Following the Trail of the Fifth Dimension: Learning From Contradictions in University-Community Partnerships[i]

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Abstract

Over the past 20 years, our research group has developed a set of action research projects inspired by the Laboratory of Comparative Human Cognition's Fifth Dimension. In this article, we analyze their historical trajectories by examining their sustainability from the perspective of the *experiment by design*, as developed by Michael Cole. Taking the motives and contradictions of all partners involved as a starting point, we present a brief analysis of the development of three sites throughout more than 12 years of their existence, revealing the construction of a *third space* in which the university and the school community pursue their respective goals.

Key words

university partnership, cultural historical approaches to learning, Fifth Dimension, activity systems development, design experimentation

Introduction

Since 1998, the Shere Rom network has been in partnership with schools, community entities, and local governments in the greater metropolitan area of Barcelona, over time developing 16 sites of different durations, six of which have been active for more than 10 years. The project, inspired by the Laboratory of Comparative Human Cognition (LCHC) Fifth Dimension (5^{th}D) model learning activity, is a network of communities of learners developed by researchers from the Autonomous University of Barcelona (UAB). The 20-year trajectory of this research by design permits a longitudinal analysis of successes and challenges to its sustainability. The collaboration

of actors with diverse motives in a single activity system produces contradictions whose resolution shapes the development of the system, often in different directions.

Insert Table 1: Sites in the Shere Rom Project (1998-2018)

As in the case of the original 5thD in California, Shere Rom is a network of after-school and in-school programs that connects community children with undergraduates from local universities in a mixed activity system, combining education, play, and peer interaction (see Table 1). Its educational activities are usually based on collaborative learning mediated by information and communication technologies, and its principal aim is to build an activity context where participants share goals and tools in a common "ideoculture" (Cole, 1996). Each site has its own "Wizard" who proposes missions and tasks to engage the participants. The ambiguity of the Wizard's identity encourages participants to discuss and reflect on who he, she, or it is. As a result, there are often discussions related to gender, power, and responsibility, in which the Wizard acts as a mediator or facilitator among schoolchildren, university students, teachers, and researchers. Space does not permit a detailed description of the model, widely developed by Michael Cole (Cole, 1996; Cole & The Distributed Literacy Consortium, 2006), so we will limit ourselves here to highlighting the intergenerational, interinstitutional, and intercultural nature that compels diverse agents to engage in joint activity.

Shere Rom can be conceptualized as an *experiment by design* (Cole, 2016) or a *social design experiment* (Gutiérrez & Vossoughi, 2010). Initially conceived as a *natural lab* to study educational processes involving minority students in their community contexts, the Shere Rom sites, like other 5thD-inspired projects, soon

evolved to become an educational intervention aimed at achieving community and school goals as well as undergraduate student learning. A multiplicity of partners with different motives, contradictions, and complementarities contributed to the evolution of each Shere Rom site.

Multivoicedness, Motives, and Contradictions

To analyze the sustainability factors of this kind of partnership project, as a first step we attend to three principles proposed by Engeström (2001) in the study of activity systems: historicity, multivoicedness, and the role of contradictions.

As for historicity, as long as "activity systems take shape and get transformed over lengthy periods of time, their problems and potentials can only be understood against their own history" (Engeström, 2001, p. 136). So we approached our study in each site as "the study of local history of the activity and its objects, and as history of the theoretical ideas and tools that have shaped the activity" (Engeström, 2001, p. 136).

In the history of each site, multivoicedness emerges as a fundamental element of change. As Engeström (2001) stated,

> An activity system is always a community of multiple points of view, traditions and interests. The division of labor in an activity creates different positions for the participants, the participants carry their own diverse histories, and the activity system itself carries multiple layers and strands of history engraved in its artifacts, rules and conventions. (p. 136)

However, multivoicedness in the 5thD is better explained by the fact that its participants are simultaneously part of the other activity systems involved. Researchers and university students intervene not only as participants in the 5thD, but also as members of the university as an activity system. Teachers are both part of the school system and community activists, and while intervening in the 5thD, they play a role in the

community. The 5thD is not only a transition between systems but also a hybrid system; it is a "third space" in the language of Gutiérrez, Baquedano-López, and Tejeda (1999), aimed at a "third object" (Engeström, 2001) or a “dual object” (McMillan, Goodman, & Schmid, 2016), as it comes from the merging or hybridization of the objects of the original activity systems. It is the result of different historical processes, different construction systems, meanings, or traditions.

