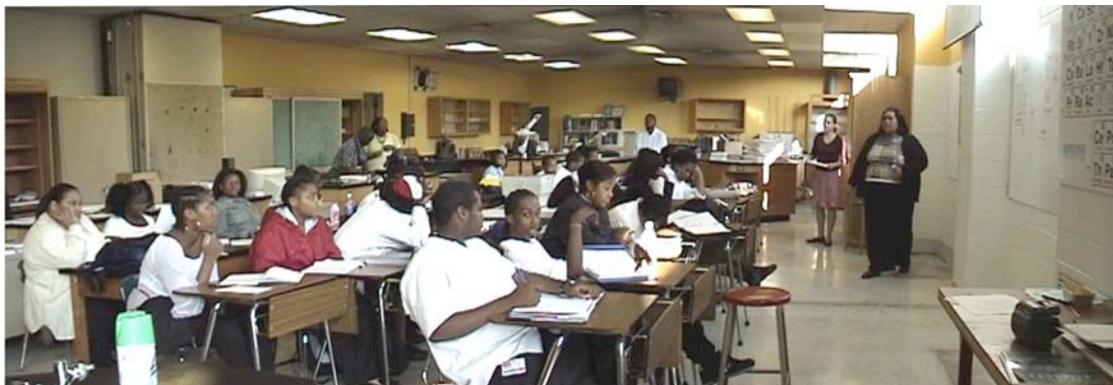


Figure 2. In this composite image based on two camera shots, we can see two teachers in training (right) teaching a chemistry lesson together, whereas the supervising teacher helps another student in the back (near the door).

It was later that we also brought *cultural-historical activity theory*, which, in the Engeström (1987) version (a structural approach to social psychology), forced us to think about teachers and students as subjects that collaboratively produced outcomes (grades, grade reports) and the attendant division of labor opened up students access to the curriculum materials, the objects of the tasks. The well-known mediational triangle associated with this development of Alexei N. Leont'ev's original work brought to the analytical fore the contextual structures of the activity and actions and the mediations that enabled activity and actions. At the same time, we sought other ways of thinking about participation and praxis, as the structural aspects of this form of social psychology did not give us, attuned as we were to sociological phenomenology, access to the experiences of the individual subjects, and their reasons for acting. We had conducted a substantial amount of work on the lifeworlds of practitioners and how what is salient within the lifeworld and what within it goes without saying are key to understanding human practices rather than the abstract relations that an outside analyst might construct. This led us to Marxist critical psychology and the concepts it had developed for doing and understanding revolutionary praxis. What is important to understand a practice is the sense of the game that the practitioners have, their sense of temporally appropriateness of actions, rather than the analytic moves of the theoretically oriented observer (Bourdieu 1980). It was here that we found Klaus Holzkamp's development of Leont'ev's work, especially as it was articulated in *Lernen: Subjektwissenschaftliche Grundlegung* (Holzkamp 1993). Here, central to the determination of "grounds of actions" were those actions that increased the room to maneuver for individual, revolutionary subjects and from their perspectives, which contrasted Engeström's articulation of expansive learning, associated as it is with a change in the activity system as a whole.

The individually relevant societal conditions, to which the control interests of the teachers-in-training are oriented, are the planned and lived curriculum as a societal unit of signification. In this unit, particular, generalized (collective, cultural) possibilities for constituting "personal sense" (Leontjew 1982) of being teacher are articulated and concentrated in sensually available manner. The interest in the power to act, which is always "mine" from the perspective of the acting subject, is objectified in this unit of signification. That is, the experience of coteaching provides opportunities for expansive learning to teachers-in-training and experienced teachers alike, and provides opportunities to supervising teachers and school administrators to experience teaching in the praxis teaching. On the other hand, coteaching can also lead to a position where being caught up in teaching, the participants collectively no longer see the forest because of the trees. "The proper task of knowledge lies to go from experiencing to thought and thereby to understand, step by step, the inner contradictions of objectively existing things, their regularities, the inner connection between one and another process, that is, to come to arrive at a logical form of knowledge" (Mao 1937/1968: 351). In this case, some form of critical analysis of the lifeworld and experiences are required that go beyond the perspective of the individual and thereby lead to further revolutionary praxis. For, "without revolutionary theory, there cannot be revolutionary movement" (Lenin 1978: 379).

