

Cultural Historical Activity Theory and the Expansion of Opportunities For Learning After School

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Introduction

This paper addresses the issue of how Cultural Historical Activity Theory (hereafter, CHAT) can help in the design and sustaining of after school educational activity systems. We begin by summarizing why after school education is a topic worthy of study. We then describe efforts to implement sustainable after school systems and the relevance of CHAT to these efforts.

The topic of after school educational activity has burgeoned into a major educational issue in the U.S. in recent years (Belle, 1999). Several factors seem to be involved in this newfound interest. First, there is an ongoing concern with declines in educational achievement across grade levels. Second, welfare reform has removed many parents from the home and into job training programs, while programs and organizations providing care for their children are struggling to meet the demand for child care. These reforms have accelerated the general movement of parents across the income spectrum into work outside the home, and have sharply increased the need for daycare for preschoolers and aftercare for school aged children. Third, the last few years of the 1990's have seen a turn away from "social promotion" in K-12 education. This trend has emerged as an outcome of public debate over the long-term consequences of holding children back a grade versus under preparing them for the cognitive demands of the information society and the high tech workplace. The consequence is that local schools, with heavy funding from the state, are asked to begin taking responsibility for improving educational achievement for their poorly achieving students during the after school hours or accept the economic, social, and psychological consequences of holding children back. The teachers and afterschool care staff need effective models to work with.

To these three social factors evoking interest in afterschool education, we add a fourth issue that provides essential resources for the work to be described: reform of higher education. The current reform efforts of colleges and universities include providing undergraduates with service learning opportunities, increasing student proficiency working with new information technologies, and increasing the number of courses that expose students to rigorous research. These and other social conditions provide the socio-historical context and pool of potential motives which we have drawn upon to organize our efforts to build effective, sustainable, after school educational activities.

Confronting the Problems with a CHAT Toolkit in Hand

For the past decade we have been using CHAT to guide the design and implementation of an after school activity system that responds to the social, political, economic and educational pressures we have identified above. During this time we have used CHAT both as an object of research and as a guide to practice.

We have found this activity to be rewarding in several ways. First, we have we have found it possible to create after school programs that children readily attend and which enhance their opportunity to practice

and extend academic and social abilities. Second, we have provided social science undergraduates with college and university courses that place them in community settings where they play and learn with children, assist adult staff members by enriching the ratio of attentive adults and fostering educationally beneficial interactions. Undergraduates respond with an increase in subject matter knowledge, familiarity with ethnographic and psychological research methods, as well as the experience of finding theories learned in school of practical use in an activity they value. Third, as researchers we have been provided with facilities that enable us productively to test and expand our understanding of human development and its institutional foundations.

The Fifth Dimension: UCSD's Normative Model

As we shall see, an essential feature of the Fifth Dimension is its adaptability to specific local conditions. Nonetheless, there are similarities across implementations which make it useful to provide a provisional description for purposes of exposition. When asked to describe a Fifth Dimension briefly to potential collaborators or in articles, (Nicolopolou and Cole, 1993, Brown and Cole, 1997), we produce a normative description, such as the following :

The Fifth Dimension is an educational activity system that offers school aged children a specially designed environment in which to explore a variety of off-the-shelf computer games and game-like educational activities during the after school hours. The computer games are a part of a make-believe play world that includes non-computer games like origami, chess, and boggle and a variety of other artifacts. "Task cards" or "adventure guides" written by project staff members for each game are designed to help participants (both children and undergraduate students) orient to the game, to form goals, and to chart progress toward becoming an expert. The task cards provide a variety of requirements to externalize, reflect upon and criticize information, to write to someone, to look up information in an encyclopedia, and to teach someone else what one has learned, in addition to the intellectual tasks written into the software or game activity itself.

As a means of distributing the children's and undergraduates use of the various games the Fifth Dimension contains a table-top or wall chart maze consisting of some 20 rooms. Each room provides access to two or more games, and the children may choose. which games to play as they enter each room.

There is an electronic entity (a wizard/wizardess) who is said to live in the Internet. The entity writes to (and sometimes chats with) the children and undergraduates via the Internet. In the mythology of the Fifth Dimension, the wizard/ess and acts as the participants' patron, provider of games, mediator of disputes, and the source of computer glitches and other misfortunes.

