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# Learning as a communal process and as a byproduct of social activism<sup>1</sup>

## Abstract

The purpose of this paper is to draw out the consequences of the *communal character of learning* approach promoted by a sociocultural framework. This approach has both descriptive-analytical and prescriptive-guiding power: it helps to analyze existing practices be they traditional, exclusive, or innovative but, what is, probably, even more important, it also helps to guide practitioners in the design of more inclusive educational practices. In the first part of the paper, we will provide a framework for analyzing the case of a shift from a traditional institutionalized perspective that understands learning as an individual process located in the head of the learner to the institutionalization of learning as a communal process – a regime which helps avoid constructing children in terms of a deficit model, disability, and academic failure. In the second part of the paper, we will discuss how treating learning as a communal process can guide an educational practitioner to develop a new pedagogical regime of a learning community of social activists that leads to inclusive pedagogy and eliminate “zones of teacher-student disability.”

## A Sociocultural Approach: the Pedagogical Regime

According to our socioculturally-based analysis of traditional education, the vitality and persistence of the deficit model (Rogoff, 2003) in formal education is rooted not so much in attitudes of individual teachers or their educational philosophies as in the “pedagogical regime” of traditional, institutionalized, formal education (Hargreaves, 1989). We define a “pedagogical regime” as a coherent set of emergent patterns of interaction that arise from the interplay of the participants’ concerns and purposes and the organizational structures, cultural expectations, and normative interactions of the classroom community which organize the participants’ social relations. The participants’ concerns can be seen as emergent properties of complex systems (Waldrop, 1992) and are shaped and constrained by institutions, practices, and cultural values. At the core of the traditional pedagogical regime is a split between and a discoordination of the relationship between the instructor’s and the students’ purposes and concerns – between their hopes and their fears. A central element of this traditional regime is that the instructor’s concerns are *individualistic* – they are aimed at effecting desired changes *within* individual

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students (Matusov, St. Julien, & Hayes, 2005). As a result, instructors are constantly sorting the students by their deficits and achievements based on the instructor's expectations (Jackson, 1968). Sorokin (1927) called traditional school "a sorting machine." The students are concerned about surviving the pedagogical regime imposed by the instructor (most commonly by pleasing the teacher) and how to achieve individualistically-defined outcomes desirable within this individualistic and deficit-oriented pedagogical regime (Matusov, DePalma, & Smith, 2006, submitted). Participation in this regime results in the development of students' identities as academic successes or academic failures along the success-failure continuum. As we argue elsewhere, traditional school is not a dysfunctional institution but serves important social, economic, and political goals that have very little to do with genuine education (and indeed may be opposed to it at times) (Labaree, 1997; Matusov, 2007, in press; Matusov & St. Julien, 2004; Matusov et al., 2005).

This traditional pedagogical regime creates "zones of learning-teaching disabilities" (i.e., teaching-learning failures) for some students on a systematic basis because it is not concerned about pragmatic outcomes of the taught school curricula for the students. If students happen to be able to see the purposes of the school curricula the teacher taught and find enough educational resources around them, they can learn it in an authentic way. However, if other students cannot do so on their own, they can easily either learn correct procedures without understanding them (pseudo-learning) or are denied to the value of the curricula entirely (they are often labeled as "learning disabled", see McDermott, 1993). In our view, the main problem with a traditional pedagogical regime is that it does not communicate the curriculum's potential social activism. The traditional regime obscures education's core value to students, it obscures the way in

which: *the academic curriculum can make an important difference in the students' lives and the lives of people they are concerned with* (Mukhopadhyay & Greer, 2001) (cf. Friere's famous statement defining the goal of authentic liberating education, "Reading and writing the word to read and write the world", Freire, 1986).

In this paper, we will analyze the traditional pedagogical regime based on covering curriculum and the transmission of knowledge and consider an alternative pedagogical regime based on a community of learners and social activism. We will show how a special education teacher, with the help of the researcher, began to transform the set of classroom activities, moving from a traditional pedagogical regime to a community of learners' pedagogical regime. The analysis will focus on this process, presenting three specific cases that occurred in the special education class involving a student, Maria, and her conversations with her special education teacher about the "money math curriculum". This experience has enabled us to look at how the transformation of the learning scenario enables changes in way learning appears, in the participation of the learner in her own learning process, and the relationship between teacher and student.

### A Case: Moving a child from the zone of teaching-learning disability in "money math curricula"

This case was a part of a three-year longitudinal ethnographic research effort in the mid 1990s. It was conducted at a large public elementary school serving a working class population in Cordoba, in southern Spain. The research took place in an eighth-grade math and arts classroom with 15 students and in a resource center where the special education teacher worked with the child in collaboration

with the regular teacher. We will present here a case study of a 13-year old girl, Maria, from a working-class family of a white mainstream national ethnicity, participating in a program of the Spanish Educational Reform aimed at integrating special education students in regular classrooms (see for detailed description of the study, Méndez, Lacasa, & Matusov, submitted).

When the research started, we noticed that the teachers and school administrators at Maria's school felt that one of the main goals of the teaching process was to convey knowledge to students as it appeared in the textbooks. However, according to our observations described below, at that time they did not seem to pay much attention to the meaning that information might have for the learners or to the fact that students sometimes need to apply things learned at school in different contexts, particularly those which are closely related to everyday life. Many Spanish teachers place increased emphasis on textbook knowledge in the higher levels of elementary school because they feel students must be prepared for the transition to junior high school. From our point of view, this was the root cause of the problems faced by Maria during the previous time she spent in school because most of the tasks in the regular classroom were too difficult for her to independently apply to situations occurring outside the school setting, the meaning of which was apparently unclear for her.

