La metodología de la investigación para una psicología concreta: La investigación con la Quinta Dimensión

Research Methodology for a Concrete Psychology: The Fifth Dimension Research

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ABSTRACT

This paper illustrates how the Fifth Dimension (5thD) after-school program exemplifies a mode of psychological inquiry that rejects standard experimental methods because of their artificiality and consequent removal from everyday life. It enables carefully documented descriptions of behavior in cultural practices that have been organized in such a way that significant psychological tasks occur routinely. In this way, the 5thD makes possible the analysis of processes of learning and development. Our data are drawn from two 5thD Dimension programs at two stages of development in two very different sociocultural and economic contexts. The first is a fully mature program, the other a program in the process of formation. The data from the first program illustrate the consequences when children with developmental disabilities can be included in activities with children whose developmental trajectories fall close to local norms. The data from the second program illustrate how a new program makes visible the children's sensitivity to the rights and responsibilities of their participation.

Key words: Concrete psychology; Diversity; Inclusion; Methodology.

RESUMEN

Este articulo ilustra cómo la Quinta Dimensión (la 5D), un programa extra-escolar, ejemplifica un modo de investigación psicológica que rechaza el uso de métodos experimentales estándares debido a su artificialidad y a la distancia que crean frente a la vida cotidiana. La 5D permite formular descripciones detalladas sobre el comportamiento infantil a través de una serie de prácticas culturales en las que tienen lugar tareas psicológicas

significativas de forma rutinaria. De esta manera, la Quinta Dimensión hace posible el análisis de los procesos de aprendizaje y desarrollo. Nuestros datos se obtienen a partir de la observación de dos réplicas del programa en contextos socioculturales y económicos muy diferentes. La primera réplica corresponde a una versión completamente madura; la segunda proviene de una versión en proceso de formación. Los datos de la versión madura ilustran las consecuencias de la interacción entre niños con algún tipo de discapacidad y niños cuyas trayectorias de desarrollo son más próximas a las normas locales reconocidas por una comunidad. Los datos de la segunda versión del programa hacen visible la sensibilidad de los niños frente a los derechos y responsabilidades que se originan de su participación en el programa.

Palabras clave: psicología concreta; Diversidad; Inclusión; Metodología.

Research Methodology for a Concrete Psychology: The Fifth Dimension

In 1929 Vygotsky wrote some rough notes about a form of psychological research he called a "Concrete Human Psychology" (Vygotsky, 1986). Andrei Puzyrei, who introduced and annotated these notes when they were finally published, wrote that the idea of a “concrete” psychology signaled Vygotsky's program for "surmounting of 'academicism'" in psychology by rejecting standard experimental methods. Such methods, in Vygotsky’s view, attempt to understand the phenomenon under study by creating artificial conditions in order to lay bare “natural and ideal” laws, but in fact those methods can yield only a "'degenerate,' artificial (laboratory) case, remote from life" (p. 76). What is needed instead is: "a move to a completely new type of investigation, which, by virtue of some of the fundamental features of its 'object,' a *cultural-historical and evolving* object.… must itself be implemented within the organized framework of some psychopractical action, or perhaps even some regular system of psychotechnical practice, serving as a necessary organ that makes possible the projection, realization, reproduction, and directed development of this practice" (1986, p. 76, emphasis in original).

By the phrase "a system of psychotechnical practice" Vygotsky meant the study of human psychological processes as they are deployed to solve practical problems in some form of socially valued practice. Such a radical restructuring of psychological research methods is necessary, he argued, to respect the fact that its objects of investigation are not static and timeless, they are evolving and changing. According to this view, objects must be studied in circumstances that allow them to grow and change, an "organized framework" rather than an engineered laboratory.

The “organized frameworks” from which we draw the data for the present discussion are two implementations of “The Fifth Dimension” (5thD), an educational activity designed to appeal to children and youth during the after-school hours (for extensive descriptions and discussions see Cole & The Distributed Literacy Consortium (2006). An essential feature of Fifth Dimensions is their adaptability to specific local conditions. However, despite variations that emerge in individual sites, there are similarities across implementations which make it useful to provide a provisional description for purposes of exposition. The following is a brief, normative description for purposes of orienting the reader to the discussion that follows:

The 5thD is an educational activity system that offers school-aged children a specially designed environment in which to explore a variety of game-like educational activities and off-the-shelf computer games during the after-school hours. The children are joined in their activities by undergraduates from a local college or university who participate as part of a theory and practice “practicum course.”

The 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" for each game are written by project staff members to help

participants (both children and undergraduate students) orient to the game, to form goals, to balance play and academics, and to chart progress toward becoming an expert. The task cards provide a variety of opportunities 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 game activity itself.

As a means of distributing the children's and undergraduates' use of the various games the 5thD contains a representation (often on a table-top or wall chart) of a maze that consists of some 20 rooms. Each room provides access to two or more games, and as they enter each room the children may choose which game to play. There is also an electronic entity (a wizard/wizardesss) 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 5thD, the wizard/ess acts as the participants' patron, provider of games, mediator of disputes, and the culpable source of computer glitches and other misfortunes.

Because a 5thD is located in a community institution, it requires 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 5thD 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. Every 5thD is a reflection of its time and place, having come to fruition in specific concrete circumstances (Nicolopolou & Cole, 1993). Consequently, this description is abstract: it does not reveal the complexity involved in dealing with the ever-shifting resources on both the community and university sides of the partnership.