In this school, the teachers-in-training were not viewed as a burden but as legitimate participants in a revolutionary praxis of teaching science to students. The massive presence of teachers-in-training began to transform substantial parts of the school, where teachers felt that they were overcoming isolation, felt decreasingly burnt out, noted that they were learning from others despite the relatively little amount of teaching experience that they were coming with to the school. For students,

too, having two or more teachers in the same classroom meant an increased number of experts to turn to and, as they expressed in debriefing meetings, this expanded their learning opportunities as they tended to understand the explanations of one teacher better than those of another.

In the preceding examples, the new approach to the supervision of new teachers is evident. Supervision meant participating in the praxis of teaching, for only in praxis can we recognize its truth (Mao 1937/1968). But coteaching also brought new opportunities (expanding room to maneuver) for the evaluation and supervision of teachers-in-training. Thus, very early on in our work at this school, the director of the teacher education program, who had observed a lesson, told the teacher-in-training what he should have done to make the lesson better. This new teacher challenged the professor and asked the latter to show him how to teach better. When the professor subsequently attempted to teach science himself, he failed miserably, according to his own account, for many months (Roth & Tobin, 2002). The director of teacher education had not realized that he had made himself an example: of the “most ridiculous people in the world are the ‘know-it-alls’ . . . that elevate themselves to the ‘primary authority in the world’” (Mao 1937/1968: 353). The coteaching model provided us with an opportunity to revolutionize the approach to supervision and evaluation, whereby supervisors and evaluators would no longer be permitted to observe from the outside and then make judgments but had to participate in the praxis of teaching to truly appreciate what was possible to do under the present conditions in this classroom. That is, we experienced first hand that when one wants to “directly know something or a complex of things, one has to participate personally in the practical struggle to the change of reality, the change of the things or complex of things; for only in this way does he come into contact with the appearances of particular things, and only in personally participating in the practical struggle of changing reality is he enabled to disclose and comprehend the nature of this thing or complex of things” (ibid: 353). In a way, we had realized that we ourselves had been subject to ideology and that our participation in the praxis of teaching constituted a form of rupturing the ideology that we had been subject to. As everyone else, each participating coteacher had to address problematic situations for the benefit of the students at the moment, and any issues had to be addressed in debriefing sessions after the lesson in a conference room where the lesson could be discussed.

Cogenerative Dialogue

Of course, consciousness initially is only consciousness concerning the *closest* sensuous environment and consciousness of the limited connections with other people and things outside of the individual that is becoming conscious.
(Marx/Engels 1958: 31)

The debriefing sessions provided participants with opportunities to go from lived, sensual experiences in the classroom to a higher level of logical comprehension of what has happened (to them). These debriefing sessions, akin to Mao’s (1937/1968) “study group,” also constituted a revolutionary form of praxis, as they had not existed before and was an essential component of the transformation of this school. The movement of knowledge it allows is based on the understanding that “when we have noticed something, we cannot immediately comprehend it; only when we have comprehended can we perceive the thing in more profound ways” (ibid: 352). In the debriefing sessions, it turned out that we, individuals very differently located in the

societal-hierarchical system of schooling – regular teachers, administrators, university supervisors, evaluators, teacher educators, and researchers – experienced the lessons differently. This is so because in societal praxis, the “societal man takes part in all dimensions of practical life. Therefore man comprehends in his knowledge the different human relations to different degrees not only in material but also political and cultural life (which is closely related to material life)” (ibid: 348). We realized that these different perspectives articulated during debriefing meetings – deriving from the different positions that we took in life and in the classroom – could be mobilized in such a way that it became beneficial to the learning of all. It became a form of becoming conscious of our own experiences and those of others. As has been said, “consciousness [being conscious] cannot ever be anything else but conscious Being” (Marx/Engels 1958: 26). Most importantly, we researchers and supervisors came to understand that expansive learning for individuals and groups required that our theorizing of praxis took into account these differences rather than trying to abstract from them. We denoted our practice *cogenerative dialogue*.