We can clarify the role of multivoicedness by attending to the motives that drive the action of participants. We use Leontiev's conceptualization of a motive as a relationship between a person and an object. To understand the dynamics of psychological processes, we must emphasize the final character of human activity, which is determined and structured by the anticipation of the pursued effects. As noted by Davydov, Zinchenko, and Talyzina (1983), "an object is not understood as a thing that exists in itself and acts upon the subject, but as that to which it is directed. . .i.e., something to which a living being relates, as the objective of his activity" (p. 31). In the explanatory framework described by Leontiev (1978), activities express the motives of the participants. These activities are materialized at the level of actions, which are made intelligible by the goals that guide them; a goal is the representation of the expected result of the concrete realization of the action. In every activity context, multivoicedness expresses a variety of motives and therefore a diversity of goals that, nevertheless, converge in the same concerted actions. At the same time, these joint actions can lead to common goals through the creation of a shared sense. Leontiev proposed the concept of sense as a regulatory mechanism between action and activity. Sense is the degree of articulation between the motive of the activity and the goal of an action that materializes this activity (Sebastián, Gallardo, & Calderón, 2016). Thus, the 5thD challenge is to create a shared sense among all participants by identifying common goals. Shared sense is

consolidated as it transcends "border activity," in which participants are driven by different reasons, which in principle respond to goals of the original activity systems that generate an ideoculture in which the sense of activity is shared (intersubjectivity) and shared goals are established (Cole, 1996; Nilsson & Nocon, 2005).

Our third concept is contradiction. Contradictions arise from tensions between organizational goals and personal motives. These are a natural part of complex processes of learning and socialization, but they are often overlooked by participants in activity systems. The motives of each participant, insofar as they respond to substantiated objects in different activity contexts, enter into a first level of inner contradiction, and into a second level of contradiction among the rest of the participants. So there were diverse motives between the researchers' related goals: research and teaching. The primary motive was to develop a stable research laboratory where they could observe learning processes. But, as university tutors of undergraduate students, researchers also had another motive: providing their students with a learning experience suited to the university curriculum. The university acknowledges the undergraduate's participation in the sites through awarding academic credits. This is a key factor in sustainability, due to the associated recognition of the teaching time of professors involved in the project. The instruction component requires a timely response, and research goals must sometimes be put off until students' academic needs are resolved.

As for undergraduate students, the curricular practices in which they participate are at the same time real intervention projects, so they learn through the activity of producing benefits for the community. This means they are likely to have two kinds of motives: to complete learning and credit requirements (motives related to the university activity) and to be of service to the community (motives emerging from participating in 5thD activities). When such community service is compulsory in a course, the service

motive can be compromised or negatively affected. So it seems clear that if this endeavor is to be successful, undergraduate participation design must be based on choice.

Children involved in the project have their own motives, usually related to the experience of play and their desire for fun. Emotional and affective needs also emerge in the relationships developed at the sites, and these must be considered. The project is supposed to help children understand and accept that undergraduates they like will leave when the course is over, but that they can engage and build relationships with them while they are there.

In after-school sites, partners include a group of community leaders or social activists, but may also include educators and members of the community who collaborate actively. The community partners' main goal is the promotion of the community through development of empowering activities. However, as social entities, they are also involved in conflicts with local governments or with other entities that work in the community. The contradictions between motives related to being of service to the community and motives focused on dealing with power relationships involve the university partners, because partnership entails some sort of alliance. An effective project of partnership with the university empowers the community but also gives power to entities and their leaders in their institutional network. University partners are often involved involuntarily, but they need to be conscious of their role and its impact on the entire system.