The principles of the 5thD align closely with Vygotsky's notion of a concrete psychology. First, a 5thD site provides the opportunity for research conducted not in the abstraction and artificiality of the laboratory but in the complexity and intricacy of collaborative, practical activity in community settings. Second, this research is guided and informed by the practical concern to improve the academic achievement of marginalized youth; it is an intervention: an involvement that seeks to 'meddle' with the way things have habitually been done. Third, the activity under analysis is studied as a "cultural-historical evolving object" so that change in the participants and in the nature of their activity is the object of interest.

Our argument, then, is that the design of the 5thD makes it a rich medium for both the fostering and the empirical investigation of culturally-mediated developmental processes. In particular, as we shall illustrate, the involvement of undergraduate students both as participants in the 5thD's activities and as observers and documenters of the children's social interactions provides not only theoretically important resources for the development of the children, but a unique kind of data that enable processes of psychological development to be traced over time, externalized, and analyzed. At the same time, the 5thD is designed to "educate the educators," improving undergraduate education and in doing so helping us understand what makes things as complex and confusing as they are.

In this paper we examine a variety of ways in which the 5thD encourages inclusion of locally marginalized young people in valued social practices as well as the flexible adaptation of the activity to a wide variety of cultural and local institutional circumstances (local re-invention). The 5thD was originally designed to address the problem of children who were failing to learn to read during their elementary school years -- children who were labeled "learning disabled" at the time (Laboratory of

Comparative Human Cognition, 1982). Subsequently, the focus of the project shifted to address the under-representation of women and minorities in the "STEM" fields of science, technology, engineering and mathematics (Cole & Griffin, 1987). Hence, from the beginning, the 5thD was conceived of as a tool for dealing with diversity and inclusion. In recent years it has proven useful across many populations and configurations of collaborating partners in a number of countries (Braga, Rossi, & Cole, 2010; Cole & The Distributed Literacy Consortium, 2006; Lalueza & Crespo, 2009; Vasquez, 2003; Viera & Da Silva, in press). We shall focus here on ways in which the design of the 5thD as a system of activity invites inclusion with respect to two different dimensions of diversity. Our first set of examples is drawn from a 5thD located in a youth center in suburban southern California. This site had been in operation for more than a decade when the data were collected. The second was created only recently. It is located in a small community center in an economically-challenged neighborhood in the Ciudad Bolivar region of Bogotá, Colombia. The sites illuminate different ways in which the 5thD provides the methodological pre-requisites for a concrete psychology.

Although the sites can be contrasted along many dimensions, the essential factors that frame our discussion can be characterized as follows:

1. The first site in the U.S. highlights the way in which diversity associated with such factors as mental retardation and genetic abnormality can be incorporated within a long standing 5thD that has reached a stable state of local development.

2. The second site, in Bogota, because it is still emerging, makes visible the process of formation of a Fifth Dimension, a setting unlike any the children and youth have previously encountered. It highlights the process of negotiation of norms, rules, and specific practices as the participants engage in the process of creating a stable community.

Making Visible the Developmental Consequences of Inclusion

The examples from the first site, a youth center in San Diego, southern California, illustrate the way the 5thD has accommodated diversity and encouraged inclusion among a group of children who come from middle class, largely Anglo backgrounds, when a child who is marginalized owing to genetically-linked, stigmatized cognitive and social characteristics seeks to participate.

Encountering Chuck in the Southern California Fifth Dimension

One of the boys and girls who began attending the San Diego 5thD on a regular basis was Chuck, who was 8 years old at the time these observations began. Chuck was large for his age, but not well coordinated when we first met him. He was treated by his peers and the adults around him, in colloquial English, as "slow." In the jargon of the youth club professionals he was a "special needs" child; in the jargon of educational psychologists, he was “mildly retarded.” The researchers privately held this latter view, but publically remained neutral with respect to his difficulties. In the 5thD, Chuck was just one of the citizens.

The data reported here come from field notes written after each 5thD session by undergraduate students from the University of California, San Diego (UCSD) who participated in the 5thD as "buddies" of the children, engaging in the games and associated tasks (reading, writing, strategizing, complaining). Their field notes were sent via computer to a database where they became available for later analysis.

Chuck remained engaged with the 5thD for 6 years before he moved away from the area. During those years, 18 "generations" of undergraduates engaged with Chuck in the 5thD (UCSD runs on a quarter schedule, producing three cohorts of new students per year). Consequently, each generation met Chuck anew, so the field notes

represent, as it were, naïve descriptions of Chuck: he was continually seen through fresh eyes, free from prior knowledge of his earlier performance. Consequently, these descriptions of Chuck – first person accounts from people who participated with him in the 5thD throughout this six year period, provide us with an access to Chuck's developmental trajectory that is unusual in its character, quality, and detail. By tracing the reports of Chuck provided by these students, year after year, we have the qualitative methodology equivalent of panels of longitudinal data and an implementation of Vygotsky's notion of a psychotechnical practice that is studied as a cultural-historically evolving object.

During the first year, there are many field note entries that note Chuck's difficulties in dealing with 5thD tasks, such as remembering the objects that needed to be collected in a treasure hunt or keeping in mind the instructions for where to find a clue in the various computer games. For example:

I could tell this was going to be a challenging experience because Chuck's memory isn't as good as it could be at his age and he had an extremely difficult time remembering where the keys were.

Or:

When he got frustrated, he would peck [at the keyboard] with his pointer finger and after several trials, I would stop the game, letting his ship get destroyed.

In class discussion back at the University, students were curious about Chuck. They had noted difficulties such as these, but they had also noticed that in some circumstances Chuck was an avid learner who was often helpful to the other kids. By and large, the field notes converged on a characterization of Chuck as "learning disabled," someone who was generally competent but needed help with a specific disability.