We were not merely interested in teacher training and teacher enhancement, but in the revolutionary praxis of transforming the schools and schooling more generally. It became clear to us that if we wanted to facilitate not only changes in teaching but also changes in learning across the board, students had to become part of these debriefing meetings. We were particularly interested in addressing the questions “How to better teach students like me?” and involved students in the analysis of lessons that we had taught to them (Figure 3). The ultimate goal was to produce plans for curriculum and interactional patterns that both teachers and students in a class could abide by. For each party, therefore, the purpose of these meetings was to work with the others to design the classroom environment in such a way that it enhanced opportunities for students to learn and for teachers to teach and learn to teach. That is, cogenerative dialogue was intended to articulate common, general interests that met everyone’s need – which replaced the traditional approach where the interests and needs of teachers and students are particular to each group confronted in the same way in which ruling class and working class interests clash in the labor market. Because teachers and students generated the plans for improving the learning environment together, the praxis of cogenerative dialogue increased their room to maneuver, increased their action possibilities, and therefore the control over their life conditions.



Figure 3. a. Two teachers-in-training (second and third from right), two students (first and third from left), a researcher (front, first on right), and a professor in teacher education have assembled for a cogenerative dialogue following a science lesson the experienced together. b. The researcher and one of the students congratulate each other for a successful dialogue, in which they have articulated together new forms of actions and thereby an expansion of their room to maneuver.

There are many ways in which the school as organizational structure mediates learning, which range from students' voluntary or forced absenteeism to inappropriate assignments to courses as a result of collective course scheduling and incompatibilities in individual course selections. Time and again, we learned from the teachers-in-training that this variability in students' background knowledge constitutes a major challenge to the work that they attempt to conduct in their classes. In the following excerpt, Natasia, the student with the highest marks in the biology class we were teaching, proposes to include those students among the teaching staff who "catch on faster" than the other students. Her interlocutor at the instant is Ken, the professor of teacher education, who just before that has been participating in the teaching of biology in Natasia's class. In this way, the student proposes, those who more readily master the materials can assist their peers in learning

- Ken: Lots of variability, Andrea finds this a challenge. We all find it a challenge. How do we deal with that challenge?
- Natasia: Have the people who catch on fast work together with those who don't catch on fast.
- Ken: And you don't think that the people that. . .
- Natasia: No, I mean like mix them together, like half, like me Jeanine, and a couple of other students in one group. Because some don't catch on as fast as others. . . . And let the ones who catch on faster help the ones that don't catch on as fast.

Time and again, students who previously were only lethargic and present (often sleeping during the lessons, which they said provided a safe-heaven relative to the streets where they lived) now took control over their own learning and that of their peers. Those who understood some subject matter more quickly began to teach together with the teacher (Figure 4a) or assisted (taught) others in small-group situations, which are quite common in laboratory situations (Figure 4b). As one of the teachers in New York observed while conducting a meta-analysis of studies on cogenerative dialoguing, "Building upon his notion of cosmopolitan ethos of valuing difference, the emergence of students as coteachers and the recognition and respect for varying ways of knowing at [New York High Schools] has been a natural progression from students and teachers being involved in cogenerative dialogues" (Bayne 2008, p. 508).

Cogenerative dialoguing in particular turned out to be a praxis that changed schools not only in Philadelphia but also in New York, where Kenneth Tobin took up a new position and many of his graduate students began to implement this form of working with students in their own classrooms. Teachers in Philadelphia and New York not only enacted with their students cogenerative dialoguing – frequently mediated by video-recording technology, which allowed them to observe past lessons and identify problems – but also taught them sociological theory (e.g., LaVan & Beers, 2005). This existing theory constitutes a form of "mediate experience . . . that Lenin called 'scientific abstraction'" (Mao 1937/1968: 354). It is a tool that enables the realization of the "necessity to deepen, the necessity to move from the sensuous level of knowing to its rational level" (ibid: 357). Thus, the learning of sociology further expanded the analytic and critical possibilities of these students, because now they came to master the tools required for analyzing social behavior and social interactions and become aware of conditions that mediate the emergence of conflict. Using the videotapes tremendously helped the student-teacher collectives in focusing

on specific, concrete issues that became the focus of their developing discourse and consciousness. This exhibits the central object function of the videos in the identification (object/motive) of relevant symbolic resources and their salience in the classroom. The video vignettes constituted a context that assisted the students in relating to their own culture to articulate theoretical connections between schema and action. The students were thereby enabled to draw, in a reflexive manner, on their own cultural capital in and for the learning of natural science. In this way, students and teachers developed deeper forms of knowledge on the basis of praxis, forms of knowledge that reflected objective reality. These students and teachers therefore were not “vulgar practitioners” who “appreciate experience a lot but theory not at all” (ibid: 357) but they were participants in revolutionary praxis that not only intends to get things done but also intends to deepen its theoretical knowledge.