Schools are one of the partners in the Shere Rom project. The desire of school administrators and teachers to collaborate is related to their need to overcome the difficulties faced by minority students, who are at risk of social exclusion, such as school failure and drop-out. The goal of supporting minority students can stem from contradictory motives. On the one hand, there is the need to motivate students to

participate in schooling, to develop meaningful activities, and to set shared goals. On the other hand, teachers must assure de learning the official curricula and increase student academic outcomes as measured by standardized tests. Often these motives are in contradiction, because the activities that schooling provides to improve test scores are not meaningful for, and are often rejected by, these students. Also, when learning activities provided by the Shere Rom project motivate students highly, such activities usually violate school norms that are meant to ensure order and control. Teachers tend to assume that children who come from environments that put them at risk of social exclusion will naturally and inevitably present challenging behaviors, so in some schools, maintaining order becomes the main goal. The 5thD-inspired activities are diametrically opposed to quiet and externally controlled activities. The contradictions between engaging students in their learning and controlling their behaviors can be internal for teachers.

Historical Development of Activity Systems as Third Spaces

As explained above, participants' motives include several contradictions inherent to the complex roles each one plays. But the most important contradictions emerge with the implementation of the project among partners. These contradictions are different, depending on the history of each individual site, and to analyze them we must attend to the development of site-specific events. Here there are three examples of how the design of some Shere Rom learning activities have evolved through contradictions.

Site 1, La Casa de Shere Rom at Badalona Roma Association

The first site in the Shere Rom network started 20 years ago on the premises of a Roma association. The main goals of the researchers were to develop a natural lab in a non-institutionalized site so that it would not be perceived as an alien institution by the minority community, and for the site to be sustainable over time. Following the 5thD model, the plan was to design a system of learning activity, including tasks mediated by

technology and developed by children of the community with the collaboration of university students. Despite the fact that the goal was to create a "natural" lab, that is, a meaningful space connected with its community with an aim of achieving community goals, some degree of control was needed to observe the processes involved. This was due to the fact that the researchers' primary motive was research. At the same time, the association staff, worried about the bad outcomes experienced by community children in school, interpreted the 5thD model as a school reinforcement for the children and an opportunity to promote the association as a useful social entity. Opening this activity to the whole community had the potential to increase prestige and empower the association.

The first contradictions appeared when the number of children interested in participating in the program quadrupled. For researchers, it would have been easier to limit the number of participants to 15, but for the association staff, opening the site to all children who were interested in the program (around 60) was nonnegotiable. This was due to the need to avoid conflicts with families who might interpret this restriction as an exclusion. Hence, to allow for that number of children to participate, we needed to increase the number of undergraduate students participating in the project from seven to 28.

The chain of consequences for the original research design did not stop there. More sessions were needed to accommodate the larger number of children. Increasing the activity to four days a week meant looking for more financial support. Research funds provided by the university had to be complemented with community initiative funds from a social services network (local government social programs, private foundations, and NGOs). These adjustments required significant increases in researcher time to manage funding and comply with the different funders' requirements.

For 6 years, the Roma association site was a fertile lab for the development of new learning activities, strategies, and artifacts, with a very active group of researchers and a satisfied, if more passive, association staff. Such passiveness was considered a problem by researchers, because one of the goals of the project was to achieve the progressive transference of the site's learning activity system to the community, as a means of empowerment. However, transference did not happen, and researchers were required to continue supporting daily operations involved in the learning activity. When research interests and the possibility of financial support prompted researchers to transfer the project to schools, the financial maintenance and staffing of the intervention project emerged as a problem.

After a temporary shutdown of one year, the association obtained a grant from social services, found a young woman—a member of the community—to coordinate the activities, and proposed that the research team continue supporting the learning activities under her supervision. For 10 years after this decision was made, learning activities at the site continued under her guidance. She was assisted by a team of younger colleagues and university students supervised by the researchers, who continued to collect field notes at the site. Obviously, the learning activities changed. They were more "anarchic" than those originally designed, but more meaningful for the children, who attended voluntarily.