First, we will focus on Maria being in a zone of learning-teaching disability created by her sociocultural institutional and communal environment in regard to the math/money practice (December 1995). According to our observations, Maria was apparently very protected by her mother, and did not have many opportunities to use money to express her own choices. She could not go around to the neighborhood stores like other girls of her age, nor had she helped her mother by running shopping errands. Also, a team of school

psychologists had diagnosed Maria earlier as mildly mentally retarded. From a curriculum perspective, assessment of her abilities had shown that she successfully performed math tasks usually performed by first and second grade pupils at her school. In school, money and math curricula were available to the girl only in the form of traditional textbook math problems presented by the teacher who was primarily focused on covering academic curricula. The access to and learning of economic practices had been denied and, consequently, their mathematization blocked for the child.

In the second section, we will address the question of how the special education teacher began to transform her pedagogical regime. This process seemed to occur in May 1996 while discussing Maria's shopping experiences. By this time, the mother had decided, as a result of her discussions with the teacher and the researcher, to allow Maria to participate in shopping errands as a means of learning math. Although "money math" was better contextualized for Maria by using examples from her own shopping experiences, the teacher's focus was still on covering academic curriculum rather than on improving Maria's participation in shopping practices with the help of "money math". Realization of recurring failures prompted the teacher to shift her focus to helping Maria understand the social relations of fairness underlying the economic transactions.

The teacher tried to articulate the fairness principle in shopping practices using the "money math equations" underlying the principle of fairness. Through this process, the teacher initiated mathematization of the social practices of money use and created a zone of proximal development for the girl's school math. Her pedagogical regime changed to one which emphasized a learning community of social activists through shifting her attention from covering "money math" curricula to helping Maria in her shopping practices important

for her family and personal life. Maria left the zone of disability and became a “legitimate peripheral participant” (Lave & Wenger, 1991) in “money math”.

Finally, we will meet Maria as a very skillful mathematician as she was in April 1997. The special education teacher and Maria worked together on planning and buying supplies for the class storybook. During this project, the teacher was a collaborative partner to the girl supporting the activities and providing Maria with opportunities to assume more responsibility for the activity. The teacher was no longer focused on covering curriculum but on achieving the project goal and helping Maria. Learning money math and other academic skills were byproducts of dealing with emergent problems in the project. There was a new pedagogical regime of a community of learners.

This new pedagogical approach to teaching math focused the teacher on: 1) social aspects of the money use by the girl (e.g., communication with classmates, the mother, the teacher, and salespeople), 2) extracting math from the narrative of everyday activities rather than from the math textbook, 3) guiding the child in learning how math can help with everyday activities (e.g., the teacher taught the girl how to call stores and make necessary calculations to find better bargains), 4) guiding the girl to recognize math problems and to find help when faced with math problems beyond her own capacity at the moment (e.g., from the teacher, classmates, sale persons, the mother, other adults), and, finally, 5) interpreting textbook math problems in terms of the girl’s own everyday experience. This case demonstrates that sensitive guidance is based on providing access to a socially valuable practice for all children by redesigning classroom activities and by redefining the practice rather than insisting on learning a skill by all children by some predetermined time.

### Setting a problem

Maria in the zone of learning-teaching disability: Textbook-based “money math” (December 1995)

The teacher-student interaction below reflects a typical math lesson that Maria probably experienced for many years in the traditional pedagogical regime of covering an academic curriculum. During the math lesson, the teacher tried to make changes in Maria’s head (thinking) through leading questions. The teacher presented math questions about the connection between pesetas (the smallest money unit in Spain at the time, before shifting to Euros, an equivalent of American penny) and duros (equal to 5 pesetas, the equivalent of the American nickel) in a decontextualized way without presenting any context where this connection could be used.

**Teacher** *How many pesetas are there in five duros?*

**Maria** *Ten duros.*

**Teacher** *No, how many pesetas?*

**Maria** *Five.*

**Teacher** *How many?*

**Maria** *Five.*

**Teacher** *Five pesetas? No, this was the duro, but five duros?*

**Maria** *Ten, ten duros...*

It is apparent that the teacher’s questions did not have any sense for the child. Maria did not understand the relationships between “duros” and their equivalence with “pesetas.”

The presented task was similar to math textbook tasks (for second grade) that the teacher used with Maria.

Despite the apparent simplicity of the tasks for adults, these tasks are not easy for a child who did not have experience with participating in economic transactions. Not having access to the practice, children are often left to draw their conclusions about money from their observations. Money math is based on

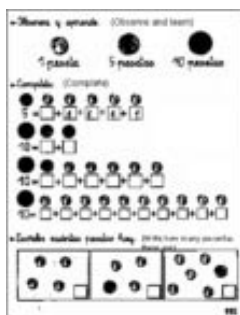


Figure 1. A page with typical money math problems from the 2nd grade Spanish math textbook used by the special ed teacher with Maria

many conventions and rooted within the social relations of economic transactions (Marx & Engels, 1990). Without a child's access to the practice via participation in it, teaching a child 'money math' can be in vain.

