

**VOICES FROM A MEXICAN LEARNING COMMUNITY:
EXPERIENCES OF IMPLEMENTING A FIFTH DIMENSION
PROGRAM IN PRIMARY SCHOOLS**

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To appear in:

**IN THE SERVICE OF DIVERSITY: EDUCATIONAL
PARTNERSHIPS, TECHNOLOGY, AND INNOVATIVE LEARNING
ENVIRONMENTS.**

O. Vasquez And M.Cole, Eds.

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INTRODUCTION

This paper pursues two complementary aims. First, we will describe an educational program inspired by the Fifth Dimension proposal and implemented as part of the regular activities of a Mexican state primary school. The program, called “Learning communities for the social construction of knowledge” (LeCSiCK), seeks to promote within Mexican primary schools the creation of innovative learning environments that can offer ample opportunities for interaction and communication among the participants.

Second, we will offer perspectives of the workings of our learning community, from the standpoint of the participants. The program encourages active participation of the learning community, including children, teachers, directors, parents, university students and researchers. To explore the workings of our program based on the participants’ reflections, in a second part of this chapter we describe these actors and account in their voices of their participation in the program.

ANTECEDENTS

Historically, Sociocultural theory has been used to understand the dynamics of the cultural, social, cognitive and psycholinguistic processes taking place within particular social groups, including learning communities (Cole, 1996). At the same time, this theory has been applied to the design of educational settings and programs that allow for the

optimal functioning of community activities (McGilly, 1996; Rogoff, 1994; Schauble & Glaser, 1996). Among these programs is “The Fifth Dimension”, generated in the eighties by the Laboratory of Comparative Human Cognition at UCSD, directed by Michel Cole (Brown & Cole, 1997; Cole, 1996; LCHC, 1994; Nicolopoulou y Cole, 1993). Programs designed in this fashion aim at creating spaces for interaction and communication, with a view to carrying out basic and applied research. Partnerships are created between the University, the local community and some educational institution(s), with the purpose of analyzing and promoting the cultural, social, emotional, cognitive and linguistic development of all participants.

Since its creation, the Fifth Dimension proposal has spread rapidly, and has been adapted by many universities and other educational institutions throughout California, other states within the USA and other countries around the world. So far, results have been highly satisfactory, resulting in very positive effects on social, intellectual, linguistic and technological development, as well as academic gains in areas that include mathematics, reading and writing (e.g. Blanton, Moorman, Hayes & Warner, 1996; Mayer, Schustack & Blanton, 1999). However each culture, community and institution creates its own version of the original proposal, adapting it flexibly to the local situation and sociocultural context.

In Mexico, the Benemérita Universidad Autónoma de Puebla (BUAP) was a pioneer in establishing a Fifth Dimension site. Also, there is another site of recent creation in Cuernavaca and there are plans to create new such communities elsewhere.

In Mexico City, in the Laboratory of Cognition and Communication of the National Autonomous University of Mexico (UNAM), we recently created a version of the Fifth Dimension program called LeCSCiK , linking it directly to the workings of a primary school. In March 1997 some of the members of our laboratory visited several Fifth Dimension sites in California. After this experience, we decided that the model could help consolidate many of our previous basic and applied research efforts. So we set about adopting and adapting the model to our sociocultural and institutional needs and characteristics. For this. we have modified and culturally adapted some aspects of the original proposal, adjusting it to our context, community, student population and school programs.

Our line of research and implementation is based on Sociocultural theory, guided by Vygotsky's seminal ideas (e.g. Vygotsky, 1962; 1978), as well as many other developments inspired by his original proposals (e.g. Brown & Reeve, 1987; Bruner, 1984; Cole, 1985, 1992, 1996; Coll, 1990 a & b; Edwards & Mercer, 1987; Lave, 1991; Mercer, 1995; Rogoff, 1990; Rogoff & Lave, 1984; Wertsch, 1985, a y b; 1991, 1998). At the same time, we have carried out a series of basic and applied research efforts, including the implementation of Sociocultural procedures which have been tested in public and primary schools in the last 10 years. Our procedures in general have shown very positive results in social, cognitive and psycholinguistic development and learning in diverse areas, including self-regulation for problem solving and functional literacy (e.g. Peón, 1992; Rojas-Drummond, in press; Rojas-Drummond, Dabrowsky & Gomez, 1996; Rojas-Drummond, Hernández, Vélez & Villagrán, 1998; Rojas-Drummond, Peña, Peón, Rizo & Alatorre, 1992).