Figure 4. Students become teachers. a. Standing at the whiteboards, a female student (right whiteboard) teaches together with the teacher-in-training (left whiteboard). b. A female student helps two fellow students in doing a science laboratory experiment.

For the students, the participation in the cogenerative dialogue sessions opened possibilities to actively participate in the definition of the learning materials as something relevant to their lives, which qualitatively changed the way in which they could understand their own actions within the lessons and therefore their interests. As has been suggested by critical psychologists, “to awaken interest one must not show the goal and then attempt to justify the action in the direction of this goal, but one has to do the reverse, first create the motive and *then* disclose the possibility to find the goal (normally the whole system of intermediate and associate goals) in a concrete-objective content” (Leontjew 1982: 276). In this manner, our revolutionary praxis approximated the form of school change that Holzkamp articulated, at least as a first step toward students’ greater control over their life conditions, because in our revolutionary praxis, “students, as learning subjects, [were enabled] to articulate their own learning problems and the expansive learning actions thereby initiated” (Holzkamp 1993: 539) That is, the understanding of these relations cannot be the endpoint of the movement. For “if the dialectical-materialist movement of knowing were to stop with rational knowledge, only half of the problem would have been dealt with, and from the perspective of Marxist philosophy, this would not even be the most important” (Mao 1937/1968: 358). The most important point, for Marxist philosophy—is to understand the regularities of the world in order to actively change it – as captured in Marx/Engel’s eleventh thesis on Feuerbach that opens this article.

The revolutionary cogenerative dialogue praxis began in individual classrooms but soon moved to the level of the academy, a school within the school. Thus, for

example, the Clare Tracy and Cristobal Carambo initially expanded the practice to the level of their academy and, especially when the former became vice principal and the latter head of the science-engineering-mathematics academy, became a form of praxis that was found across the school as a whole. The praxis not only led to the sense individual participants had of the increasing control over their life conditions but also to a greater sense of solidarity among all participants. Christopher Emdin and Ed Lehner (2006) describe how the solidarity associated with participation in cogenerative dialogues spreads through successive grade levels of a school – producing a school-level solidarity theorized in the term of *cosmopolitanism*. Here, I understand cosmopolitanism in terms of critical cosmopolitanism, a form of revolutionary praxis “articulated around principles of radical, participatory democracy and egalitarian reciprocity” (Kurasawa 2009: 97). The emergence of critical cosmopolitanism relates to the presence of multiple cogenerative dialogue groups throughout a school and across grade levels. This opens up the possibility for cogenerative dialogues about the shared experience of improving curricula through the use of cogenerative dialogues.

Solidarity between the different stakeholder groups overcomes the formation of groups that are more interested in pursuing particular, special interests rather than general, common interests. Our praxis developed such that the general goals for the expansion of our conscious power over the collective life conditions were oriented toward the increasing self-determination of the individual, because the general goals were shared (because collectively generated) goals. From our critical psychological perspective, this is so because, “in actions that are oriented toward general goals the interests of others are never suppressed, whether these others are individuals or groups – unless these were interests of those who wanted to oppress others” (Holzkamp 1979: 14). This led some teachers interested in cogenerative dialoguing with students from the underclass to theorize their practice in terms of radical cosmopolitanism, which was especially relevant in their context of being an immigrant nation. Thus, cosmopolitanism is founded on the idea that every human being is part of a single community that is bounded by general, common ethics, morals, and ideals. It is a move away from thinking interactions in terms of nation states and distinct cultures and a move toward collective responsibility. In cosmopolitan practice, the bonds that tie together family and friends are extended to all irrespective of gender, race, class, and ethnicity (Emdin and Lehner 2006). In their work with schools and neighborhoods in inner-city New York, the two teacher-authors describe their revolutionary cogenerative dialogue praxis. Once started in a school, begins to transform, which they attribute to the fact that “all the spaces of the school, both physical and symbolic are influenced because stakeholders interact in these diverse fields” (§18). Solidarity and communality developed within the cogenerative dialogue becomes an integral part of the students’ lifeworlds.