The traditional pedagogical model of covering curriculum focuses the teacher on topics and tasks to be covered while focusing the student on guessing what the teacher wants from him or her (i.e., the student's pattern recognition of the teacher's actions) and on how to please the teacher. In the example above, Maria focused on the immediately meaningful task of pleasing the teacher by reading her verbal and non-verbal clues in order to guess what the teacher wanted to hear. From time to time, Maria guessed correctly, only to be wrong next time when the teacher modified the question or the task. Meanwhile, the teacher was focused on teaching Maria "money math", which meant to make Maria able to solve correctly any novel money math problem at the teacher's demand. This type of discourse was very familiar to Maria since she had spent many years in school being taught "money math" (and other subjects). Maria's participation in and learning of "money math" was blocked by the traditional pedagogical regime of covering curriculum. The failure of this discourse (and

the activity behind it) was attributed by school to Maria's learning disability, although the disability could just as easily have been attributed to the teaching.

The described case and other similar cases highlighted Maria's difficulties with math for the special education teacher. The teacher was conscious that Maria lived in two very different worlds that did not intersect: 1) the world of school and 2) the world of Maria's everyday life. At that point, the teacher decided to provide Maria with opportunities to participate in shopping activities and then to use these experiences for contextualization of school "money math" problems. Here we focused only to the turning point teacher-student interaction (we skip many important but unsuccessful experimentations by the teacher that discussed in details elsewhere, Méndez et al., submitted).

### **Mathematization of everyday shopping: Birth of a learning community of social activists (May, 1996)**

Although we do not have a full account of the transformation that the teacher went through in her work with Maria and collaboration (and an intellectual co-evolution) with the researcher, Maria's mother, and other teachers, we fortunately observed and documented a moment when the teacher shifted to what we consider a pedagogical regime of "a learning community of social activists." By the spring of 1996, both the teacher and Maria's mother were focused on involving Maria in shopping. The rationale for this was clear: since "money math" was an abstraction of economic transaction, it was difficult for Maria to learn the abstraction without participating in the practice (i.e., shopping) that underlies this abstraction (i.e., "money math"). Instead of using textbook "money math" tasks, they decided to use Maria's shopping experiences as learning material for math tasks (the case of reviewing Maria's shopping below). The plan, influenced by the

research on situated cognition by Lave and her colleagues (Lave, 1988) introduced by the researcher, was simple. Maria's mother began to take Maria when she went to shopping errands and to carry a tape recorder with them to record any communication. Then, the teacher and Maria listened to the tape and tried to reconstruct the economic transactions involved that the teacher used for making a series of "money math" learning tasks.

This is a very common understanding of "situated pedagogy" based on the familiarization structural approach, but unfortunately it does not fit the spirit of the situated cognition approach (Lave, 1988, 1992). This common understanding of how to contextualize the academic curricula is erroneous because making math tasks out of a child's experience with shopping, by itself, does not put math yet in a position of making important differences for the child in her participation in shopping practice (as the situated cognition approach requires). Dressing math problems into "the clothing" of a student's everyday context does not make necessarily math more accessible for the student – actually it can even more distract the student from the math because the student may erroneously think that the task is really about problems of everyday life (rather than superficial shell for a schoolish math problem). Maria's everyday shopping experiences were used to teach school math rather than learning math being used to improve student's everyday shopping activities. This pedagogical approach of using Maria's shopping experience for teaching her money math failed (Méndez et al., submitted). Although the pedagogical regime was changed from covering the textbook curricula to covering the math curricula using everyday examples, it still focused the teacher on covering the curricula while the student remained focused on guessing and pleasing the teacher.

However, as we will see later, these efforts to contextualize school math were neverthe-

less important for further transformation of the teacher's guiding practice. The teaching practice changed to become more flexible, interactive, improvisational, and mutual. For example, in the pedagogical regime of using the school textbook for covering curriculum, the math tasks were well-defined and known by the teacher in advance. Neither the teacher nor Maria had ownership for the math tasks and their development. Meanwhile, in the new pedagogical regime of using everyday shopping practices for covering curriculum, the teacher did not know the math tasks in advance and had to construct them "on the fly" through her interaction with Maria. Also, using tasks related to shopping errands for teaching math was very useful for establishing a relationship between the home and school and especially for involving Maria's mother in school learning. In our point of view, the mother became a bridge between the two contexts.

Eventually the teacher felt that her contextualization of Maria's shopping for the purpose of teaching money math was a fake and non-authentic learning activity for the girl (see for detailed description of this development in Méndez et al., submitted). This realization led the teacher (and the researcher) to the search for authentic contextualization of "money math". Paradoxically, the solution was found in the teacher shifting her focus from teaching money math by covering the academic curriculum to helping Maria to understand and improve her participation in shopping practices – social activism (the case of Maria's reflection on fairness in money transactions, see below).