Chuck and the Fifth Dimension Develop

Now fast forward a few years. Chuck has become an adolescent. He is no longer a novice participant in an historically new 5thD. He is an old timer, a seasoned participant for whom the local norms and expectations of the 5thD have become routine. He has achieved the "junior counselor" status of "Wizard's assistant." To achieve this status he had completed dozens of games at various levels of difficulty, with differing amounts of help. He had become highly skilled at navigating the only (and prized!) Mac computer and he knew how to use the then-complicated dial-up and login procedures necessary to connect to the Wizard.

The undergraduates' field notes near the end of Chuck's involvement in the 5thD describe a markedly changed young man. They provide concrete evidence of the way that Chuck's identity changed over time, and the consequences for our understanding of the contextual constituents of personality. From his early encounters with the Fifth Dimension, Chuck developed a special affinity for the Wizard. He, like many of his peers, entered into the pretense of the Wizard's reality, and found in this whimsical, pedagogical artifact a powerful motive to learn. But in Chuck's case the Wizard, in his/her joking way, became a highly valued and sought-after conversational partner; Chuck greatly enjoyed writing to the Wizard and receiving replies. In the early notes this interest was evident primarily in Chuck's compliance with the requirement to write to the Wiz in order to achieve the higher levels of mastery of the 5thD games. Unlike some of his more skeptical peers, he was willing to follow this rule in order to advance his personal achievement.

However, several kinds of changes appeared when the 7 year old Chuck had become 13 year old Chuck. First, Chuck had become intensely aware of the physical changes he was undergoing and their social implications, which for him seem unpromising. The

field notes reported the following incident:

Somehow the conversation changed to, you guessed it, girls. I asked him why he didn't like girls. He said, "Well, girls don't like me, so why should I like them."

I said, "Wait till puberty hits you."

Chuck: (We were just joking around. Honest.) He said, "It has hit me" (Uh oh, warning sign. Did I heed it? No of course not.)

I said: "So you have hair under your armpits?"

He said: No, but I have it in OTHER places!"

Second, at the same time that Chuck displayed his identity as an adolescent, he also revealed both a strong, negative sense of himself and a keen sensitivity to the way his peers evaluated him negatively or outright rejected him. For example an undergraduate noted:

[H]e quickly changes from one game to another when he encounters difficulty, converting inability into indifference. He used the word 'stupid,' and in regards to himself. ("What, do you think I am stupid?") ("Huh, I'm not that stupid!").

And another wrote:

One of Chuck's friends called him a loser. I jumped in and said, "Naw, Chuck's not a loser." Chuck had a steely look on his face. He kind of barked, "I am not a loser. Do you hear me, I am not a loser."

Third, as is characteristic of many adolescents, Chuck has begun to engage in serious "backtalk":

Our conversation turned into a bunch of challenges, each seeing who would back down first. I think Chuck is used to upsetting some of the buddies who are not used to teenage backtalk.

Although Chuck had a low opinion of himself, as noted there was one domain within the 5thD where he had a sparkling reputation as a model citizen and a smart guy: he

had an impressive ability to deal with the always-fragile internet connections. He was enormously proud of his status as a Wizard's assistant and he was, in fact, more able than all but one or two of the UCSD undergraduate participants. The notes to follow illustrate Chuck in his role as the guy who has a special relationship with the Wiz:

When we got to the 5thD, Chuck immediately went over to the telecommunications computer to talk to the Wiz. When he got into his account, he found that he had new mail from the Wizard … anyway, the Wiz had written that he would be available to chat. Chuck jumped online to page him. When the first line didn't work, Chuck said, "he's gotta be on the second [email chat address]. I know he's there, he said he would be …." sure enough, the Wiz was there.

The following note documents his enthusiasm about becoming a Young Wizard Assistant (YWA):

All the YWA's definitely demonstrate a sense of pride as a YWA. They are very proud of completing the maze. When it comes to performing their duties of Young Wizard Assistant, this is a different matter…. The only YWA who does take his role seriously is Chuck. He is always willing to help and is very excited when new projects arise. Is it the less structured role that causes this deterioration in character? It would be nice to have a YWA meeting to get their ideas and feelings revealed, and this would help in developing a structure for them. I'll try to get ideas next week from the YWA's.

In the course of one especially intense discussion between the Wiz and Chuck, Chuck displayed a form of behavior that we had never encountered before, a "split personality." One personality was that of the "good" Chuck, a member of the 5thD who was the Wiz's buddy, while the other was for the "bad CHUUUCCKK," an intruder who ragged on the Wizard, made fun of the undergraduates, and tried to disrupt the 5thD imension. This split personality was revealed in a online conversation with the Wizard.

The person playing the role of the Wiz later wrote in her fieldnotes:

… So this is when it HAPPENED! There was a pause in the chat, and I asked if anyone was there. And the response came:

Chuck: I'm here. Its me.

Wiz: Who is me?

Chuck: You know!

Wiz: You Know, what an odd name! Are you new in the 5thD?

Chuck: NO!! Its me, CCCCCCCCCHHHHHHHHHUUUUUUCCCCCCKKKKK

Wiz: Okay, so you're CCCCCCCCCHHHHHHHHUUUUUUCCCCCCKKKKK.

At this point, Chuck calls the Wiz stupid, the Wiz asks to talk to the real Chuck, and Chuck initiates a long dispute in which he uses CAPITAL LETTERS to code his first identity and normal letters to code "the good Chuck." He likens what happens to a "possession," and "CCCCCCCCHHHHHHHHUUUUUUCCCCCCKKKKK" had become the alter personality of Chuck. This dual personality, one side representing all of his nasty experiences in daily life, the other side the Wiz's super-competent and responsible buddy as a citizen of the 5thD, continued to manifest itself from time to time on Chuck's visits to the 5thD until, in the course of events, Chuck's family moved away.