Cogenerative dialoguing cultivates an “ethic of hospitality” (Derrida 2001: 16), where we have to understand hospitality as being culture itself, not an ethics among others. “Insofar as it has to do with the *ethos*, that is, the residence, one’s home, the familiar place of dwelling, inasmuch as it is a manner of being there, the manner in which we relate to ourselves and to others, to others as our own or as foreigners, *ethics is hospitality*” (ibid: 16–17). Cogenerative dialogue, therefore, is not just a call for working class people to unite, as stated in the communist Manifesto – “Proletarians of all nations, unite!” (Marx/Engels 1959: 493) – but also it is a uniting of all stakeholders involved in the activity of schooling. As the head teacher of one academy suggests (Carambo 2008), working together in this way provided new forms

of identity to become possible for teachers, students, and administrators alike. The critical psychological framing of the ways in which identities are constructed and reconstructed, mediated by all the different moments of the system as a whole, has transformed the school, and therefore constituted a form of learning at the individual and collective levels. After conducting a meta-analysis of several dozen research projects on coteaching in inner-city schools, Bayne (2008: 208) notes that “in schools, such as this suspension center, where all students committed a violent offense, many have poor attendance and achievement records, and most have limited connections with adults and teachers, cogen[erative dialogue]s have become powerful tools. Cogen[erative dialogue]s foster the production of new practices that get enacted across a variety of boundaries of difference.” But cogenerative dialogues harbor not only possibilities but also considerable constraint in that they, as every truly critical-democratic institution, embody their own demise. This is so because this praxis supposes a reception or inclusion of the other that one seeks to appropriate, control, and master according to different modalities of violence so that it is always possible to subvert and pervert its orientation toward collective beneficence.

Collective Responsibility

Building collective responsibility for the events in the classroom has become the perhaps most important and central aspect of enacting and talking about praxis in coteaching. In teaching the unit together, coteachers each contribute to the collective responsibility for student learning, that is, expanding the students’ agency with respect to talking and enacting the curriculum. Teachers always attempt to complement one another. When one teacher, for example, sees that another’s questions do not provide maximum support for student learning, she will step forward and ask a few “excellent” questions then and there. Similarly, when one teacher sees that another’s questions pushes students too hard, thereby discouraging them, he might step forward, poses a pertinent questions at the appropriate level, and thereby expands the learning opportunities for students. That is, both teachers act in view of a collective responsibility to afford the learning of the students. Coteachers who see that something in the situation that could or should be improved immediately go about making required changes. Rather than sitting back and after the lesson talking about it or, worse, blaming the other for making mistakes, coteachers who enact their part of the collective responsibility do what can be done to improve the situation then and there.

Making the changes necessary to develop a praxis of collective responsibility does not necessarily come easy, especially in a culture that is centered on individualism and individual prowess. For example, in one of our projects, we taught a lesson in biology. We had planned two investigative tasks for this 90-minute period, but because we allowed students more time to complete the first task, we made a quick decision to use the time remaining for reviewing and extending some core concepts of the ongoing unit. As it happened, the only transparency sheet available was full of writing and needed to be cleaned. (This is one of the contradictions found in urban schools: the tools for teaching exist in limited amounts or not at all. Teachers often internalize this contradiction and feel personally responsible for the lack of means and purchase materials out of their own pockets.) There was therefore a time lag while the four teachers and the class waited for the student who was cleaning the transparency to return. During the subsequent cogenerative-dialoguing session, a supervising professor coteaching the lesson asked the lead teacher at the time why she had

permitted such a lengthy transition between the two parts of the lesson. She immediately defended her actions and accepted blame. However, when we subsequently talked about the situation again, we realized that the professor, who noted that there was something wrong and that time was wasted, could have stepped forward to use the time productively. The professor had reverted to his previous mode of the “know-it-all,” which makes him only ridiculous and somebody to be laughed about (Mao 1937/1968). It would have been consistent with collective responsibility for the supervising professor to immediately address the situation and use the time to further the students learning of biology.

Students, too, are part of the collective and, for school transformation to occur need to take part in enacting collective responsibility. The teachers’ initial goal always is to get their students recognize that by taking part in the collective responsibility for the quality of teaching and learning in the classroom, they in fact expand their own levels of control over the life conditions and increase their action possibilities. Participation in revolutionary praxis contributes to the common interest rather than to the partial interests of one or another group or class. Revolutionary interests, though initially antagonistic with the interests of the exploiting capitalists and their ruling classes, have to be consistent with the subsequently enabled and evolving general, common interests. This in itself is an inner contradiction of any revolutionary praxis, including that of cogenerative dialoguing.