Because it is located in a community institution, the Fifth Dimension activities require the presence of a local "site coordinator" who greets the participants as they arrive and supervises the flow of activity in the room. The site coordinator is trained to recognize and support the pedagogical ideals and curricular practices that mark the Fifth Dimension as "different"-- a different way for kids to use computers, a different way of playing with other children, and a different way for adults to interact with children.

The presence of university and college students is a major draw for the children. The

participating college students are enrolled in a course focused on fieldwork in a community setting. At UC San Diego, an institution that emphasizes research, the university course associated with student participation is an intensive, 6 unit class that emphasizes deep understanding of basic developmental principles, the use of new information technologies for organizing learning, and writing fieldnotes and research papers. The undergraduates write papers about the development of individual children, the educative value of different games, differences in the ways that boys and girls participate in the play world, variations in language use and site culture, and other topics that bring regular course work and field observations together.

In short, considered in its community context, the Fifth Dimension is organized to create an institutionalized version of the form of interaction that Vygotsky (1978) referred to as a zone of proximal development for participants. From time to time there is creative confusion about who the more capable peers might be (when novice undergraduates encounter children highly skilled in playing educational computer games about which they know nothing). But the general cultural of collaborative learning that is created serves the development of all.

Before moving on, we want to call attention to two important features of this description in the present context. First, because it is a normative description, it is written ahistorically: it describes a "once and future", idealized reality. In practice, every Fifth Dimension is a reflection of its time and place, coming to fruition in diverse concrete circumstances. Second, and closely related, the description is abstract: it does not reveal the complexity involved in dealing with ever-shifting resources on both the community and university side of the partnership. The concrete reality gives vivid life to the notion that change is the only constant: undergraduates change every academic quarter, community personnel come and go frequently, children's participation varies enormously, from a single visit to repeated weekly visits that, in some cases last for years. The actual games played by the children change along with the hardware at a pace we could not imagine or anticipate when these activities began two decades ago.

Some Useful CHAT Tools for Creating and Running a Fifth Dimension

. There have been a number of useful presentations of the general principles of cultural-historical activity theory which have drawn on to guide us in our work (Cole and Engestrom, 1995, Vygotsky, 1978, Engestrom, 1987.) In this section we select some principles that have played an especially important role in our attempts to use CHAT as a tool for building and maintaining afterschool educational activities.

The centrality of context and activity

As noted in earlier publications, the notions of context and activity are used in a variety of ways by contemporary social scientists (Cole, 1996). In some cases we have found it useful to use a "social-ecological" concept of context, ordinarily represented as a set of concentric circles or nested dolls in which the focal activities being at or near the center, constituted by and constituting the levels above and below them (Bronfenbrenner & Morris, 1998; Cole, 1996). In using a "concentric circles" notion of context we are especially mindful of the fact that causal influences flow between largest and smallest circles in *both directions*. Used in this manner, the image of concentric circles captures the embeddedness of joint mediated activity: an undergraduate child and computer in a corner of a larger club; the club in context as part of a neighborhood ecology, a school district which channels children into afterschool clubs on and off campus; a community whose families the school district serves, etc.

At other times it appears most useful to interpret context as "that which weaves together", emphasizing the co-constitution of the phenomena of interest -- in the current case, the ways that ideologies, artifacts, institutions, and individuals coordinate such that a particular pattern of afterschool activity emerges. The context-as-weaving metaphor also helps us to keep in mind that there is a temporal dimension essential to context, in addition to a spatial one. It is by tracing changes between the activity and its contexts, considered in both their temporal and spatial dimensions, that allows us to gain some purchase on the problem of understanding the dynamics of change.

As noted by Cole and Engestrom (1993), there is a close affinity between contemporary notions of context and the notion of activity as developed in Russian and German psychology. A special virtue of the use of activity as an adjunct to, or substitute for, the concept of context is that it both forces attention to the historical dimension of the context/activity in question and allows a means of identifying crucial constituents of the phenomenon being investigated as they relate to each other. We often find it useful, for example, to think of the Fifth Dimension activity system as being composed of the interplay of subjects, their competing or complementary objectives, mediational artifacts, social rules, communities, and divisions of labor. At other times we find it useful to focus on how the actions of the participants fulfill their local goals while the activity system satisfies the motives of a larger community of parents, social welfare agency administrators, and educators who seek a better future for their children through the provision of the site.