Besides the Fifth Dimension proposal, our program has been inspired by other educational developments congruent with a Sociocultural perspective. These include: a) The High-Scope curriculum, from which we borrowed aspects of classroom arrangement and the plan-do-review cycle (Hohman, Banet & Weikart, 1979)), b) project centered learning from the British curriculum, c) the Balanced Approach for functional literacy, which integrates the whole language perspective with the promotion of specific discursive strategies (Presley, 1996) , d) work on cooperative learning or "reciprocal teaching" (Brown & Palincsar, 1989) and e) the proposal for guided construction of knowledge and exploratory talk from the Center for Language and Communications group of the Open University in the UK (Mercer, 1995).

DESCRIPTION OF THE PROGRAM

From a social perspective, our program involves the creation of partnerships among three important social agents in the learning community: the university (including academics and university students), the local community (including parents and other members) and the school community (including the students, teachers and directors).

Each of these agents contributes importantly to the program, making it sustainable over-time, and each receives benefits in return.

From an academic perspective, the program tries to promote the development of socio-emotional, cognitive and psycholinguistic abilities in primary school children, through their active participation in communities of practice that include cognitive apprenticeship and where all members get involved in diverse ludic and functional activities. The program offers a wide variety of opportunities for activities that foster diverse processes. These include social interaction, oral and written communication, problem solving and the functional use of technology. Also, the program promotes guided participation between experts and novices and mediation of activities through various artifacts, including tools and signs. The proposal attempts to balance activities that the children can design and choose to get involved in voluntarily, with activities proposed by adults and that seek the achievement of certain developmental and learning goals. The activities aim at reinforcing and enriching key abilities, which may or may not be adequately promoted within the classroom, but which are nevertheless central for the children's functioning as competent members of their community inside and outside of school.

Operation of the program

Setting

Although most of the programs that follow the Fifth Dimension model run after school, the state school where we operate is of very low income and its premises are used by three shifts within the same day. Also, most teachers work a second shift so they have to leave school right after each shift finishes. Under these circumstances, we decided to run our program within school hours by having one center of operations and bringing each intact group of children and their teacher to work with us regularly for a period of time (between 60 and 90 min.) during the school day.

Our setting, created in a multi-purpose room inside the primary school, is called *Dorquidim*¹. It has been outfitted with several octagonal modules made from tables and

¹ *Dorquidim* means "The Land of the Fifth Dimension" in the Elfic language *Quendi*. This has been described by J.R. Tolkien in his writings, and particularly in the etimological appendix of "The Samarilion". 60

chairs, each one corresponding to one of the regions or areas that make up Dorquidim. Children work in teams, accompanied by one or more adults (their teacher and/or a researcher). Teams work during several sessions in activities that correspond to each region or area of Dorquidim, until all are covered. The regions in Dorquidim are: Interaction and Problem Solving, Communication, Literary Text and Expository Text.

Artifacts

Several artifacts mediate the activities of participants in Dorquidim. These include:

- *Computers.* This tool plays a central role in supporting many of the activities carried out in Dorquidim. Several computers allow children to play various games, create and illustrate texts, carry out information searches, and generate products such as bulletins, posters, stories, and many other types of texts and products from multiple projects. In addition, soon the computers will allow the children to communicate with other communities in Mexico and abroad through the Internet.
- *Texts.* Dorquidim has a library where children have free access to texts for various functional uses. These include encyclopedias, text books, a variety of literary texts and books, newspapers, magazines, bulletins, brochures, instruction manuals, telegrams, and the like.
- *Educational and play materials.* A variety of educational and play materials support the activities carried out in Dorquidim, including three-dimensional and bi-dimensional representations of four mazes, table games, construction games, role-playing games, jigsaw puzzles, adventure cards, journey logs, passports, instruction manuals, books of hints, maps, various objects corresponding to the magical world such as a treasure chest and animal-like figures, the book of the wise, the book of the adventurer, materials for creating the products of the various projects, and so on.

The magical world of Dorquidim, and its relationship to the academic areas

Each of the four areas of Dorquidim includes a maze that represents the different paths a student can take during his or her journey through that area.. This journey is used as a metaphor to signify the trajectory followed by the child in the process of appropriating

knowledge in the corresponding domain. All four mazes are represented physically in a three-dimensional model of Dorquidim that illustrates the general layout of the four regions and the journey-paths that can be undertaken in each.