Below is a transcript (translated from Spanish) of a discussion between the teacher and Maria about Maria's trip to buy some milk. After listening to the tape – a record of the conversation between Maria and her mother when the child went back home after buying some milk – the teacher focused on making "money math" tasks out of the case:

- Teacher** *Let's see, what did you buy?*  
**Maria** *A box of milk.*  
**Teacher** *And how much was it?*  
**Maria** *92 pesetas.*  
**Teacher** *And then, how much did you have?*  
**Maria** *One hundred pesetas.*  
**Teacher** *And how much was left over?*  
**Maria** *Two "duros".*  
**Teacher** *Let's see... You have one hundred pesetas.*  
**Maria** *Yes.*  
**Teacher** *And how much was left over? Do you know how to do it in your head?*  
**Maria** *No (slow).*

This exchange resembles the initial conversation between the teacher and Maria about how many pesetas in 5 duros ("the case of the textbook-based math, see above). In both cases, Maria seemed to try to please the teacher while using the situational verbal and non-verbal clues that the teacher gave Maria as consequences of Maria's answers. We argue that "money math" here was incidental to Maria's learning about how to please the teacher. During the following 200, or so, dialogic turns between the teacher and Maria, the teacher tried to force Maria to say the correct answer, which was 8 pesetas (and not 2 duros). Although Maria did say 8 pesetas several times, the teacher felt quite correctly as further interaction with Maria showed to the teacher that it was pseudo-learning resulting from Maria guessing correctly at that given moment what the teacher wanted to hear from her. The pseudo-learning was probably evident to the teacher from Maria's failures to reply to the teacher's slightly modified tasks (e.g., what was the sum of the change Maria got from the vender and the price of the box of milk she bought). However, the teacher tried again and again the teaching strategy that apparently did not work.

As in December 1995, the teacher still continued using the pedagogical regime of covering curricula. However, now it was the teacher-

defined curriculum to be covered rather than school- and math textbook-defined curricula. Although, as we can see from the dialogue above, the change of whose curricula to cover in the traditional pedagogical regime made little difference for Maria's learning "money math" or for the nature of the traditional pedagogical regime, it had important consequences for the teacher's experimentation with pedagogical regimes by giving her greater ownership for the pedagogical regime. The teacher's next step in this development was sharing this ownership for the curricula with her student Maria – the step that radically transformed the pedagogical regime from traditional based on covering curricula to innovative based on a community of learners.

Suddenly, the teacher changed her strategy by focusing on the social meaning of money transaction. She put Maria in an imaginary situation of considering how fair the imaginary transaction would be for her and the vender.

- Teacher** *What you did with him was **exchange of things**.*  
**Maria** *Aha!*  
**Teacher** *You are giving him money and he is giving a box of milk to you. But, does the box of milk cost **the same** amount [of money] that you have?*  
**Maria** *No.*  
**Teacher** *Not the same?*  
**Maria** *No.*  
**Teacher** *How much money did you give to him?*  
**Maria** *92.*  
**Teacher** *And he, how much did he give you?..... One box of milk, which costs, how much?*  
**Maria** *[8 pesetas....mmm..... 92.*  
**Teacher** *92 pesetas. Thus, the exchange that you've done is the same, isn't it?*  
**Maria** *Aha! Yes, yes.*

**Teacher** *What you have done is an exchange of one box of milk that he gave to you for 92 pesetas that you gave to him. You need his box of milk and he needed your money. The money is **useful for exchanging things**.*

**Maria** *Oh, YES (with stress)!*

It seems to us that the teacher realized here that she had to focus on the social meaning of the situation of money transaction that relates to fairness of the exchange and began to emphasize that “money math”, with all its equations and calculations, is an expression of this fairness. The teacher tried to focus Maria on the issue of fairness of the money-goods transactions by introduction of imaginary situations and by asking Maria to consider how fair the imaginary transactions would be (American teacher Vivian Paley argues that fairness is one of three themes along with friendship and fantasy that most children are ontologically concerned with, Paley, 1986):

**Teacher** *You change; you give money and he gives you things that have the same value that the money you are giving to him. Let's see. Do you think you can leave the store... with one thing that costs... 25 pesetas... if you give to him 92? Do you think it would be **fair**?*

**Maria** *No.*

**Teacher** *Why?*

**Maria** *Because... because the value of 92 is more than 25.*

**Teacher** *Of course. If you leave the store, for example, with one pen that costs 25 pesetas, do you leave the store **winning** [money] or **losing** [money]?*

**Maria** *(with pause, quietly). Winning.*

**Teacher** *You leave the store with one pen that costs 25 pesetas and you give the man 92 pesetas.*

**Maria** *The man [the vender] would win.*

**Teacher** *Of course. Of course. He has to give a thing that has value of 92 pesetas. It could be a box of milk or could be, maybe, a notebook that costs 92 pesetas. It does not matter what it is but it has to have the value of 92 pesetas? **Do you agree?***

**Maria** *Yes.*

**Teacher** *Because you are exchanging things with him. It has to cost the same, one thing and the other. Do you agree with me?*

**Maria** *Yes.*

**Teacher** *So, what does it mean to buy?*

**Maria** *Exchange.*

**Teacher** *We exchange things that cost the same value that the money we give to the vender.*

After this discussion, Maria stopped making the ‘strange’ mathematical mistakes she made in past. The dialogic structure of the teacher-Maria discourse was almost the same as before: the teacher raised questions and produced explanations, Maria provided short, but now emotionally charged, replies. However, there was a seemingly ‘magic’ transformation of Maria’s participation in the discourse – unlike before, she started genuinely learning the “money math”. We find the following explanation of this phenomenon, rooted in the socio-cultural approach presented here, as the most powerful. The new discourse on fairness of money-goods transactions organized by the teacher brought new learning for Maria: authentic learning of “money math”.