An example of a contextual element that is more or less constant across implementations of the Fifth Dimension is that the program runs after school. In the life of the community, after school is a time for young people to play and to "hang out". In middle class culture, lessons in dance, music, seasonal sports leagues, or scouting are standard fare for those with the resources (Zarabatany et al., 1990). For many children it is a time to attend one of a variety of loosely structured after school care programs which are generally designed to keep children active and amused until their parents can pick them up (Belle, 1999).

The importance of goal formation.

Each adaptation of the model initiated 20 years ago is intended to be a cooperative effort between people affiliated with universities and people affiliated with community institutions. Such collaborations require what Olga Vasquez (1994) refers to as "dynamic relations of exchange." Consequently, we begin by seeking to establish common goals. At the highest level this was easy: all of the community institutions wanted enriched educational experiences for their children whether they approached us or we approached them about collaborating. All were focused on after-school activities. This was the object of the program. But when it came to subgoals necessary for achieving the joint action, something like "joint goal formation" was a primary condition for implementation and the continued existence of the desired alternative program.

Whether the point of view considered is that of a child, an undergraduate, a parent, a club staff programming director, a university administrator or research associate, we have found that each participant has to have sufficient motivation to commit time and resources to the activity. Each has to experience their involvement and their benefits to be preferable to existing alternatives. For this to happen, a solid understanding of the authentic motives, constraints and resources of the varied participants is key.

The notion of leading activity

The issue of the Fifth Dimension's location "between" home and school points to a variety of sources of motivation for participation: play, peer interaction, and learning are prominent candidates for children. These motives plus work (e.g. receiving course credit) are motives for the undergraduates. For researchers, a leading activity is testing the efficacy of play-world content, and interactional dynamics indicated by our theories about development and sustainability. It is important to us that our activities be insulated somewhat from the dictates of formal educational policy and curriculum mandates. Yet we are responsible to our "measurable achievement" oriented partners' expectations that our activities demonstrably support school-based efforts to achieve those mandates.

In order for the activities we design to be successful, they must contain opportunities to satisfy any and all of the motives of its many participants. The motives shift as the local object of activity shifts. So we must create and recreate the activity system in a way that keeps up with the changes and variances in the "leading activities." important to its members.

The role of discoordination in change.

The ongoing process of modification each system undergoes means that discoordination and conflict will inevitably occur both within and between systems. For example, the education/play mix of the Fifth Dimension places somewhat "formal" demands for regular staffing, upkeep of equipment, and a different way for children and adults to interact (non-hierarchical, non-directive) upon a harried local club or schools' administration. Their staffing occurs on a modest, often skimpy budget which entails paying low wages, which means high levels of turnover of personnel and hence discoordination within the system. At the University, the idea of running a course for the entire academic year runs athwart many standard practices, and routinely generates difficulties with respect to administrative support, computer account access for students, and scheduling chaos that erupts when learning takes place beyond the lecture halls and classrooms.

When we shift focus to discoordination between community and university partners, we need look no further than the fact that the university quarter or semester system does not run on the same schedule as the community institutions. How is the activity to be conducted during winter holidays, for example, when Boys and Girls Clubs may remain open, while universities and schools are closed?

We have found it useful to use Engestrom's expansive triangle (1987, 1990) as a tool for identifying the deep seated contradictions giving rise to surface level discoordination and conflict. These discoordination are experienced negatively by participants who always wish to see the system "running smoothly" ad infinitum, not making any waves. But change *is* the only constant in a system. When one system is connected to several others pulling and pushing elements across its boundaries, the sources of discoordination are many and complex.

This perspective supplements the idea of embedded contexts with one that addresses conflict within and between elements of contexts. It shows us, how, for instance the issue of the Fifth Dimension running "afterschool" is more than a contextual factor that must be explored for various leading activities. The conflicts between these leading activities must be worked out over time in an ongoing process of goal formation, reflection, revision, etc.

The centrality of communicative practices and mediational means

Vygotsky (1987) places communication at the center his theory of language and thought by arguing that

"the thought is completed in the word." Therefore, in designing activities, we paid central attention to arranging interactions where adult and child participants had to pause to comment on their problem solving efforts in oral or written reflections. Activities which feature artifact creation in the form of auxiliary tools to aid in interaction through computers is central to the process of meaning making.