This model introduces the magical metaphor, which we use as a main motivational resource. This metaphor is embedded in a story about Dorquidim, a place in the Fifth Dimension that can only be reached through our imagination or via the Internet. The main character of the story is Istari, the Supreme Being of the Order of the Wizards of the Fifth Dimension. Istari asks the children for help on the quest of saving Dorquidim from the threatening Nothingness, which feeds on the ignorance of people. The world of Dorquidim is divided into four great regions, and each region is been threatened in a particular way. By embarking on some adventures and challenges in each region, we can help Istari combat the devastating effects of Nothingness, and thus reconstruct knowledge and culture in each affected area. Each region in turn stands for one of our four academic areas: interaction and problem solving, communication, literary text and expository text.

The Ost-Belegroth Maze

The interaction and problem-solving area is called the region of the Ost-Belegroth maze. It consists of an underground labyrinth where the ancient would-be adventurers in Dorquidim faced diverse challenges to become experts in the application and discovery of problem solving strategies. The Ost-Belegroth landscape includes great rocks with hexagonal shape resting above the different rooms of the maze.

In this area the children play board-, computer- and role- playing games, using activity cards and journey logs. The challenge here is for the children to become expert in interacting with each other and in solving diverse logical and social problems. This is done through participating in imaginary situations presented through computer and non-computer games, and guided by activity cards. The achievements are recorded on a daily basis into the journey logs, passports and books of hints.

The Communications City of Gilangaril

The communication area corresponds to the City of Gilangaril and its Communication maze. This city was responsible for transmitting the knowledge and

information using the telecommunication tower situated in the middle of the city. But because of the threatening Nothingness, the city was destroyed and its inhabitants ran away. To rebuild the city, the adventurers have to do diverse activities to help re-establish communications among the inhabitants of the region.

Here the children work with newspapers, brochures and magazines to help restore communications. Eventually children create their own bulletin, newspaper or web page on the computer, and soon the Internet will provide access to many new communication activities.

The Fantastic River of Kuivie Fallas

The area of literary text is embedded in the Fantastic River journey maze, Kuivie Fallas. The adventures along the route of the river have the function of rebuilding the literary world which has been lost in Dorquidim because of the advancement of Nothingness. Therefore, the participants must create a book with literary texts for Litenia, a character who collects all the literature of Dorquidim.

The children work with a navigation map of Dorquidim, a treasure chest, jigsaw puzzles, story books, stories written by other children and a diversity of other literary materials. The quest of this adventure is to rescue the literary culture of Dorquidim, starting by reading a variety of stories and other literary texts. Eventually children produce their own story books, other literary materials or create and stage theater plays.

The Towered Fortress of Minas Turquentar

The activities around expository text take place in the Towered Fortress maze of Minas Turquentar. In this region live six wise people who do research and search for lost knowledge secretly. They hide in the interior of a castle, giving conferences in the towers outside the big wall. The wise people are the main generators and reconstructors of the knowledge of Dorquidim, and they try to rebuild this knowledge by doing research and giving conferences in order to fight Nothingness.

The Book of the Wise and the Book of the Adventurer are some of the materials used along with diverse academic and scientific texts. The mission here is to vanquish Nothingness by rescuing knowledge in different domains. This is done by electing a theme,

searching for information and eventually writing a paper or poster and delivering a talk. By doing so, children help the Wise of Dorquidim to pass on the restored knowledge to the inhabitants of the Fifth Dimension.

The interrelation between the magical metaphor and the academic areas of our program, along with some of the products that can be generated in the projects carried out in each maze, are synthesized in Table 1.

(Insert table 1)

Children use computers as tools to generate the products of the projects undertaken in the different areas, and these products are later shown to the community on site, or in more ample forums such as the school's "Cultural Fair". Literacy is also promoted by encouraging children to exchange letters frequently with Istari. For this purpose, each area is provided with a letterbox. The letters received are regularly answered by the team of researchers to enhance the children's' communication skills and to get them to reflect on their learning activities and their progress through each of the mazes.

In addition, as soon as we have Internet connection, we will encourage the creation of new partnerships by facilitating communication between all the members of our learning community (including the children, teachers, university students and researchers) and other participants of other communities inside and outside the country. Communication will involve exchanging experiences and products.