This site's activity system started with a negotiated design that did not evolve exactly as researchers had planned at the university, but as a hybrid system that responded to different motives. As a result, researchers created a lab, undergraduate students obtained practical learning and university credit, the Roma association staff received a tool for community empowerment, and the children gained a place to play and learn with older university friends. This shape is the result of negotiations explicitly made between researchers and the association, and implicitly between children and

students. The site was sustainable because it was subject to a constant negotiation between actors with different and, indeed, contradictory motives and goals (for a report about negotiation, see Crespo, Pallí, & Lalueza, 2002).

Site 2, Baldomer Solà Elementary School

Six years after the beginning of the first site, the research team started a new phase of the Shere Rom project, in three schools. Site 2 was developed in one of these schools, which had experienced a strong impact due to the arrival of a large group of children from the closure of another public school. With the transfer of Roma students to Baldomer Solà, the resulting dramatic change in ethnic composition precipitated a process of classic "white flight," in which non-Roma native Spanish students were replaced by immigrant students, a group nonexistent in the neighborhood a few years before, but now rapidly growing.

The proposal to implement a 5thD model did not arise from the school but from the district's educational services, which was searching remedies for a perceived deterioration of academic quality. The school interpreted the 5thD as an external resource granted as a concession but did not consider it a school project. For this reason, the 5thD was only allowed as an activity outside of curricular time, without direct participation of teachers. As a result, the site started to operate based on a weak partnership, and researchers were seen as interlopers in the district educational services, rather than as primary educational partners. The school principal therefore did not value the project activities and viewed them as interferences.

An interesting development occurred, however, as a result of the reaction of the children, who participated enthusiastically in the activities of the Shere Rom project (which was extracurricular and voluntary). Those who participated showed increasing competence in computer skills (a central tool in the 5thD), which impressed the teacher

responsible for computer classes. She proposed to include the Shere Rom activity in class and took an active part in incorporating it. The principal did not oppose that innovation. So the Shere Rom learning activity at this school site became the computer class for all students in fifth and sixth grades. The design, based on the 5thD model and negotiated with the teacher, was characterized by new contradictions. First, a model conceived for voluntary participation became a compulsory activity, and second, computers, which were intended as a mediation tool, became the object of the activity, from the teacher's perspective.

The negotiated arrangements defined the learning activity as a computer class project, but not as a school project. This situation changed radically again when the teacher involved in the project became the new school principal, and the rest of the teachers became involved. A team of four teachers with an activity coordinator provided by the university (who was also a researcher) became the school's "5thD committee." The members of this committee shared tasks related to designing and evaluating activities, implementation in class, and tutoring of university students. New contradictions emerged from the tension between the curricular content of learning activities and their motivational characteristics. Three examples of these contradictions are described next.

As a result of the constant process of negotiation and the evaluation of activities, some differences from the original 5thD model became apparent. Researchers considered changes in the model a consequence of the participatory design and evidence of the appropriation of the model by teachers. But these changes caused the loss of some artifacts. One of them was the Wizard, the electronic entity that allows children to communicate through online and offline messages. This was not an explicit decision but the result of a lack of interest of the teachers in that artifact. Researchers allowed the

discontinuation of the Wizard, as there appeared to be no immediate results. At the end of the year, however, teachers were worried about the children's loss of interest in writing as a tool for the learning activity. Researchers pointed to a lack of continuity between tasks developed throughout the year in computer class and to the lack of a shared narrative of the participants' experience. A collaborative analysis by researchers and teachers of the role of the Wizard allowed a deeper understanding of that artifact as promoting communicative literacy and a narrative contributing to making sense of the whole activity. As a result, the Wizard was redefined and restored to the activity.

A second contradiction emerged when the teachers introduced specific topics to be used in developing digital stories. In contrast with the original design, where children chose the topics to be developed, here topics were limited and controlled by teachers. Such revision of the activity did not connect with the children's interests, and it prompted a return to the design based on the children defining the topics to be developed in digital storytelling.