Mediation by tools and signs is important at every level in the model. Examples of different forms of mediation are given in the normative description of the model, (below). In this paper, however, we will focus on the role of membership in a consortium of researchers mediating the local experience of participation in a Fifth Dimension. The research consortium is linked by joint access to websites on the Internet, where there is an archive of email messages and fieldnotes about local and joint work. Members of the Fifth Dimension/UCLinks community also interact through videoconferencing (Distance Learning) sessions linking students and faculty members from geographically distant and diverse areas. Of course, conversations also occur through the routes of publication and regional and national meetings attended by a Consortium of researchers interested in the Fifth Dimension.

Applying the Principles

The list of CHAT principles invoked above could be expanded, but instead we will use the space allotted to us to describe the developmental course of two Fifth Dimension systems over the course of three years: (1995 --1997). We will call the sites Big State University and Small Private College. Each of the systems took as its starting point the initial Fifth Dimension, initiated at UC San Diego in 1986-87 and implemented their adaptation in a different way, according to the demands of their local institutional circumstances.

We begin our application of CHAT to these cases with a description of the most salient contextual features followed by a review of the process of goal formation that unfolded at each site. Next, we identify some leading activities of participants who started the activity. Third, we identify key sources of friction and discoordination that participants documented over time at each site. Next, we consider how membership in a larger research consortium mediated the local experiences of project members. We conclude with how our use of CHAT needs to be expanded to help us understand the process of systems -building and maintenance. We now turn to the case summaries viewed through the lens of CHAT principles we outlined above.

Big State University

At Big State University, the Fifth Dimension was formed as a collaboration between the College of Education and several schools in the local area. The Big State Fifth Dimension opened in three elementary schools. The university also runs one on-campus site to which children are bussed. Within a few years it spread to eight schools and the system is currently undergoing further growth. The programs run for 2-3 hours after school each day and the local school bus is present to take the children home at the end of their extended day.

The centrality of context

. Big State University is located in a rural area where children are generally bussed to school. All local schools have an afterschool program which consists of supervising children while they do their homework in the school cafeteria supplemented by some afterschool activities. Parents pay a nominal fee for this service. This circumstance created a large pool of children who could potentially engage in

Fifth Dimension activities.

Another important contextual factor to be considered in our analysis of the emergence of the Big State Fifth Dimension program is that their College of Education has a major responsibility for supporting the development of technology based instruction in local primary schools. In addition to making available existing relations of exchange between area schools and the university, this prior relationship meant that each program has relatively new, sophisticated and plentiful computers which could be made available for afterschool use. Importantly the schools also have support for maintaining and upgrading their computer facilities, thus relieving the university partners of this responsibility.

Over time there have been important changes in the context of the activity within the Big State School of Education. After a few years the Fifth Dimension-linked course was made a requirement for the students at Big State's College of Education. The institutional transformation of the program meant that the college provided money for teaching assistants who acted as site coordinators in the after school activities. To an unusual degree, the program "paid for itself."

Goal formation

In San Diego, the first Fifth Dimensions opened after implementer/researchers and community participants spent a year discussing needs and goals and exploring various alternative forms of activity before it was decided to use the Fifth Dimension as the common afterschool activity. By comparison, the process of goal formation was accelerated and in some respects, perfunctory, at Big State. The afterschool activities suggested by the Fifth Dimension model were perceived by the key participants at local school as natural extensions of existing technology assistance arrangements; enrichment of the existing afterschool programs for the children. Teachers who participated in the program could gain course credits and enhance their pay and professional expertise. It seemed that the goals were obvious and widely shared.

Discoordination and conflict

Although start-up and the early implementation of the Fifth Dimension at Big State appears from the forgoing account to have been a smooth operation, there were in fact important areas of discoordination and conflict that unfolded over time and with physical expansion. The new practicum course conflicted with older courses for time slots and resources; the larger curriculum changes required many faculty meetings, the writing of new curricular specifications, and heated discussions about disciplinary principles and standards. Arrangements with local teachers and principals, although set in a supportive context, nonetheless meant provisions for assuring teachers that their classrooms would not be disassembled by the new afterschool activities.

Of particular interest for purposes of illustrating the process of discoordination and conflict in the life of a system is a situation that arose in 1999 when the Big State program had been running for five years. Based on prior successes, the governing committee of the Big State-Public School Partnership decided to undertake an expansion of the system by adding one new school in each of seven new counties. The following is a summary of the events recounted in several email messages sent between May and September of 1999 sent by the principle investigator to the listserve for the consortium of Fifth Dimension implementers.