Intervention strategies

The intervention strategies that are used by researchers and teachers to support children's progress include motivating the children to learn through functional activities and the magical metaphor; cognitive apprenticeship involving the interaction between experts and novices with modeling and guidance; cooperative learning; the social construction of knowledge which promotes communication through Socratic dialogues and exploratory

talk, as well as the promotion of metacognitive reflection of participants about their own processes, which promotes the development of self-regulation.

Teachers participate fully in the program, supporting the students' activities all along their progress through each maze. For this purpose we have created a specific program of teacher support, which fosters teachers' active participation in the process of planning of activities and use of effective intervention strategies within the Fifth Dimension site and in their classroom. Similarly, teachers are encouraged to adapt some of the tools used in the site for their daily professional practice.

Parallel to the teachers' support program, we have created another program to train professionals in research and practice in the field. These two programs, along with the work with parents and other community members, foster the long term sustainability of the project as a whole.

Phases of implementation of the program

We have designed and implemented the LeCSiK program outlined above in three phases. The first corresponded to a pilot study where we applied an initial version of the proposal between January and June 1998. Preliminary analysis of this experience indicated that the program had been generally successful, with a positive impact on children, teachers, parents, and university students and researchers. At the same time, however, we detected several problems which we tried to address in a second phase.

In this next phase, between September 1998 and 1999, we increased the program's capacity by incorporating new groups of children and university students. We also increased the number of activities to promote participation of teachers, parents and professionals. Similarly, we developed a parallel program to attend to a variety of educational needs. At the same time, our program has been reviewed frequently to refine the activities and the times of stay in each maze, as well as to increase the flexibility and potential of each maze and the alternatives offered in all. All of these characteristics have also been adjusted to the children's developmental and grade levels.

The third phase, to be implemented in September 1999, will introduce measures to promote the long-term sustainability of our program. These measures will help foster the solid and consistent participation and interactions in the partnerships between the university, the school and the local community that help sustain the program. At the same time, we will seek the creation of new sites in other state schools of the zone.

VOICES FROM OUR LEARNING COMMUNITY

Here we present some voices from each group of participants to reflect their experiences taking part in the daily activities of our learning community. We describe who our participants are, what their role has been, and include some of their opinions and reflections.

Voices from the parents

Our Fifth Dimension site is located in the “General Felipe Angeles” elementary school, in a low-income area in the south of Mexico City. Local inhabitants originally worked communal land (“ejido”), and although the area has suffered the characteristic changes of progressive urbanization, it still has several aspects of its original social structure, such as its religious festivities, and the coexistence of several families and generations. Many of the relatives, and even some of the parents of the students themselves, attended the same school. This may encourage their eventual involvement in the program, and that community support would promote the sustainability of the project.

About half of the families of the children attending the Fifth Dimension program live in their own modest house or apartment; the others inhabit borrowed or rented housing. The inhabitants average 6.5 people per house and the number of families living in one house averages 2.5. Most of the houses have electric light, color television and running water. About half of them have phone service and some have appliances and sound equipment. On the other hand, very few of them have a car, installed gas, a maid, cable television or a computer. The family’s socioeconomic level is typically low-income. The

family monthly wage, brought in mainly by the father, fluctuates between from one to three times the minimum wage, on average. Most of the parents have completed elementary or high school studies only.

Through interviews and informal contact with parents we have been able to learn their opinions of our program. In general, the parents have shown great interest and enthusiasm for the activities of The Fifth Dimension. For example, many mothers have reported that their children are very excited about attending the program. The mother of a 4th grade girl reported “My daughter is very happy with everything she does here. She says she can do her work in a computer which corrects her spelling; she already asked me to buy a computer for her. We will do our best to buy it, I think it is worthwhile”.

The comments from the sixth grade children’s parents also reflect their knowledge of the work carried out in the program. One mother told us “My daughter likes to come here because she says she works in teams; she says that when they study together they have to listen and to respect each others’ opinions and they come together to an agreement.” Another mother expressed “Since my son comes here, he likes to imagine stories. When my husband saw a story written by Tomas, my husband could not believe he had written it, and Tomas said, ‘I mean it, dad, I imagine and write them. We write stories at school’. Now his father is pleased to see him writing”. The mother of another 6th grade girl commented “Since my daughter started coming to this program she is no longer so shy. She was very quiet before and hardly spoke to us. Now, she likes to chat a lot, not only in the house, but with other people.” Asked why she believed those changes were related to the Fifth Dimension, she answered “She loves to come here. When she knows she will come here, she does it very happily. She says she likes everything they do here, that she also chats to you and that you are very good people and you treat her very well. I have realized the changes resulted from what she has learned with you in particular. She wasn’t like this before attending, but since she began to come here she opened up more. Now she tells us things, she talks more, also in the classroom. She was afraid to say what she felt. I believe you removed that fear from her.”