Chuck in Theoretical Terms

As we indicated earlier, considered in terms of research, the 5thD was designed in a manner that fulfills Vygotsky’s idea of a concrete psychology, since it is assumed that participants and practices in the activity are “evolving and changing.” In addition, considered as a system of joint activities, the 5thD’s participants, practices, and artifacts are studied in circumstances that allow them to grow and change, as an ‘organized framework’ rather than an engineered laboratory. In the case of Chuck we have a child who according to Club officials was mildly retarded. This diagnosis did not change from the time we first met him throughout his six years of attendance at the

5thD. But *within the local culture of the 5thD,* he ceased to be perceived and treated as "learning disabled." This discrepancy can be understood if we reconsider the incident in which one of Chuck's peers called him a loser, but his undergraduate buddy challenged the judgment. His peer, unlike the undergraduate who defended him, knew him from school where, in fact, Chuck was in a special education class – a loser in the culture of the school. This knowledge provided the peer, but not the undergraduate, with "outside" knowledge which he imported into the 5thD and which coincided with staff observations that outside the 5thD Chuck routinely experienced being treated as stupid. But he was *not* stupid when he was engaging with the undergraduates in the 5thD or chatting with the Wiz; he was a "different person." The emergence of his dual personality in the session with the Wiz is a powerful example of the manifestation of context-specific technological ability that reveals pro-social skills and dispositions, and an equally context-specific sense of personal identity.

Incorporating Extreme Disability

Rosa was a 15 year old girl with Turner's syndrome, a chromosomal abnormality that produces cognitive difficulties such as problems with concentration, memory, and attention as well as hyperactivity and academic problems. In Rosa's case the difficulties included a very low tolerance for frustration accompanied by dramatic tantrums. Despite these difficulties, Rosa liked to attend the 5thD. As in the case of Chuck, field notes written by undergraduates, in this case over a period of two years, provide a rich source of data about the way in which the 5thD was able to include Rosa, as a regular, if unusual, participant.

Rosa came to the club with a young woman who was trained to watch out for her well being. When she got upset or threw a tantrum, the undergraduates were told by Club to let the trained Club personnel take care of the situation. However, Rosa was eager to

play in the 5thD and it was eventually arranged that whenever Rosa appeared there, one of the undergraduates would join in her activities as her buddy without the need for her special minder to be present. This was the usual role for undergraduates, but a difficult role to play with Rosa because of her unusual forms of play with computer games and her frequent tantrums when she became frustrated. However, the great variety of children and activities within the 5thD, and the norm of complete freedom to ask for and receive help, combined with the already variable and free flowing activities in the 5thD, made it possible for Rosa to participate, although this sometimes required the undergraduates to adopt special strategies to avoid tantrums and to be more directive than usual when Rosa suffered a breakdown in self control.

A summary case study of Rosa, seen through the fieldnotes, was written by Lauren Ferreira (2002), a 5thD undergraduate participant. Ferreira documented the ways in which undergraduates worked to include Rosa in the 5thD, the difficulties she posed, and improvement made possible by the increased knowledge gained from her long term participation.

Rosa was most involved and intrigued by auditory stimuli from the computer…. From my interactions with Rosa, I observed that she has favorite activities in every game or webpage she plays with and these activities usually involve a song or video. In the Tarzan cd-rom, by Disney, "she went straight to her self-proclaimed 'favorite one,' a sing-a-long to 'Two Strangers,'" (LF 10.03.02). While she watched this song, she "pointed and gestured gleefully," often putting her hand up in the air, mimicking the characters on the screen, and she whispered "awww" when Tarzan and Jane hugged at the end (LF 10.3.02)…. On several occasions, and with different songs, Rosa would play the song and dance around many times in a row: at times it was almost a battle to get her back in her chair and focused on something else. Besides just wanting to play the music, her basic attention abilities centered on very vibrant stimuli that caught her

attention easily. I noticed several times that "whenever something moves or makes a noise when the mouse rolls over it, Rosa has the tendency to click on it… she either loses her focus or just forgets what she was doing and just clicks on them" (LF 11.8.02)

This account is almost a textbook description of symptoms typical of Turner's syndrome, but in the 5thD such behavior did not disrupt the activities of the other children. Dealing with the tantrums was another matter, however:

Many field notes highlight Rosa's frustration when computers would not work or when other children were playing the game she wanted to play. In one instance, Rosa saw the folder that another undergraduate and child had, and proceeded to follow them to their computer saying "I want to play that game!... she kept asking for that game and finally fell on the floor and had a short tantrum" (GL 00F.7.1). Another time a Madeline cd-rom would not load and "Rosa began to look anxious and knock on the computer screen. She looked as though she was going to cry" (LY 00F.7.1). The classic Rosa tantrum often included her banging on the computer in some way, then proceeding to fall to the floor and cry or moan.

This kind of detailed information about Rosa's strengths and interests, not just about how to deal with her tantrums, enabled us to help Rosa deal with her difficulties and continue to participate. By examining the many notes about Rosa in the undergraduate fieldnotes it was possible to trace the conditions that resulted in tantrums and to devise methods to avoid them. A good deal of class discussion about Rosa focused on helping the undergraduates to see a tantrum coming, to avoid it by rearranging the environment, and to help Rosa recover her self control if a tantrum should occur. Lauren explained her own learning process and its consequences.