In May 1 of 1999. The Big State- Public School Partnership decided to expand by installing Fifth Dimensions in seven new counties. Local schools where Fifth Dimensions existed sent the public school

After School Program project director an outline of tasks that needed to be completed in order to adapt the Fifth Dimension for very different contexts. These adaptations involved grade /age level differences in activity selection, software adaptation, arranging for technology upgrades and scheduling of interns and site assignment. A formal letter was sent to the Dean of the college outlining tasks that college administrators needed to accomplish and received a reassuring, supportive reply. In addition, a Fifth Dimension technology staff member was involved in coordination the identification and completion of tasks that lay ahead for the group.

The disruption began with failure of school and university partners to meet to discuss the tasks outlined and failure to accomplish any of them without meeting. Furthermore, the districts' school year began on August 14 and the university's academic year began August 21. The urgency, time spent planning, and relative priorities of each of the partners was badly out of alignment well into late summer of 1999.

The Big State Principle investigator reflected on these developments:

"Our 5D group was very concerned. We knew that 5Ds did not emerge effortlessly. More important we expected the list of tasks we outlined to be a coordinating tool for planning the installation of 5Ds. At the time we were deciding what steps to take, we received messages from the school about how we were getting along in "installing 5Ds" at the very schools which were not giving us information we needed to as outlined in the tasks. As might be expected, the schools were concerned that we were not moving fast enough especially with regard to access to information about school grades. However, we had already decided that we had to move, even if we had to collect the information ourselves. We also needed the names and email addresses of the technology classroom folks at each site, since their classrooms will be affected and they will be the ones to "deal" with adding software, The tech teachers are the ones who can tell us what is already in place (computer and software) in the school. Graduate student researchers had to visit each site to collect the information that the schools could have provided in May. This discoordination set the project back. The beginning of the project was very problematic... As might be guessed, (finding) solutions eats up our energy and requires us to divert our attention away from other tasks that need to be accomplished.

The above problem is typical of just one disruption created by the lack of coordination we asked for in the beginning. We have even more serious issues with the tasks we asked the Dean to accomplish. He waited until after the term started to have a meeting on the issues!!!

The Centrality of Communicative Practices and Mediatlional Means

At the level of interpersonal interactions between college students and children there have been many similarities in the mediational means used: a maze with multiple rooms and multiple games within rooms, similar forms of computer hardware and software, the engaged of a mythical wizard-like patron/correspondent, instructional cards accompanying each game to provide scaffolding of the joint of activity of undergraduates and children.

The most interesting difference at this level concerns the communicative practices that have a distinct regional flavor owing to cultural features of the rural communities from which their Fifth Dimension draws its students. This area of the U.S. is heavily populated by Christian Fundamentalists who are inclined to adopt relatively strict norms concerning adult-child interaction and to favor a "transmission" model of education in contrast with the relatively egalitarian, and playful norms of the UCSD Fifth Dimensions. As a consequence, the communicative practices display somewhat more concern with issues of proper behavior and control.

As of this writing, Big State University has taken on the special task of supporting a national Clearinghouse for the far-flung set of Fifth Dimensions using a web page on the World Wide Web as a mediating instrument. Their ability to take on this role reflects the good fit between the Fifth Dimension model and the mission of the host department at the university, the involvement of numerous faculty members and graduate students at in running the program, and success in attracting outside funds and support for the needed expansions.

Small Private College

At Small Private college, the Fifth Dimension was formed as a collaboration between one faculty member in the psychology department and the YMCA in a nearby town serving children from several elementary schools in the local area.

The Centrality of Context

For Small Private College, teaching is the primary mission. Undergraduate liberal arts education and community service overshadow opportunities for research or exploring the uses of computer technology. Students were easily motivated to go into community settings to acquire work experience or to volunteer in community service. However, research and fieldwork associated with their college work were not important motives for them. Furthermore, the principle investigator's teaching load and departmental norms made it very difficult for the course to function during the entire academic year, requiring significant modifications of the educational practices associated with the original practicum in child development.

The implementer opened her site in a small town near the college where textile mills and biomedical light industry are the main sources of employment for the parents whose children attend the aftercare programs at the YMCA. The Fifth Dimension ran two days a week. In the fall it was part of the activities of a regularly scheduled class, but in the spring it ran primarily with volunteers who remained from the Fall supplemented by two partime assistants.