Similarly, the mother of another sixth grade boy told us “I see that now my son likes to read; he reads the newspaper and he comments a lot on what he does here. I also see that now he has more initiative and he converses more with people.” From the mother of a

4th grade boy: “When it’s Tuesday he comes very happy to the school, it ‘s the only day that he doesn’t want to miss school; he is really very enthusiastic about the program”.

The previous excerpts are just some examples of the many positive opinions and comments we have received from the parents of our Fifth Dimension community. We in fact did not receive any negative opinions from them, nor from any of the other groups interviewed. Opinions like the ones collected nurture our enthusiasm to continue working in the construction of our learning community.

Voices from the children

Six groups of about 25 students each from 4th, 5th and 6th grades (two groups from each grade), attend the program, making a total of 153 students. The children range from 9 to 12 years old, and roughly half of them are male and half female. Most of the children of 5th and 6th grades had participated in the program in the previous school year, while those of 4th grade have been in the program for the first time this year.

Throughout the development of our program, the various sources of data collected (field notes, video recordings, interviews, tests, etc.) have allowed us to follow up the children’s progress. We have been able to document the development of several social-emotional, psycholinguistic and cognitive processes and abilities, and below we will mention some of these observations.

Regarding social-emotional processes, children have demonstrated acquisition and command of different strategies for communication and interaction, as well as an increasing capacity to express information, opinions and feelings as they participate in the program. Similarly, children have shown a growing capacity to work in teams and to share information, activities and materials, as well as to take and respect turns, and to listen to others and participate actively in group work with useful contributions. We have collected many children’s opinions on the Fifth Dimension program that reflect some of these ideas. Jose from 5th grade expressed “(The Fifth Dimension) is a place where we come to bring out our own words, where we come to participate”. Similarly, Oscar from 6th grade said “I

like to share my ideas with my friends and to work with computers”. And Ana from 4th grade commented “I like to receive letters from Istari”.

Also in relation to social-emotional processes, we have witnessed important progress in children’s capacity to relate to others and to listen and respect their ideas and opinions. Similarly, children have evidenced a growing capacity to deal with and solve conflicts among themselves. For example, Angeles from 4th grade said “Teamwork is working together with your friends. You live together with the friends you are fighting with and then you are no longer angry with them”. And Joel from 5th grade said “We participate and say our opinions. We work on the computer and the work is distributed”. And Pedro from 5th grade said “(The Fifth Dimension) is a magic place where we can learn more and work in a team” .

In relation to psycholinguistic and cognitive abilities, we have also observed marked progress throughout the application of the program. Children show an increasing capacity to express their ideas in a clear, coherent and grounded style, using arguments to support their opinions. Children also display a growing ability to solve problems, and to take others’ ideas into account when doing so. Similarly, children demonstrate an increasing capacity to develop a consensus by considering different points of view and reaching group decisions through integration of various viewpoints.

Reading and writing are greatly emphasized in our program and children have also shown significant progress in this area. For example, children display greater abilities for understanding and producing different types of text, including literary, expository and informative text. Similarly, they show great interest in learning more about their favorite topics. Also, children often take the opportunity to read books from our on site library in their free time, requesting loans of the books and often taking them home (the school does not provide such services). At the same time, children have shown increasing evidence of ability to reflect on the procedures for writing a document with varied functional purposes. Also evident is their increasing capacity to work on drafts before achieving a final written product, and for checking that they have satisfied the requirements of the type of text they are working with.

Typical comments are “What I like is the activities, the one I have liked the most is that of the newspaper because when I grow up I want to become a reporter” (Carla, 5th

grade); “I learn how to transcribe the news and some interviews in the computer and this way I learn how to use the computer” (Sonia, 4th grade); “I like to read, they teach us to use the computer and to do some tasks like solving puzzles, editing newspapers and making armors” (Angel, 6th grade).

In addition, it is important to stress that children in general show great motivation for attending and participating in the activities of the Fifth Dimension program. Children usually show a lot of enthusiasm when they arrive and manifest little desire to leave when the one-hour session comes to an end. They voluntarily attend our program on days when, for any reason, classes have been suspended in their group. Some children’s expressions illustrate this enthusiasm, such as Gabriel’s “I like to come to The Fifth Dimension because apart from playing with the computers I learn more; I learn how to listen”. And Ana from 4th grade “I like (the program) because I come to learn things I don't see at school”. Similarly, Erika from 6th grade said “It is a place where we are taught to work in teams, to give our opinions, and where you can really express your ideas” .