I learned to avert Rosa's tantrums, not by ignoring her behavior, but by working through her frustration with her. On one occasion I anticipated her reactions "and knowing that she became easily frustrated with installing the program, I told her to hold my hand and

we would do it together. This seemed to excite her, as she smiled, grabbed my hand, and waited patiently for it to load… When it was having problems I… explained the process as we went" and tried to distract her from focusing on the computer (LF 10.17.02). Another day, in a typical Rosa move, she became frustrated and "reached up and turned off the monitor" (LF 12.03.02). At this point I knew she could easily slip into full tantrum mode, so I "grabbed her hands, and told her not to get frustrated and not to touch the computer like that. I took the mouse and tried to show her how to do it [click and drag items], but she was still frustrated" (LF 12.03.02). I then told her to point to the pieces and where they go in the monitor while I moved them; this seemed to appease her and we managed to get through the game.

Theorizing Rosa

As in the case of Chuck, Rosa illustrates the way in which a robust 5thD culture can include children who are quite marginalized in other circumstances owing to their deviant behaviors. As Ferreira's summary indicates, and quite contrary to a less informed, stereotyped view of her behavior, when carefully observed as she actively engaged in various computer games it became clear that Rosa noticed things that eluded the undergraduates; in addition she became over time much more adept at using the computer interface. At the same time she continued to be extremely "stimulus driven," something that manifested itself both in the episodes where she got "caught in the music" as well as episodes where noises from outside her immediate engagement captured her attention and degraded her ability to focus on the game at hand.

It is also important to note that without the long-term ongoing engagement with Rosa made possible by the 5thD's sustained culture of collaborative learning the researchers would have been clueless about how to organize activities that made it possible for her to control her frustrations and that increased her opportunities for positive learning experiences.

The Inti Tekoa 5thD in Bogotá: Creating a Culture of Conscientization

Our second set of examples comes from a 5thD site in Bogotá, the capital of Colombia. This 5thD is the product of a collaboration between Inti Tekoa, a non-profit organization formed by young people in the poorest part of Bogotá, known as Ciudad Bolivar, and the University of the Andes, which is located in the city center. At the time of writing the site has been running for two semesters.

The urban conditions in which this 5thD is embedded took shape about twenty years ago when the Bogotá government defined six specific geographical zones, or *estratos,* in the city for purposes of setting rates for basic services. The richest, *estrato* 6, lies to the north, while the poorest, Ciudad Bolivar, *estrato* 1, lies to the south. Almost 50% of the city's population lives in *estrato* 1 or 2. Between *estrato* 1 and 6 there is a 10 to 1 difference in monthly income: $800 US dollars versus around $80.

The government's intentions were good: that people in each *estrato* would pay a different rate for basic utilities, such as gas, electricity and water. However, the *estratos* have become a simple way to categorize and stereotype people. Bogotanos' perceptions of the *estratos* depend on where they live (Uribe Mallarino & Pardo Pérez, 2006). People in *estrato* 6, for example, know roughly when the zones were defined, while people living in *estrato* 1 tend to say that the *estratos* had been there for ever. People living in *estrato* 1 offer a variety of explanations for the existence of the *estratos*, though most frequently that say they are a way to keep rich and poor apart. People living in *estrato* 6 offer the official explanation: that the *estratos* were created to establish different tariffs for public services. Bogotános have clear and distinct views not just about the *estratos* but also about the people who live in them. Uribe Mallarino asked a series of questions about personal characteristics. In terms of "honesty," people living in *estrato* 1 attribute honesty mainly to people who live in the same zone,

while in *estrato* 6 people say that there are honest people living in every *estrato*, or that where one lives makes no difference. Uribe Mallarino's interpretation was that the rich are justifying the inequities they benefit from.

Another common perception is that because children in *estrato* 1 live in a context of poverty they lack necessary social and cognitive skills. For example, about ten years ago the Colombian Ministry of Education developed a program for the public schools designed to foster children's citizenship skills. This program is targeted primarily at children in the poorest *estratos*.

These children have also been targets of research designed to explore the effect of exposure to violence on moral judgment (Wainryb & Pasupathi, 2010). To the researchers' surprise, children in Ciudad Bolivar "made universal and noncontingent moral judgments not unlike those of normative samples studies in the United States and other countries." No evidence for lack of moral skill was found. However, the researchers had some difficulty explaining the fact that between 25 and 30% of the children said that revenge was not immoral. Only a few said that someone stealing out of revenge would feel guilt or shame. Our hypothesis is that these children are growing up in a culture in which honor is a central moral consideration. Honor, reputation, care for family, retribution: these, we hypothesize, are what underly the violence that sometimes occurs in Ciudad Bolivar, not a deficit in individual competencies.

Because this is a new site, a principal concern and practical issue has been to establish the local norms. Our goal for the Inti Tekoa 5thD is to foster "conscientization": a deeper understanding of the world, including its social and political contradictions, through questioning and dialog in order to take action against the oppressive elements that become evident (Freire, 1970/2000). In this spirit we aim to make decisions collectively, rather than in an authoritarian manner. We have also been concerned that

the participants in our 5thD should, if possible, resolve conflicts themselves, rather than turning to an authoritative third party. The result has been the opportunity to observe and begin to understand how the participants orient to issues of rights and responsibilities in the development of a 5thD in which conscientization is the normative order. What we have seen is far from being a lack of moral competence.

Indeed, one of our motivations for creating a 5thD site in Ciudad Bolivar (with Packer representing the university and Kobelt representing Inti Tekoa) was to subject to empirical inquiry the supposition that its citizens, and in particular its children, lack competence, either cognitive or moral. We want to gain a better understanding of the values of family and community, and see whether a culture of honor might indeed exist. We also want to provide the university students (who tend to come from families in *estratos* 4 through 6) with direct experience of a part of the city that most of them have never visited. We have in addition recruited adolescents from one of the local high schools who carry out their “social service” in our program, and so we have a multi-age and multi-developmental stage arrangement with children, adolescents, university students, and adults. A steady stream of children have attended our 5thD, which is open two afternoons each week, and a less steady, but considerable, stream of high school students and undergraduates attend, along the the researchers. When the site closed for the winter vacations there was a general sense of celebration and a commitment to resume in the new year.