Goal formation

As in the case of Big State U, the process of goal formation was truncated in the case of Small College because it coincided with the arrival there of the principle investigator as a new faculty member, creating pressure to get the activities up and going so that data could be collected as part of the larger effort to evaluate this kind of innovation. The local YMCA staff welcomed the idea of a computer-based activity starting up at their institution. The principle investigator initiated a series of workshops so that the staff of the Y would be able to act as site coordinators, which meant learning how to use the hardware, software, and artifacts important in the Fifth Dimension play world, as well as the "principles of cooperative learning" which the principle investigator brought with her.

This effort was not successful. The Y staff approved of having the activity at their site, but they did not exhibit significant interest in sharing responsibility for running it.

When the effort to involve Y staff failed, two students who had been in the professors' college course were hired to run the Fifth Dimension. They were encouraged to continue trying to involve the local staff because the principle investigator understood from prior experience that success hinged on local staff commitment to be trained and the presence of financial resources to make this happen.

Leading activities

The faculty implementer of this site had interpreted her appointment in the Psychology program as an opportunity to introduce new theories and methods for use in community settings to the students and faculty at the college. At the same time, she saw an opportunity to cultivate independence, ownership and responsibility for the activity among the staff of a local organization (the YMCA). She assumed that the College's orientation to local service would serve her well. However, the faculty of her college did not find mixing education and service an important goal. They allowed her to undertake the effort as a sideline or hobby, since teaching research methods was not a priority for the department.

For their part, the YMCA staff welcomed the help of the college students, but were not very curious about the program or the opportunities it might open up for them or for the children. Neither college nor club staff saw their interests coinciding with those of the principle investigator. The need to depend on volunteer and paid undergraduate labor for half the year created ongoing difficulties.

A part of the YMCA's staff's reluctance to embrace the activity derived from the same contextual/cultural factors that were present at Big State University approximately 100 miles away. The local adults in the surrounding communities, including the YMCA staff, were used to the YMCA as a recreation/daycare environment. For them, mixing play and education was an unusual idea. Moreover, in so far as the playful aspects of the Fifth Dimension induced children to be imaginative and often rambunctious, adults actively disapproved of the resulting behavior. Hence, while play could be said to be the leading activity for the children, it was viewed with suspicion by local adults. At one point the principal investigator reported that the Fifth Dimension was "*seen by the club as a babysitter; that it was not easy to get YMCA staff to see computers and games as friendly and worthwhile.*"

While the undergraduates were content to play with the children and get credit for their community service, they had little incentive to learn how to write fieldnotes or to do community based research. Community service, which was a genuine motive for them, was treated by most as a well-bounded, short term commitment.

Communicative Practices and Mediatlional Means

As in the case of Big State University, the traditional mediational means of computer games, a maze, task cards, a corresponding mythical entity, and so on were successfully introduced into the Small Private College Fifth Dimension. However, the practices which emerged in this context diverged from the initial model considerably more than at Big State sites. Focused as they were on compliant behavior and control, the YMCA staff discouraged playfulness. As a means to increase control, they initiated a division of children's access to the Fifth Dimension, separating boys and girls and monitored the activities with this goal in mind. The skewing of the activities toward transmission education and control was particularly noticeable during the spring semester when only a few undergraduate students were present. The markedly increased ratio of children to adults would have made implementation of a culture of collaborative learning difficult to implement in any context. In the YMCA authority structure, collaborative engagement was especially difficult to achieve. Fifth Dimension practices privileging collaboration over control seemed to have no chance to take hold.

During the second year at this site, the principle investigator commented that while the presence of computers and computer games had gained acceptance at the YMCA, she was reluctant to call the activity a Fifth Dimension.

Discoordinations

From the forgoing description it should come as no surprise that the Small College Fifth Dimension was rife with contradictions. The principle investigator's expectations based on her prior experience running a Fifth Dimension in the deep South and from participating in the original Fifth Dimension at LCHC, and her identification with Vygotskian theory did not stand her in good stead. In this case the discoordinations eventually overwhelmed the system, leading the principle investigator to comment:

"The lesson I have learned about adapting a 5th D to a local environment is that each of these aspects has to involve that which is important and valuable and understandable not just to the college folks and the children but also to the adults controlling that environment. The original 5th D was developed by adults who had a strong theory about learning and development, strong culturally based views of what children should learn, and well established patterns of interacting with children and with other adults. Other adults in other environments have different views, different goals, different theories. At the (local) YMCA it seems important to the adults (parents, directors, counselors) that children learn manners, deference, obedience. It is important that they use tools and other equipment "the right way".