The teacher shifted her pedagogical focus from teaching “money math” skills to improving the everyday activity of economic transactions involving other people (e.g., vendors, the mother, classmates, the teacher), transactions in which Maria was regularly involved in by then. The use of “money math” for improving Maria’s life was peripheral, reflective, and instrumental for expression and consideration of the fairness of the money-goods transactions. As we argue here, this *peripheral, facilitative*



*use of math is the essence of authentic learning* of mathematics, especially at the early stages when math activity itself does not become a focus for the child, when math can become the end in itself (like, for example, the long division procedure for math tasks requiring division).

Maria's participation in the new activity of considering the fairness of economic transactions and using math was peripheral because it was the teacher who had sole ownership of defining the issues and setting goals in the activity. This peripheral legitimate participation, using Lave and Wenger's term (Lave & Wenger, 1991), created a zone of proximal development (Engeström, 1987; Vygotsky, 1978), and cognitive apprenticeship (Rogoff, 1990) for Maria to learn "money math". Engeström redefined Vygotsky's classical notion of the zone of proximal development as "the distance between the everyday actions of individuals and the historically new [for these individuals – the authors] form of the societal activity that can be collectively generated" (Engeström, 1987, p. 174). Both conceptual notions describe the process of alignment of the novice with a new practice and with other more experienced and knowledgeable people who are responsible for providing the necessary support for the novice's participation. In the given case, the issues of social fairness of an economic transaction and the ability of "money math" to express fairness were new but important concepts for Maria. Of course, this novelty was relative – by that time Maria was rather an experienced participant in money-goods transactions but the underlying economic principle of the transactions was apparently new for her, which was evident in her excitement and "aha-moments." Using Zinchenko's terminology, Maria was reflectively learning with the teacher "consciousness of consciousness" (Zinchenko, 1985, p. 114). Through a dialogic exchange with teacher involving the explanations, questions, and feedback, the teacher provided the necessary op-

portunities and support for Maria's peripheral participation that went far beyond her individual knowledge and abilities at that moment.

It appeared that the "aha-moment" was mutual—it not only marked a critical moment in Maria's learning about the essence of money transactions but also held a similar value for the teacher learning to shift her pedagogical regime from teaching math calculations involving buying goods to helping the child to understand the essential social relations of money transaction (i.e., fairness, exchange of values) that "money math" models. The evidence for a shift in the teacher's pedagogical focus lies in the fact that in following discussions, when the teacher tried to "mathematize" (Lave, 1992) Maria's experiences with money (like buying candies), the teacher kept using references to fairness in the exchange of money for goods. Initially, although the teacher focused Maria on sharing her past everyday experiences and reflecting on everyday activities, the focus of her own pedagogical regime was on teaching Maria to solve "money math" novel problems on the teacher's demand. To achieve this goal the teacher tried to modify her guiding questions and explanations to make the desired change in Maria. Later, the focus of the teacher's new pedagogical regime shifted to helping Maria to understand meaning and social relations of money-goods economic transactions. Maria's understanding of these matters was evident in how she aligned her contributions in the discussion and how excited and surprised she was.

The positive pattern of Maria's engagement into the discussion about social fairness of money-goods exchange guided the teacher's participation. Through this dynamic process, the teacher helped the child to change her relations with her communities: salespersons, her mother, her classmates, and the teacher. It changed Maria's relations with salespersons because after these "money math" lessons Maria checked the change in the transactions

	Traditional model	Learning community of social activists model
Teacher's purpose	To cover a fragmented set of the academic curricula	To empower the learners' – both students' and the teacher's – participation in the communities by changing their social relations, providing their access to socially valuable communal practices, and promoting social justice
Student's purpose	To please the teacher <sup>2</sup>	

rather than simply relying on the salespersons to calculate the right change. It changed her relations with her mother because her mother could trust her with errands without being afraid that Maria might lose money so crucial for the family budget. As we will see below, it changed her relations with Maria's classmates because Maria could participate in classroom projects involving other children in which she could not participate before. It changed her relations with the teacher because instead of pleasing the teacher by giving an answer that the teacher wants, she started relying on the teacher for help in her life through "internally persuasive discourse" (Bakhtin, 1991). Finally, as we see below, using math as a tool for establishing social fairness in economic transactions has opened an avenue for Maria to participate in new communal practices (like negotiating the prices of goods or using a phone book for finding businesses) and build new relations with people with whom she could not have met otherwise (see her interaction with Alpi and Tapez supply stores). The change in social relations empowered Maria and transformed her identity, seeing herself and being seen as a more capable, and mature – a full member of the society. Through empowering Maria, the communities in which she had participated or began participating also became empowered because the people with whom Maria communicated in the past or began communicating with had been also transformed by the new relations with Maria. *We define "a learning community of social activists" model as aiming at an empowering transformation of a*

*learner's social relations in communities she or he participates and accessing new practices and communities leading to higher affinity among the participants and, thus, social justice.* "Higher affinity" refers to social relations of mutual benefits of each other that might even realized by other side (Nicolopoulou & Cole, 1993). For example, Maria's involvement in the book project promoted her higher social status in her classroom and the teacher's status with the researcher (Pilar, the second author).