Besides working with the children and their teachers, we have also interviewed children’s parents to get a broader perspective on the children’s progress. In these conversations parents have confirmed children’s enthusiasm for the program and for their learning. For example, some parents have expressed that as a result of coming to our program their children are more extroverted and they read more, including the newspaper, the books they take home from our library, and other books they have at home. These observations encourage us to believe our program is having a positive impact inside as well as outside of school.

Voices from the teachers

Six school teachers of the groups of children in the program are also taking part in The Fifth Dimension activities. The teachers, one female and five male, are all married, and are 42 years old on average. They live mainly with their spouse and children (three on the average).

All of these teachers graduated from the School for Teachers (“Normal Básica”) and some of them have pursued other university studies. They all started their educational careers when young and they have been about 16 years in the “General Felipe Angeles” school. Also, they have taught in the 4th, 5th or 6th grades during the last five years.

The majority of the teachers work on a double shift, often working 40 hours weekly in front of a group. So the rest of the necessary functions for performing adequately (class preparation, planning, evaluation, up-dating, etc.) are achieved as extra work time. In general, teachers are not satisfied by either the economic remuneration or the social recognition for their work.

The teachers’ participation in the Fifth Dimension program is voluntary and some had already participated in previous investigations conducted by the research team. These included experiences to enrich their teaching practices. This prior experience made them more sensitive and receptive to the proposals of the Fifth Dimension program.

The teachers have adapted to the Fifth Dimension proposal gradually, showing increasing evidence of reconstructing and incorporating aspects of our program into their dealings with the children on site as well as in their daily classroom practices. And, although at first the teachers displayed some natural resistances to the program and its implied changes, teachers have shown an increased openness to accepting the challenges involved. They are at present important advocates for the Fifth Dimension program.

The teachers report important changes that we have been able to confirm, and which contrast greatly with their previous practices. For example, their students are now frequently grouped in pairs or teams and carry out cooperative work, and the teachers have modified their classroom arrangements. They also use more varied supporting materials in their classes and their style of interaction with students has changed; now they listen to the children more, take their interests into account more and allow them to express their own initiatives. When teachers initiate new topics they usually start from the students’ previous experiences and viewpoints, and they try to find new ways of asking questions, of jointly constructing knowledge and of supporting students’ progress. All these aspects were emphasized in the support program carried out with them, and previous studies showed that these teachers rarely displayed these patterns in their daily

practice (Mercado, Rojas-Drummond, Mercer & Dabrowski, 1997). In this respect, a teacher pointed out “I sometimes ask questions like the ones you pose to the children in *The Fifth Dimension*”. Some other teachers’ opinions about the program are: “*The Fifth Dimension* encourages mutual support between school and investigators”; “It allows teachers to see other ways to help children to learn”; “This is a well structured program because it combines a magic metaphor with academic features, which, in turn, make children feel very motivated”.

One of the aspects most emphasized by the teachers is the impact the program has had on their children. They point out that as a result of their students attending the program, they now express themselves more freely, and they are more reflective and creative. Teachers also express that children feel motivated by their work with the computers. Also, the board games which at the beginning were only a game, now have helped to apply strategies and to integrate ideas. Teachers also say the children have learned how to work collaboratively and to respect their peers’ ideas. In this respect, a teacher commented “I like to see when a child cannot solve something and another child comes and helps him to find the solution”. Another teacher points out she has noticed the children say less and less “Teacher, he is cheating!”; now, they share what they know. Another teacher said “The program has also been good for difficult children, since they have improved their behavior and their participation in class activities.”

These are only a few of the many positive comments teachers have shared with us, and which allow us to reflect on the impact the program is having on our learning community. However, it is important to note that all attempted changes, such as the implementation of an educational innovation, face natural resistance from those involved, and importantly the teachers. In spite of these resistances, (which in our case were displayed mostly initially), we believe that this implementation of the *Fifth Dimension* model has created very favorable conditions that involve teachers in important processes of change, with important medium- and long-term effects in their teaching practices. Lastly, all the activities of the program are carried out in an atmosphere of collaboration and respect for the teachers’ work in their classrooms and in our *Fifth Dimension* setting.