But the third and key contradiction occurred around the role of teachers. The collaborative work between children and university students displaced the teacher figure as a transmitter of knowledge. After a period of confusion about the role teachers should have in the new context of activity, it was possible to build a new role that entailed planning, doing a customized follow-up of assigned university students, and collaborating with researchers (for an extended report, see Lamas & Lalueza, 2012).

Site 3, El Barri d'Arromí at the Roma Community of Gràcia

Site 3 was the result of the interest of a civic entity, the City Council for the Participation of the Roma People, promoted and supported by Barcelona local government. The Council and the university reached an agreement to open a site on the premises of two Roma associations situated in neighborhoods of Barcelona similar to the

one in which Site 1 was located. In one of these neighborhoods, Gràcia, Site 3 was developed with the partnership of a Roma association that provided a room equipped with computers. The association also provided one member of the community, trained as a social educator, to share the responsibility of developing the site's learning activities. The association and its representative did not put conditions on the design process, and it was developed autonomously by researchers.

Children attended Site 3 learning activities voluntarily after school. The premises of the association were a central space in the community that included a bar where many adults from the community met every day to play cards and chat. Some contradictions arose around the compatibility of the space usage by adults and children involved in the learning activity, but this coexistence allowed for mutual exchange of knowledge between the researchers responsible for the activity and many of the children's families.

Three years after starting the learning activity, the association closed, due to financial problems. Children and some of their mothers asked to maintain the activity, as did researchers, but no suitable alternative space was found in the neighborhood. Conversations with parents (mainly mothers) continued in the square where members of the Roma community of the neighborhood regularly met. Finally, researchers agreed with the City Council and children's parents to maintain the learning activity online and to support it with the tools developed for the project, which gave the researchers a fantastic opportunity to test the usability of the tools. The virtual or Internet-based learning activity was also supported by meetings, in the square, among the researcher responsible for Site 3, some university students, and children (and sometimes their mothers). The Site 3 learning activity was radically transformed due to these changes, which resulted in a) more autonomous participation in the activity by the children; b)

more intensive use of the Internet tools developed by the research project; and, most importantly, c) mothers of children becoming the main partners in the project.

At this point, it is important to recall that the Shere Rom project originated in response to the high rates of school failure and drop out among Roma students. The continuity of a voluntary literacy activity with higher levels of self-organization and with the mediation of the Information and Communication Technologies is an important achievement. It was, however, unexpected and emerged as a result of having to deal with a "critical incident": the closure of the center because of loss of funding. Still more important is the incorporation of parents into the project. Cultural discontinuities between school and the Roma communities are often framed as a lack of mutual confidence, and the participation of Roma families in school is rare. Working alongside the parents caused a shift in the hierarchy of goals, and researchers started a process of mediation between schools, social services, and families, while the learning activity with children continued (Padrós, Sánchez-Busqués, Lalueza, Crespo, & Lamas, 2014).

Conclusions

The Shere Rom project is an example of what Cole and The Distributed Literacy Consortium (2006), following Bronfenbrenner, called an "experiment by design," where the alignment of diverse actors with different motives caused a particular development at each site. The history of each site shows an "expansive transformation that is accomplished when the object and motive of the activity are reconceptualized to embrace a radically wider horizon of possibilities than in the previous mode of the activity" (Engeström, 2001, p.137). Indeed, the legitimization of the diverse and sometimes contradictory motives has played a key role in expanding these learning activities, as has the continuous process of negotiation to overcome contradictions

through the construction of a new shared sense of the intersubjectivity on which an ideoculture is based.

The possibilities of the 5thD model lie in its potential to create a third space where the worlds and apparently self-sufficient scripts of the different participants meet and interact to form new meanings that go beyond the limits of each one (Gutiérrez et al., 1999). In this third space, a new dual object is generated, the object of the activity systems that make up the exosystem of the 5thD (university and community) and a new object of the intersubjective agreement that sustains the 5thD.

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