Near the end of her effort, the principle investigator warned her Consortium colleagues about the dangers of assuming readiness and need in target community settings for a particular philosophy of education. She directly cautioned others not to discount a "competing philosophy of education (or competing ideas about how best to interact with children) at work in these community settings."

Reflections on using the CHAT toolkit

Reflecting on these two efforts to generalize the Fifth Dimension to markedly different contexts, and reviewing their lessons with respect to the basic principles discussed, what have we learned? We have come to expect the cyclical emphasis of progress and problems over the life of a local adaptation. For example, goal formation is not something that happens once. To put it simply, goals need to be worked out on an ongoing basis. What can we glean from comparing, in detail, the life histories of these sites? What lessons shall we draw from our comparisons? What do we make of sites whose fieldnotes include a litany of near-disasters but survive year after year, as compared to sites where the whole system fails before an appropriate solution to a familiar problem can be generated?

Big States' network persists as a sort of module rolled out to schools and produced by the university. It seems to do very well with out much grassroots "community input" at the content, staffing or funding level that the model as developed at UC San Diego assumed. As long as gains on the end of year exams the children take continue, the "dynamic relations of exchange" between the Fifth Dimension researchers and the Big State area schools should remain at the good tenant/landlord level. This relationship does not seem to require deep conversations about after-school pedagogy or methods.

In fact, some critical members of the larger Consortium of Fifth Dimension adaptations regard the Big State sites (which run at schools) as too "school-like" in their interactional norms and evaluation instruments. It is not an "alternative enough" alternative for some colleagues. But it is a unequivocal "success" for those locally involved in sustaining it.

Meanwhile, why did the Small Private College project fail? Which of its many problems was necessary and which was sufficient to cause its demise? If there was a steady supply of undergraduates and a regular course would it have survived? Other sites have been able to run well with very few

undergraduates. They have also managed to survive without a fully worked out research practicum and with philosophical differences between partners. Perhaps where the model is really valued by its community host, all other shortages are survivable.

Back to the idea of context

. CHAT can help us understand both the possibilities and tensions in university community collaborations present from the beginning that keep erupting at various times and places. Our use of CHAT has helped us learn that there is no fixed hierarchy of problems: all sorts of "dire circumstances" have arisen and Fifth Dimensions have survived. That is the lesson of context. Problems that one set of institutions work through as a matter of course in one setting can be disastrous in another setting. This is the lesson of goal formation and the nature of the leading activities: all sorts of goal formation processes are valid, but the test of time is whether the goals support and extend the motives associated with the leading activities of people the collaborating institutions.

Another thing we have learned is that tucking the Fifth Dimension into the rhetorical envelope of high technology--better quality games, deeper understanding of computers, better destinations for kids on the Internet---does not protect the model or its adapters from the friction of collaboration involved in all forms of institutional change. The Fifth Dimension model assumes particular ideals with respect to learning and education. When push comes to shove, these fundamental ideals of the model may not be shared, or they may not be worth the disruptions they cause the people who must turn their institutional ships away from accepted routines. Sometimes the non-sharing of motives and goals results in failure. Sometimes disagreements over priorities are tolerable if leading activities are supported elsewhere in a zone of contact.

In addition, our extensive archive of over 8,000 electronic fieldnotes can be viewed as a tapestry with discernable patterns--our analysis of this corpus is revealing that problems in university-community partnerships reveal can be fruitfully made explicit as and an object of joint inquiry. By examining these patterns, and reminding others of what has been forgotten in their own and others' experience, we are using CHAT not as a predictive model but as an heuristic to help understand the growth and change of systems. In the future, we will continue to examine the viewpoints on activity of various participants in this Consortium, connecting each subjectivity to the tools that help engage the object, and the social context, e.g. rules which constrain their engagement with the object, the community sharing an object and the negotiation of a division of labor differentiating approaches and desired outcomes for the object.

Finally, we continue to believe that using the toolkit to create, implement and evaluate these systems, it is possible to make a positive contribution to the ongoing problem of how to improve the overall educational experience of children in the after school hours. The range of institutional arrangements that might sustain such an effort are enormous, but at least we do not approach the task bare handed.

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