### **Math activism: Working on the storybook project (April 1997)**

The mathematical problems that Maria worked on throughout the school year became much more complex. During the 1996-1997 academic year, mathematical activities, where many traditional curricular elements were present, were incorporated into the teacher's global plan of empowering Maria in the society she lived and was going to live. In this global plan, the teacher worked not only on helping Maria take control of her existing

<sup>2</sup> Of course, the student may have many different goals from one that is listed here. However, the student's other goals arguably violate the institutional script of traditional school practice. For example, if a student is genuinely interested in the academic material and tries to pursue this interest in the classroom, traditional teacher often suppresses these off-script pursuits. Research shows that traditional teachers often see these off-script contributions by the students as an even bigger problem for them than students' off-task behavior (Kennedy, 2005). It is possible to make a similar comment about teachers' goals in a traditional classroom.

everyday activities to be a more responsible member of a community by examining conditions of her own life and practices (like in the previous case of using “money math” for ensuring the social fairness of Maria’s economic transactions) but also on involving her in new kinds of practices (such as budgeting for buying supplies of the classroom book project, see below). The teacher tried to find new ways in which Maria could be helpful for people she valued. For example, the teacher introduced the classroom storybook project by saying to Maria, “Let’s do this book in order that all kids – your classmates and the other kids of the school – can read it and enjoy it so much!” This goal of making the child more helpful for significant others generated an unfolding network of new nesting practices, communities, social relations, and problems for Maria.

One of the learning activities in Maria’s classroom introduced by the teacher was preparing a storybook that later was shared with children from other classrooms and parents. Each child was expected to write a story accompanied by a song. When the children finished writing the stories and songs, they were faced with the problem of buying supplies for making the book using class money. The teacher delegated this responsibility to Maria.

The teacher helped Maria in all stages of planning and buying the book with Maria taking more and more responsibility for the activity. The teacher and Maria had to plan a budget for the book, find a cheaper store from which she could buy the necessary supplies, make a transaction, and develop a report for the class on how the class money was spent. The tasks were not only full of “money math” but also the “money math” could make a difference for the communal success of solving the practical tasks. Maria’s use of math in the activity showed her as a very competent mathematician and a very helpful member of the classroom community within the demands of the project. Below are some of Maria’s notebook entries that documented their joint activity as she planned the purchases together with the teacher and Maria implemented and changed the plans.

Maria called several stores to see where she could find a better deal. When Maria was on the phone, the salespersons and the teacher also guided the process (e.g., by questions asked -- metacognition, by guiding her to be polite -- metacommunication, by informing Maria about two different types of posters being available in the store: white and color – content). Maria’s communication with

<p><i>Martes 22 de Abril</i></p> <p><i>Empezar una agenda.</i>  <i>Buscar las librerías en</i>  <i>las paginas amarillas.</i>  <i>llamar a las librerías</i>  <i>para pedir presupuesto.</i>  <i>Calcular lo que costaría</i>  <i>hacer un libro de</i>  <i>cuentos.</i>  <i>Me ha parecido un poco</i>  <i>difícil llamar por tele-</i>  <i>fono por que no lo he</i>  <i>he nunca.</i></p>	<p>Tuesday April 22</p> <p>Start an agenda notebook. Look for bookshops in the Yellow Pages. Call the bookshops to ask for a budget (proposal?).</p> <p>Calculate what it would cost to make a storybook.</p> <p>I found it a bit difficult to make a telephone call [to a supply store] because I have never done it before.</p>
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the teacher and venders and her entries in the notebook mediated her learning.

Based on the teacher's suggestions and directions, Maria developed the following notes in the notebook:

From the beginning of the project, mathematical problems of managing symbols representing objects like pages, prices, lists, people; social necessity to assume socially defined roles such as a customer calling to supply stores; engagement in new social practices like using a phone book to find businesses were intertwined together. Because of the complex multifaceted tasks Maria faced, she transformed the genre of the notebook from being a pure planner to also a diary for the project where she was writing "things that happen to me" (*"Cosas que pasan y eso"*). In the notebook, Maria not only developed the plan for the future actions (e.g., "Look for bookshops in the Yellow Pages") but also reported her own reflections on the process of accomplishing the plan (e.g., "I found it a bit difficult to make a telephone call [to a supply store] because I have never done it before").

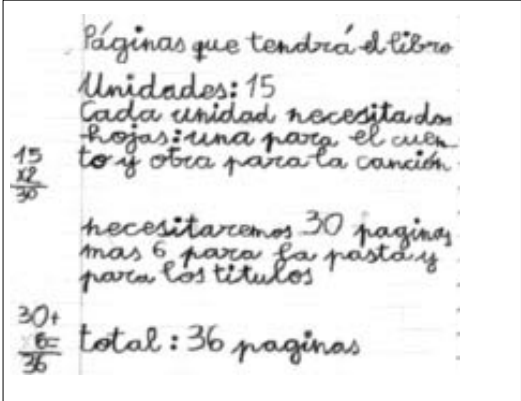
Her participation in the project became more and more *central* since Maria started assuming ownership for articulating emerging problems and issues. The ownership for writing in the notebook became more shared and collaborative as the next entry shows,

reflecting the increasingly collaborative nature of the activity between the teacher and Maria. The teacher wrote down the prices of the required supplies in the notebook as Maria talked with a salesperson on the phone. The teacher prepared Maria for calling office supplies stores by providing an instruction about how the phone book is organized (e.g., the difference between Yellow and White Pages) and how to use it.