We learned from these experiences that even though urban high schools are challenging places to teach, new teachers can make a significant contribution to urban students while learning to identify the students’ cultural capital, create appropriate learning environments, and effectively resolve problems as they emerge. Our personal teaching experience in urban schools suggested that events needing the teachers’ attention unfold continuously, even for experienced teachers and teacher educators. Teaching science alongside another person in a difficult school can provide myriad opportunities to learn to teach better, because engaging in practice alongside another allows a person to experience dispositions characteristic of practice not otherwise accessible (Bourdieu & Wacquant, 1992). Furthermore, there is a very evident need for good teachers in urban high schools, especially large neighborhood schools with a comprehensive curriculum. We thought that if “student teachers” were regarded as “new teachers” – i.e., as true resources for the learning of students – there was the potential for science teacher education to be radically transformative to the urban schools in which it was situated.

Conclusion

Coteaching and cogenerative dialoguing, alone and together, have turned out to be forms of revolutionary praxis that provides opportunities for *expansive learning* of individuals and collectives (schools) and in both of the ways that this theoretical term was conceived by critical psychologists. Coteaching changes the structure of the production and reproduction of schooling because teaching, evaluation, supervision, and research come to be part of the same now expanded unit in which participants together achieve what individually they could not have dreamt of achieving. Here we have both expansive learning in and through a change in the division of labor and in the collaboration of multiple systems, including teacher training institutions and administration. New action possibilities are brought about by these newly structured systems. But equally important, the individuals participating in coteaching see their room to maneuver enhanced. The changes lead to learning at the level of schools,

which become able to deal with what have been endemic problems brought about by societal-hierarchical relations of students and teacher. In our case, the praxis of cogenerative dialoguing brought about a further bridging that led from the previously existing confrontation between teachers and students, who each pursue their own partial interests to the articulation and pursuit of common interests, as captured in the idea of radical communalism and critical cosmopolitanism. Cogenerative dialogue praxis brought about changes for entire schools, where “leadership qualities, which involved taking responsibility for looking out for the well being of his classmates and the school community, coteaching, school-wide curriculum planning and project execution all were shaped by the communal nature of [cogenerative dialogues]” (Bayne 2008, p. 511).

Both coteaching and cogenerative dialoguing practices involve the submission of the individual to the collective, a form of action in which the individual subject subjects itself to collective processes. It is a form of subjectification of the subject, which provides opportunities for the individual to develop in individual explosive and individual gradual ways (Engeström 1987). In both forms of praxis, there is an expansion of possibilities as a result of subjecting to and forming collectives, which constitute a new form of the zone of proximal development, now understood as the “distance between the present everyday actions of the individuals and the historically new form of the societal activity that can be collectively generated” (p. 171). One of the contradictions that needs to be overcome toward greater solidarity and collective control by means of coteaching and cogenerative dialoguing – which leads to learning at the institutional levels – lies in the fact that the “relation between collectivity and subjectivity cannot be properly fathomed, when one begins with the individual. . . . The special character of the human-societal manner of realizing life does not reveal itself when only the individual is analyzed” (Holzkamp 1979: 7). The contradiction is revealed immediately in coteaching and cogenerative dialoguing, because participants – perhaps mediated by the North American culture – understand life only from the perspective of the individual. In our revolutionary project, the students and teachers experienced the enlargement of their collective and individual rooms to maneuver, which emerged by identifying with and taking up the collective, general interests as realizations of their concrete particular interests. What might look from the outside as a drastic change when students became involved in the control over classroom life was in fact only a minor change from those who had experienced coteaching and then moved to cogenerative dialoguing praxis.

The experiences in the praxis of coteaching and cogenerative dialogues lead participants to understand that their subjective determinations of the collective life conditions in the school and in the societal relations and their objective determination by societal and natural conditions are both necessary and mutually connected foundational traits of life activity. It is precisely out of this recognition that the motivation for doing cogenerative praxis spread to other parts of the school and the school district. Fundamentally, therefore, coteaching and cogenerative dialoguing constituted a context for a continually developing revolutionary praxis: “Praxis, knowledge, again praxis, and again knowledge – this cyclical form repeats itself endlessly, and the content of praxis and knowledge is elevated to a higher level in each individual cycle” (Mao 1937/1968: 363). This allows me to conclude this article with Mao, who stated that “this is the complete epistemology of dialectical materialism, this is the dialectical-materialist theory of the unity of knowing and acting” (ibid: 363).

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