Voices from the university students

Thirteen undergraduates participate in the Fifth Dimension program, from the Faculty of Psychology at UNAM: seven from the Internship program and six from the Honors program. Students attend the Internship program at the end of undergraduate course work. In it students choose to participate in different settings to carry out projects involving different applied areas of Psychology, one of which is The Fifth Dimension program. The Honors program selects students after admission to the faculty for a demanding work load and instruction by teachers with academic prestige. Some of these Honors students are invited to participate in our project in a course on “Thinking and Speech” after their first year of courses.

There are 11 female and two male students, all of them single with an average age of 21. All live with their parents (and with other three or four people) in housing that has all the basic services; ten of them have a computer. Eight of the students come from public high schools and the remaining five from private schools. Four of them have their own car.

The university students participate in all aspects of the program on a continuous basis throughout the year. Their activities include interacting with the children at the Fifth Dimension site in weekly sessions. Their work is also critical for the creation of educational materials, the production of ethnographical notes and the implementation of diverse activities within the site. Additionally, some students participate in data collection and analysis, video transcription and support in the teacher and parents’ projects, and in community work. The students participation is vital for the adequate functioning of the project.

From the students’ perspective, one of the most important aspects of their participation has been the opportunity to work directly with children, which has awakened in them the liking for interacting with children and for learning from that interaction. One of the students put it this way “It is very enriching to work with children, you get immersed in their world and in their innocence, you become a member of their team and many times they teach you more than you teach them”.

Another important gain that students report is the opportunity to relate theory and practice in a concrete setting. For many of them, work in the Fifth Dimension represents

the first time they can apply something of their studies in the field. They reflect that this practice has rescued them from perceiving Psychology as an abstract subject, as sometimes it has seemed in their own coursework. In the words of one student, “Thanks to my working in the project I am learning what real field work is for the psychologist, outside the university classroom”. Another student adds, “Without doubt the Fifth Dimension has allowed me to discover that Psychology is much more interesting when it is taken to the practical arena”.

Among the most significant gains reported by students as a result of participating in the program is a growing sensitivity to children's needs, including learning to respect their personal style and work rhythm. Also, the ability to detect each child's Zone of Proximal Development is considered by the students as crucial to provide appropriate scaffolding adapted to the child and the context. In this respect one of the students commented, “Contact with the children makes you more sensitive to their learning needs, more alert to their interests and more sensitive to when it is appropriate to let go in their learning process”. And another student added, “The sensitivity you need to detect Zones of Proximal Development as part of the interaction is a very important asset in any area of Psychology”.

Likewise, interaction with other students and professionals is another characteristic of the program greatly valued by these students. They consider critical for their professional development the possibility of constructing knowledge through the creation of partnerships and the exchange of viewpoints with colleagues. In particular, one of the students said “The experts and novices concept is lived like a real experience among children and also with tutors and coordinators of the project.” Likewise, teamwork has taught them to handle interpersonal relationships in a more appropriate way. Many of them emphasized the difficulties involved in working with so many different people, who must learn to adapt to each other in order to attain combined goals. As one student put it, “Participating in this project, I have realized how difficult it is to implement a program in an institution and to establish a collaboration among all the members”. And another student adds, “In the Fifth Dimension I have the opportunity to get to know and work with new people and that has taught me that being a member of a team is difficult ... given that sometimes it is difficult to reach consensus”.

Some other abilities the university students feel they develop in the program are planning, implementation and evaluation of the activities carried out with the children. Likewise, they emphasize their acquisition of skills, such as the ability to develop educational materials and their growing confidence to interact with children. One of the students commented, "Applying knowledge in practice allows you to evaluate how your strategy of intervention is working...With this you develop the ability to observe and to be sensitive to the child's needs". Another student reflected, "Another activity I have liked a lot is getting involved in the design of materials, since you try to adjust them to the needs and expectations of the children, besides trying to cover the task objective when you use it with the child" .

Finally, the students emphasize that their participation in this project has made them acquire new knowledge, abilities, and attitudes relevant to their professional training. One student stated that her participation in the program has shown her the true field of Educational Psychology, as well as the multiple assets she must have in order to work in this rich and diverse area. She reflected "This project has allowed me to broaden my vision of Psychology, which includes social-emotional difficulties, learning problems, as well as interaction styles and psycholinguistic development ." Another student added, "It is very stimulating, professionally, to work in an area that is innovating, which is in the peak of its growth and which I believe is superior to many educational proposals given the very tight relationships between theory and practice and because of the opportunity I have to work with other professionals in all the various levels of this project".