The below entry in the notebook was planning the budget for the storybook project that required some mathematical calculations. The task was to find the cost of making a storybook for 15 stories (equals number of children in the class) and the supplies necessary for the storybook.

In the first part of the entry, Maria seemed to try to solve the problem of how many pages the book had to have while in the second part of the entry (starting with the pronoun "we"), Maria seemed to start planning the collective action of getting the pages. It was apparent from the notebook that first Maria found the number of pages in the storybook -- 36: the total of 15 students in the class, each using two pages: one for a story and one for a song plus 6 extra pages for the cover page and titles. Then she focused on finding what and how many supplies she needed and calculating its cost.

The alternation between planning collective

 <p>Páginas que tendrá el libro</p> <p>Unidades: 15</p> <p>Cada unidad necesitamos hojas: una para el cuento y otra para la canción</p> <p>necesitaremos 30 páginas mas 6 para la portada y para los títulos</p> <p>total: 36 páginas</p>	<p>Number of pages that the book will have</p> <p>Number of book sections: 15</p> <p>Every section has to have 2 pages: one for the story and the other one for the song.</p> <p>we will need 30 pages plus extra 6 [pages] for the cover and titles.</p> <p>total: 36 pages</p>
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<p><i>Cartulina que necesitamos de una cartulina salen cuatro folios</i></p> <p>1c → 4p          1c → 4p          1c → 4p          1c → 4p          1c → 4p          1c → 4p          1c → 4p          1c → 4p          1c → 4p          1c → 4p</p> <p>9 cartulinas</p> <table style="margin-left: 20px;"> <tr><td>50</td><td>450 +</td></tr> <tr><td>x 9</td><td>65 =</td></tr> <tr><td>450</td><td>515 =</td></tr> </table> <p><u>Material para el libro.</u>          9 cartulinas          1 encuadernador</p>	50	450 +	x 9	65 =	450	515 =	<p>Poster sheet we need          from one poster sheet comes 4 pages          1 poster sheet → 4 pages          ....</p> <p>1 poster sheet → 4 pages          9 poster sheets          50      450+          x9      65= [bookbinder]          450     515 [the total cost]</p> <p><b>Materials for the book</b>          9 poster sheets          1 bookbinder</p>
50	450 +						
x 9	65 =						
450	515 =						

actions like “poster sheets we need...” and solving structural problems with objects like “from one poster sheet comes 4 pages” was common throughout the entire project. Maria found the minimum number of poster sheets that had to include 36 pages by using a structural correspondence between a poster sheet and four pages it could produce and, probably, keeping in mind the total number of pages. She stopped at the minimum number of poster sheets of 9 guaranteeing 36 pages (9x4=36). Based on the prices she got from her phone call to Alpi supply store, she developed the budget. Finally, she summed the list of the supplies necessary for the storybook.

Here math had three functions: 1) math was embedded in the activity of budget making in which the child was involved (e.g., the budget for the storybook project could not be done without using math); 2) the math made a difference in an activity important to Maria (e.g., overspending money might lead to the failure

of the storybook project); and 3) math could make a difference with her relations with her classmates (e.g., Maria’s incompetence in case of the project failure could upset her many classmates and, thus, disturb her relations with them). Spending *too much* money would have *wasted* the class money which would probably bring *negative* results to the class and its relations with Maria who was responsible for the budget and, thus, saving the class money. Using *too little* money would have resulted in a *failure* of the storybook project because, for instance, it might *not have enough pages* to place all the stories of the children in the class.

It is important to notice that the academic curriculum of “money math” – setting, calculating, and comparing budgets to find the best deal – was embedded in the activity of getting the supplies for the class storybook and was a byproduct of the project along with many other aspects of Maria’s learning like using the Yel-

low Pages phonebook, social skills of making phone calls to store vendors, using planners, and so on. This learning was a springboard for involving Maria in more complex and sophisticated future projects requiring more advanced math such as algebra and functional analysis as well as non-math academic skills. Both Maria and the teacher were involved in the same activity and were partners in it with the teacher having a special role of guiding the process. Thus, they established a community of learners. Maria's participation in the activity and "money math" was central since she took responsibility for defining and solving emerging problems.

The teacher's and Maria's aha-moments characterizing their learning became coordinated in this case. As soon as the teacher shifted her attention from teaching Maria "money math" according to her academic curricula imposed by the system of traditional formal education and stopped treating Maria as an object of her pedagogical actions to *helping Maria to help other people* whom Maria cares about, the pedagogical regime changed. Later the teacher and the researcher characterized the new approach to teaching as "carrete de hilo" ("spooling without stopping"), this is for the teacher to focus "on what a student knows, on what she likes, on what she is engaged in, on what she is successful at, on what she needs help with -- you throw out that thread and it will lead your guidance, and everything will become easy." As soon as the teacher shifted her attention from covering the academic curricula to Maria's positive engagement in reflecting on the social relations in economic transactions, they became partners in the activity. As soon as the teacher stopped having the school curricula as her partner and invited Maria to be her partner in the activity, the teacher and Maria became *a learning community of social activists*. The new pedagogy penetrated into Maria's regular class through workshops and projects organized by the special educa-

tion and regular teacher and the researcher, although a traditional pedagogical regime of covering curriculum was never abandoned completely due to institutional pressure.