The Character of the Site

The Inti Tekoa 5thD differs in several respects from the San Diego program. In San Diego, an important aspect is that the young children become proficient in various computer games and other software. This is a principal way in which they can achieve the status of expert in their interactions with the university students who are ostensibly

there to help them learn.[1] In our site, however, we have not yet incorporated the computers into daily activity. Inti Tekoa was able to obtain a donation of ten computers, which were installed on the second floor of our site. However, the company that donated them arranged them in individual work stations, which makes collaboration very difficult" there simply is insufficient space for two children to sit together in front of each computer. As a consequence, for the time being the computers sit idle and most of the activities in the Inti Tekoa 5thD take place downstairs on the first floor.

There are both costs and benefits to this arrangement. One cost is that the children are unable to acquire or demonstrate expertise on the computers. Another is that we have not implemented a Wizard, a Mago, at the Ciudad Bolivar Fifth Dimension. Without easy access to the computers we have no way to establish the necessary email and chat connections with a Wizard.

One benefit of the problem with the computers is that most of the activities in which the children participate are face-to-face and hands-on, which gives us a better opportunities to come to get to know them, and vice versa. One of our field notes read: *At the moment there are no computer activities, but it seemed very nice to me that one child (Javier) who had previously accompanied us and had stopped on Monday on a blank square in which we had deleted "computer games" and only moved to another activity in the labyrinth after I told him that for the moment there are none. But everyone (including the adolescents) is in agreement that while we do not know how to use the computers in a constructive way, it makes no sense to use them.* [Fieldnotes 07-10-2013 EEK]

The "blank square" here refers to the nature of the labyrinth in the Inti Tekoa 5thD. Before the program was opened to young children we worked for several weeks with

the adolescents, encouraging them to decide how to organize the labyrinth, to choose the activities it should contain, and arrange their links. It was the adolescents' decision to paint the labyrinth on the concrete floor. Each activity is represented by a square with a painted name, and the squares are connected by arrows indicating the options for moving from one activity to the next. The adolescents began the painting themselves, and continued with the help of some of the older children. This activity generated interesting material for your research interests, which we shall describe in some detail.

Rights and Responsibilities

Alejandro and Esteban, brothers aged 12 and 14, were new to Ciudad Bolivar, their family having been displaced to the city from their home in the countryside, an event that has been common in Colombia during recent decades. Their parents told us they were happy for the boys to come to the 5thD because it was too late to enroll them in school, and consequently they were often at home alone, or in the streets, while their parents worked. During the boys' first two visits to 5thD they worked mainly with the university students, making musical instruments from recycled materials. They seemed reluctant or unwilling to join with the adolescents or with the other children. There was no conflict involved, but nor was there any creation of friendships or a working relationship. And since each of the university students generally came to only one of the two 5thD sessions each week, the two boys didn't form strong bonds with them either.

A week later, strong rain and a car that wouldn't start meant that 5thD opened late, with none of the university students, only four of the adolescents, and four children in attendance. However, about half an hour later more children arrived, including Alejandro, Esteban and two new friends: Esau, an Afro-Colombiano aged fourteen, and

Matthias, aged twelve. The group was playing "Tingo Tingo Tango," a popular game in which a ball is passed until "tango!" is called, at which point the person left holding the ball has to pay a penalty, such as performing a little dance.

Esau immediately found himself left holding the ball, but he refused to pay a penalty, even though the others tried to find one that would be agreeable to him. The next round it was again Esau holding the ball, and the group spent almost 10 minutes unsuccessfully trying to convince him to perform his penance.

Then the university students arrived and the activity switched to building paper towers. Esau and his friends discovered that the paper could be folded in such a way that it made a loud clapping sound when flipped through the air. Esau started to tease other children with his clapper. We could see that the adolescents were irritated by this, but they said nothing directly to the boys. The nature of their irritation became evident later, as well shall describe.

Things came to a head in the next session, later that same week. The plan for that day was to paint new sections of the labyrinth, in order to add several new activities. The children, adolescents and students were to discuss which activities would continue, which would be added, buy paint and brushes from the local store, and repaint and extend the labyrinth. Again the university students were unable to attend, due to end-of-semester exams, and the session began with three adolescents and six children, though more children arrived later. Esau, Alejandro and Esteban immediately found paper to fold into clappers, and began aggressively flipping them at each other and at other children, especially Michael, who is only 10. Two of the adolescents, Ana and Irma, were clearly unhappy to see the boys again after the way they had behaved in the previous session. One of us stopped Esau a couple of times, asking him not to be

so aggressive with the other, younger, boys. We did not want to impose rules in an authoritarian manner, however.

The three friends began working together to repaint white squares on the floor, as the background for the labyrinth's new activities. They continued teasing one another and the other children, especially Michael. We decided to video their interaction, because we wanted to understand the teasing, though once or twice we had to pause the camera to intervene. Most of the time their teasing seemed good-natured, but at times it would spiral out of control and turn into pushing and even hitting. For example, a conflict developed between Michael and Esau, who were supposed to paint a square together. They started to criticize each other and ended up painting each other's hands. Michael, who lives close to the 5thD site, went home to wash his hands and did not return. Then a conflict irrupted between Esau and Ana. He demanded more paint, and then took what he needed, while Ana responded by saying he ought to show more respect, since she was older and was involved in the organization of the activities. After a while Esteban and Irma got drawn into this conflict. Esteban defended Esau, principally by criticizing Ana, shouting at her and interrupting when she spoke. Irma supported Ana.