Voices from the researchers

The research team is made up of eight advanced graduate students, academics and professors, who under Dr. Sylvia Rojas-Drummond's coordination began the design and implementation of the LeCSiCK program. This group is directly responsible for the running of the program and carrying out research, and some of us are co-authors of the present paper.

Our participation has involved carrying out multiple activities which include, besides conducting research, the design, planning, implementation and evaluation of the whole program. In our experience, this involvement has required deploying many social and intellectual resources and developing new ones to solve multiple problems as they arose.

After more than two years working with the LeCSiCK program, we have been able to create a proposal which establishes close links between theory and practice. Similarly, we have managed to generate educational innovations that maintain a balance between the prescribed educational school programs and the ludic and functional activities that characterize the Fifth Dimension program. About this, one member of our research team commented "(The project) has allowed me to discover and develop the abilities to translate theoretical contents into educational practices."

In addition, our participation in the present program has enabled us to integrate basic and applied research. According to another team member, "It is the project that has taught me how to carry out research in the field, from documentation to implementation, as well as administration of human and financial resources." Similarly, another researcher commented, "I can observe how the creativity of children is developed and how they learn to work in teams, how they discover abilities and capacities they were unaware of, and how cooperative learning allows them to benefit from others. These aspects made me think about my professional practice and consider the possibility of carrying out therapeutic work in groups."

The experience of participating in the project has also allowed us to witness many changes in the participants' processes, such as enculturation to our program, appropriation of the involved knowledge and development of abilities. Another researcher reflected, "Being a program of educational innovation, (The Fifth Dimension) has allowed me to come closer to the processes implied in educational change, mainly in public schools, where the practices tend to be antiquated, and participants present a natural resistance to innovation."

Another important gain from this project relates to the fact that our participation has enabled us to construct a very broad basis from which to understand and have an impact on social, psychological and educational phenomena. This achievement has been partly a result of the activities forcing us to create new partnerships and work directly and in an

integrated fashion with all the participants of our learning community, including children, teachers, administrators, parents, community members, university students and researchers. Similarly, our participation in The Fifth Dimension has enriched our perspectives on how to approach our field so we can take into account levels of analysis from the individual and small groups to the community, institutions and cultural groups. With this widening of perspective, we have also modified our way of perceiving the role of the researcher; instead of being someone who is separate from the community under study, the researcher may be someone who belongs to this learning community.

Finally, we consider that participating in the present project has provided many rich opportunities for significant personal and professional growth of all involved. A senior researcher commented, "The project has allowed me to see university students and academics grow and become more independent, acquiring the necessary knowledge and abilities to manage a project like this. They have also become increasingly responsible for more aspects of the project, creating or transforming the original ideas, and handling the sub-projects in a more competent and independent way. I have also witnessed radical changes in the 'ethos' of the different members of our learning community, in terms of their conceptualization of what it means to participate in the teaching-learning process, and of the role each participant has in this enterprise."

CONCLUSION

The implementation of the Fifth Dimension project has allowed us to make important advances in our understanding of the workings of learning communities when they participate in the social construction of knowledge. At the same time as we are understanding these processes, we are having a direct impact on the practices of our learning community. Our experiences in this area have revealed that interventions of this type, working alongside the school, can be very important tools for the improvement of the teaching-learning process. Such programs can serve not only as a remedial but also as a preventive measure to confront many educational and social problems. In this respect, the Fifth Dimension proposal can work as a powerful center to help generate changes in the

teaching and learning taking place inside and outside the classroom. These changes in turn can have a decisive impact for improving the social, cognitive and psycholinguistic development and learning of students. These gains require the creation of new, effective and sustained partnerships among all those responsible for the workings of learning communities: from children and parents to teachers and administrators, to university students and academics. In our experience, these partnerships can represent a powerful tool to help transform the educational process.

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Table 1. Relations between the magical world and academic areas

MAGICAL WORLD	ACADEMIC AREA	PRODUCTS
The <i>Ost-Belegroth</i> maze	Problem solving	Manuals of instructions (hints books)
The Communication City of <i>Gilangaril</i>	Communication	Bulletin, newspaper, letters, telegrams, Web pages
The Fantastic River of <i>Kuivie Fallas</i>	Literary Text	Story books, fables, poems, theatrical plays
The Towered Fortress of <i>Minas Turquentar</i>	Expository Text	Posters, conferences