We do not argue here that Maria was misdiagnosed by the school psychologists. Maria was different from other children in her classroom, and we do not know in what this difference was rooted in (e.g., biology, history, culture, family, schooling). However, in the traditional pedagogical regime of covering curriculum this difference led to learning-teaching disability for Maria (and her teachers) while in the new pedagogical regime of a learning community of social activists many of the differences between Maria and other children became irrelevant.

## Conclusion

Lave and Wenger (Lave & Wenger, 1991) argue that learning is a communal process, situated in a community of practice. Any learning is shaped by the communities and institutions in which it occurs. Thus, the main question of education is not whether learning is communal or not – it is always communal -- the question is what this communal process is about. We argue that every classroom is a community; the question is how strong this sense of community is and what this community is about. Learning, as a process of negotiation and renegotiation of participation in the community of practice, is often not the prime-time community business but a by-product of participation in a communal practice; it is going on at the periphery of community activity (Lave & Wenger, 1991). The central process of the community is its ongoing practice – the recursive activity that shapes the community.

In a traditional school with traditional pedagogical regime, communal learning is about covering the state-defined academic curricula and guessing and pleasing the teacher. It focuses on making changes in individual minds

of the students according to the preset criteria of “learned knowledge.” This pedagogical regime leads to a deficit model for some students (“learning disability”, “school failure”) and the teacher (“teaching disability”, “insensitive teaching”) as we showed in the above case of special education. In this school regime, some participants become known to others and themselves as “deficient.” This model, with deep institutional roots, capitalizes on differences among participants to promote sorting and hierarchies (Labaree, 1997). For this reason, children like Maria are considered by the teachers, the school administrators, classmates, and many other people, to be problematic students whose minds should be changed according to the particular institutional goals. The deficit model is an outgrowth of the institutional constraints of traditional schooling – the traditional regime. That regime’s ultimate allegiance to installing the same preset store of abstract knowledge in the heads of individuals makes any pedagogy that does not finally conform to a deficit model very difficult if not impossible for the participants to enact. The traditional institutional constraints promote a pedagogical regime based on covering curriculum that can easily “acquire” and “colonize” an individual teacher (and other participants).

Based on innovative educational practices, we propose an alternative pedagogical regime based on a learning community of social activists. The learning community of social activists is about transcending the circumstances of the participants’ lives (i.e., radically transforming them), lives of other people, and their own communities. It is aimed at enabling its participants to enact more just social relations in and to be productive members of their communities and practices. This process of empowerment transforms communal relations, practices, and participants’ identities. Specific examples of learning communities of social activists are discussed in the literature (Fiore

& Elsasser, 1982; Freedom Writers & Gruwell, 1999; Freire, 1986; Gates, 1985, 1987; Rueda & Dembo, 1995; Rueda & Moll, 1994).

Especially interesting for us in this regard is Holzman’s approach to reforming schools, which helps to deepen the concept of the social activism. Holzman (1997) criticizes the neo-Vygotskian notion of “community of learners.” Holzman charges the neo-Vygotskians with too much focus on learning and knowledge building rather than on helping

children develop, that is, *to create new ways of being*. We [the author and her colleagues] have constructed an approach that is postepistemological, by which I mean a practice that rejects the modernist belief that knowing (of any sort) is the path to better life and/or a better world (or progress or growth)” (p. 126, emphasis in original).

Holzman conveys the essence of what this means to her in her dedication “to the young people of the All Stars Talent Show Network—who create hope and possibility each day as they build environments in which they can grow in a deadly and violent world.” Based on Marxist and Vygotskian approaches, Holzman tries to redefine what it means “to know.” According to the Marxist tradition introduced into psychology by Vygotsky, education and development involve transformation of people and the world through people’s productive activity. “To know” means to purposefully change the world and oneself. Knowledge, in this tradition, is the practice of change rather than a body of facts, concepts, or rules that can be transferred from one situation to another.

There is a long Russian pedagogical and theoretical tradition to aim education to the development of *lichnost*’ rather than the traditional concept of “knowledge acquisition,” preparation for future jobs or adulthood, or even development of the “whole child.” In brief, while the Western notion of identity entails choosing existing identity categories with which a person feels comfortable, the notion

of lichnost' involves transcending all culturally available choices by creating new ways of being out of available cultural resources and circumstances (Matusov et al., 1999).

However, the notion of transcending life circumstances seems to require directionality (Matusov, DePalma, & Drye, in press). Who defines that directionality? How is it defined? Who talks on behalf of the "transcending"? Can one educational model possibly benefit all students with diverse cultural, economic, and biographical backgrounds? What is educational "success"? How can it be defined and measured? On what grounds should one definition of success be privileged over another? We argue that the process of defining directionality involves a political process of negotiation and dialogue among participants and communities where the issue of social justice is at stake. Another question is how to institutionalize this political process of negotiation and dialogue among participants and communities where the issue of social justice is at stake to make the pedagogical regime of a learning community of social activists as an attractor in the school system: Is it possible?

We argue that focusing on building learning communities of social activists as a way of schooling is morally and intellectually justified. It is justified *morally* because such learning communities promote *weakening and elimination of oppression* in the society by empowering students to make the world more just. It is justified *intellectually* because social activism promotes students' focus on successfully *changing the essential relationships of the world* they live in.

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