We decided it was time to stop the painting and talk about what was going on. We asked everyone to sit and to give us their perspective. Ana complained that Esau and Esteban had been impolite and did not show respect. Esteban interrupted to insist that he and Esau were innocent victims. We said that we didn't think that any specific person was to blame, but that we did not understand why there had been so much teasing. Esteban replied that they could not control themselves. The adolescents spoke up again, and voices became raised. We asked people to take turns speaking, but suddenly Ana and Irma simply rose from their chairs and walked out! Esau watched

them go. Then he stood up himself and went to the door. We quickly told him that he had a choice: if he left like this he would not be able to return.

Esau stayed, and we continued to talk about what had happened. We emphasized our view that within the 5thD everyone should be treated in a respectful manner, and suggested that the next time the boys should apologize to the adolescents whom they had offended. We were trying to strike a balance between imposing norms and letting matters take their own course.

However, there was no next time for Esau and Esteban. They have not attended a 5thD session since. The adolescents returned at the next session, looking a bit embarrassed at the way they had reacted to the situation.

Theorizing Alejandro, Esteban, and Esau

As we have said, our principal interest in establishing the 5thD in Bogotá has been to call into question the presumption that children who live in economically-disadvantaged circumstances are deficient in either their cognition, their morality, or both. A psychotechnical practice such as the 5th makes such inquiry possible because it enables the study of a variety of psychological functions, depending on the particular interests of the researcher.

In the events that we have just described, several moral phenomena are visible. We can see a variety of moral issues and concerns, as well as disagreements and conflicts with a moral dimension. The children showed a keen awareness of the moral dimensions of the various situations in which they found themselves. There is not sufficient space here for any detailed analysis of these phenomena, so we will simply sketch their characteristics.

In the dispute over paying the penalty in Tingo, Tingo, Tango, we see the degree to which the children themselves value and police the obligations of the game. Esau's unwillingness to pay the penalty is something we intend to study in more detail; it may represent his discovery of the norms by testing them, or it may be that as a newcomer to the group Esau did not yet consider that its norms were binding on him.

Teasing - which we would define as deliberately violating the perceived norms of the community - is an interesting phenomenon. It illustrates a comprehension of the local values, but in the breach rather than the observance. Our sense is that the boys were telling the truth when they said they could not control their own teasing. Self-control is often defined as the ability to follow rules that have been prescribed by authorities, but this is a somewhat paradoxical definition. It seems to us that a better definition of self-control would be that it is the ability to decide for oneself what is necessary to do. We speculate that these boys had experienced few opportunities to make such decisions, and finding themselves in a setting where teasing was not immediately prohibited by the adults may have led them to cross limits in a way that had not previously been possible for them.

When Esau stayed and engaged in dialogue, an element of interactional/material substance was added to the demarcation line that distinguishes inside and outside Inti Tekoa, and to the norms that apply inside. The fact that he did not return again on other days, however, suggests that we still have work to do to better understand these teenage boys. At the same time, leaving might be said to be a form of self-control. Leaving is a matter of voting with one's feet: of showing one's disapproval by withdrawing. Leaving is not possible in the school classroom, and we might speculate that it is rarely possible in family contexts either. It this sense it is an active choice on the child's or adolescent's part; a first step, perhaps, towards a more constructive way

of handling moral issues and conflicts.

The events we have described also illustrate our frequent observation that the high school adolescents are very sensitive to what they perceive as violations of obligations and commitments. They have several times criticized the university students for their irregular attendance at the 5thD sessions (the result of competing demands at the University). They responded very negatively when, one day, we had a substitute site coordinator, inexperienced at Inti Tekoa, who was rather authoritarian in her style. They tend to judge people very quickly for such violations, and they also have a tendency to respond by leaving, thereby ending their participation. Three adolescents left the program permanently, terminating their social service, over what they saw as the inappropriate and disrespectful attitude of the substitute site coordinator. In the events that we have described here Ana and Irma came back after walking out, which may suggest a development in their manner of handling the offenses they perceive, but the combination of the teenage boys' teasing and the adolescents' sensitivity is a volatile one that remains to be dealt with.

It is precisely in this volatility that we see again a deep awareness of, and sensitivity to, rights and responsibilities. We cannot say yet that we have gained a thorough understanding of the moral perspective(s) of these children and youth of Ciudad Bolivar, but without doubt morality is a salient and powerful aspect of their interactions with one another an with us.

Don’t call me Profe!

A second phenomenon that we have been struck by is the tendency on the part of many of the young children who attend the Inti Tekoa 5thD to address us as “profe”, a common abbreviation of the Spanish word *profesor*, meaning teacher or professor. This

salutation is directed to undergraduates, university faculty, and even at times to the adolescents.

It is also pertinent to mention that he wouldn't stop calling Alejandra [one of the university students] profe, despite her efforts that he not do so and her friendly interactions with him. [Fieldnotes NC_2014-02-14_JJCP]

We started doing a drawing of Michael's family. I asked him to try to draw the entire environment, and not only the people. He informed me of his concern that this activity would be too difficult to do, "uy no profe!" That is very complicated." I indicated to him that I would help him throughout the activity. [Fieldnotes NC_2014-02-28_MAGP]

An argument developed among Valery, Katherine and me about the reason they called me Professor…. In short, the reasons they call me profe (and I think they do it to annoy me) are, first that I provide the materials, second that I document their work, and third that I often clean them and help them to perform tasks. I asked them if their parents or a friend could not do the same work, to which they responded that neither their parents nor their friends had painting materials. From this point Valery began to interact in a more active manner with me, and it is relevant to mention that apparently she is not as open with anyone else. [Fieldnotes NC_2014-02-28_JJCP]

Profe may be intended as a term of respect. It seems to us, however, that a label like "*profe*" indexes a difference and differential in power, expertise and authority. It accords the person thus addressed status on a vertical dimension, precisely the kind of difference that 5thD in general seeks to eliminate.

We have tried to change this practice, asking that the children call us by name and adding "*no soy profe*," but it persists. When we asked one boy what *profe* means, he thought for a while and then said "We call someone *profe* when they are teaching us

something." Of course we hope that the children are learning, but in general we aim to avoid an arrangement where they are learning because they are being taught. However, it is hard to avoid either the perception or the reality of teaching, because the activities are ones were the children do not arrive with expertise.

We hope that with time the young children will become expert in the 5thD activities, so that when newcomers join - either children or newly participating adolescents and undergraduates - the older hands will be able to show them the ropes. And we hope that this will lead to a reduction in the use of labels like "*profe*" that index a difference and differential in power and expertise and authority. Of course, only time will tell. Because this implementation of the 5thD is still in its infancy, and because of the commitment to continue to study this form of community-based activity in the process of its cultural-historical change, such matters remain empirical issues under ongoing investigation.

Conclusions

Our goal in this paper has been to highlight the methodological potential of the application of Vygotsky's concept of a "Concrete Psychology." We used as our example the Fifth Dimension, an activity that was specifically designed to afford diversity of equitable participation (Cole & The Distributed Learning Consortium, 2006). We argued that the 5thD could serve as a "a system of psychotechnical practice" within which to study the process of learning and development." According to this view, psychological objects of analysis must be studied in circumstances that allow them to grow and change. In these terms, the 5thD is an "organized framework" that is studied over time, not an experimental laboratory, but in a setting where the persons-in-context are analyzed as interconnected processes (Packer, 2011).

An additional feature of the 5thD as a psychotechnical practice is that growth and change are foundational to its design. There are advantages to analyzing the program at different periods in their development and at different levels of analysis, depending on the focus of research concern. Our two cases illustrate some of what can be learned both at different times during development and in widely different cultural and institutional circumstances.

At our first site, the fact that the program had been developing for several years and had reached a relatively stable or “lithic” phase in its development enabled us to see more clearly the ways in which individual a-typical children were incorporated into the activity – the process of inclusion. This process is very difficult to organize in laboratory studies of development in middle childhood (Bornstein, 2010). It is, however, regular enough and visible enough to be witnessed and reported upon by undergraduate students who enter the program naïve with respect to any local or scientific presuppositions about the children.

The “organized framework” of the 5thD, including as it does undergraduates who enter the program naïve three times a year, prompts a rapid “resetting” of the memories of the people participating in, and describing, their interactions with the children. This disjunction provides a critical resource for tracking changes in the behavior of children such as Chuck and Rosa, although their forms of a-typicality were markedly different.

At Inti Tekoa the daily activities have not yet become stable. Constant work must be done to establish a normative routine and repair it when it breaks down. In this case, what is visible is the ensemble of activities and participants. What 'should be done' is still defined in great part by the expectations and habits - the habitus - the participants bring with them from other settings, such as school and family. We see this in, for

example, the adolescents' insistence on respect that is unilateral rather than mutual.

We have pointed out that Vygotsky insisted that psychological research must leave the laboratory (Packer, 2008). Leaving the laboratory, we want to emphasize, is not a matter of leaving an artificial setting in order to enter one that is natural, as the relationship between “formal” and “everyday” settings is often conceptualized. An advantage of designing after-school activities is that while it is essential to take into account the social organization of children’s after-school hours, this organization is more heterogeneous than is the case at school. The big challenge in creating such a constantly changing, yet presumably coherent, organizational structure is one of selecting, or creating, a setting with the appropriate design.

This circumstance contrasts strongly with research in the school classroom which can take for granted the entire infrastructure of local, state, and national institutions that sustain daily activity (Cole & Packer, 2014). This infrastructure generally goes unnoticed and unstudied. The 5thD, in contrast, operates with only a minimum contribution of an infrastructure, a second characteristic that qualifies the 5thD as a psychotechnical methodology.

A 5thD program requires the direct and ongoing work of those who attend each day, plus a minimum of institutional support. From the point of view of the researcher, this set of circumstances is both enormously demanding and a great advantage. It makes available for study the ongoing work of design, repair, and reproduction.

This brings us to the third characteristic we think essential to this methodology. The undergraduates who participate in each 5thD program are not so much participant observers as they are observant participants (Rosero, Lecusay, & Cole, 2011). The

program is truly dependent on undergraduates and high school students in a way that would never be the case for a researcher studying a school classroom. And this means that the observations they make, the field notes they write, are made and written from a concerned and involved perspective, not one that is neutral or detached. Their practical involvement provides epistemological resources that are not available to, to return to the same example, the classroom researcher, even as educational ethnographer. Practical involvement provides an embodied, affective understanding that, once articulated in written form, is, as we have said, a unique kind of data.

What we have aimed to do in this article, in conclusion, is illustrate some aspects of the methodology, the logic of inquiry, that we consider necessary (or at least a necessary component) for a psychological (or interdisciplinary) science of human learning and development (Packer & Tappan, 2011). The psychological characteristics of homo sapiens are not static, they are in constant flux, in change that is microgenetic, ontogenetic, historical, and evolutionary. To be an object of investigation they require special preparation. The laboratory, in general, kills these living psychological processes in the attempt to study them. The 5thD, in contrast, sustains and fosters these processes so that they become visible for description and explication.

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Notes

1 Fifth Dimensions that do not make use of computers have also proven successful in the United States. For an account of one long running program see Poole (2011).