

Transcending the zone of learning disability: learning in contexts for everyday life

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The purpose of this paper is to illustrate a sociocultural approach to studying disability in educational contexts grounded in the cultural-historical and activity theory approaches. From the sociocultural viewpoint, disability is regarded as being located in particular types of activity systems and learning cultures rather than within an individual. This helps to explain why children who demonstrate disability in one situation may be competent in other contexts. The paper offers a sociocultural analysis based on a case study of a transition made by a teacher and a student from a traditional pedagogical approach of covering a curriculum aimed at teaching money maths to a new system based on the concept of a community of learners. We combined a qualitative field study approach supported by ecological and ethnographic perspectives with micro-ethnographic discourse analysis and an action research perspective. We show how the special education teacher, with the help of the researcher, began to transform the set of classroom activities, moving from a traditional pedagogical context to that of a community of learners. The analysis focuses on this process, presenting the specific cases that occurred in the special class and involving Maria's conversations with her special education teacher about useful tasks for her everyday life. This experience permitted us to examine how the transformation of the learning scenario enables changes in ways of learning to appear, in the participation of the learner in her own learning process and the relationship between teacher and student.

Keywords: sociocultural analysis; learning disabilities; everyday cognition; researcher/teacher collaboration; action research; case study

Looking for new approaches to special education needs

The purpose of this paper is to illustrate a sociocultural approach to disability in educational contexts grounded in the cultural-historical and activity theory approaches of Lev S. Vygotsky and Alexey N. Leontiev and developed further by other researchers (Sawchuk, Duarte, and Elhammoumi 2006; Varenne and McDermott 1998). From a sociocultural approach disability is considered to be located in particular types of activity systems and learning cultures rather than within an individual. Consistent with the philosophy and practice of inclusive education, a community of practice approach (Lave and Wenger 1991) involves creating environments and opportunities for all children to participate fully in learning activities (Sawchuk et al. 2006). Moreover, such participation needs to be supported by other members of their community, and in that sense we need to focus on the concept of the zone of proximal development as proposed by Vygotsky and others (Vygotsky [1978]1986; Rogoff 1998).

A sociocultural approach interprets disability as including not just individuals, but also the contextual and cultural contexts that they inhabit, and helps to explain why children who

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demonstrate disability in one situation often display competence in other settings. This approach can also be applied to an analysis of school failure, in a very broad sense, that includes failure of all children who have traditionally been considered "at risk". Our aim in this paper is to initiate a dialogue that goes beyond a traditional comparison of the virtues of teaching functional versus academic skills, but rather considers the design of learning environments that avoid exacerbating or creating conditions for disability (McDermott 1996). We begin by defining our understanding of the concept of community of practice, which can be considered as one of our main conceptual starting points, noticing how in this definition Wenger focuses on collective rather than individual learning:

Over time, this collective learning results in practices that reflect both the pursuit of our enterprises and the attendant social relations. These practices are thus the property of a kind of community created over time by the sustained pursuit of a shared enterprise. It makes sense, therefore, to call these kinds of communities of practice. (Wenger 1998, 45)

Traditionally, learning disabilities and special education have long been related to individual deficiencies that interfere with student progress at school. In contrast, researchers who adopt a Vygotskian perspective, or more recently the Lave and Wenger (1991) approach, feel that difficulties experienced by children at school are best understood when the contexts in which children learn are examined along with learners' interactions within them. According to this point of view, disabilities are not "in the head" of a learner, but are rather defined by social norms and interactions (Swanson, Harris, and Graham 2003). In this study we assume that the concept of special educational needs is related to learners' social contexts. At the same time, we believe that children labelled as "learning disabled" participate in a number of contexts that involve different demands and that these demands often stem from the variety of expectations held by the individuals with whom they interact (McDermott and Varenne 1995).

From this perspective, the teacher's goal in guidance has become "acting on the person-to-be-changed" instead of "increasing participation" (Vaidhyanathan 2004). Such pedagogical approaches create zones of learning—teaching disabilities for some students on a systematic basis because they are not concerned about the usefulness of the taught curriculum for the students. If students had been able to see for themselves the functional and pragmatic purposes of the taught curricula, they would be able to learn it in an authentic way. However, if other students cannot do it (on their own), they either learn correct procedures without understanding them (pseudo-learning) or are removed from the curricula entirely (and often labelled as "learning disabled"). In our view, the main problem with a context of learning is that it neglects everyday life: how the curriculum is designed can make an important difference to the lives of students and of people with whom they are involved (Vella 2004).

From a methodological perspective this study adopts a participatory action research approach, and employing the terminology of Kemmis and McTaggart (2005) it can be regarded as assuming a reflexive-dialectical view of subjective-objective relations and connections. It is in this context that we combine analytical and narrative ways of thinking to approach human practice (Bruner 2002; Lacasa, Reina, and Alburquerque 2002). Moreover, we understand our participatory action research as a process of mutual inquiry wherein researchers and teachers collaborate to "create circumstances in which people can search together collaboratively for more comprehensible, true, authentic and morally right and appropriate ways of understanding and acting in the world" (Kemmis and McTaggart 2005, 601). At the moment we are focusing on a case study (Yin 2003) of a transition made by a teacher and a student from a traditional context of teaching to a new pedagogical approach based on the concept of a community of learners. We will see how the traditional educational approach arrested the child's learning and the teacher's guidance in a zone of learning-teaching disability and how the community of practice learning approach promoted

the child's participation in the socially valuable practice. After presenting the main characteristics of the study, we offer first a detailed description of these traditional education settings; in a second part of the paper we introduce some examples that enable us to understand how Maria was able move from the zone of learning disability to a new zone of proximal development when she worked with her teacher in the specific context of learning designed to approach her to everyday life. Finally, a general discussion of the results is presented, together with some main conclusions.

Maria and her special education teacher: a case study

This study was a part of a three-year longitudinal ethnographic research programme that aimed to examine various educational settings in which elementary school children with special needs, their families and their teachers participate (Sánchez and Méndez 2006). We combined a qualitative field study approach supported by ecological and ethnographic perspectives (Green, Camilli, and Elmore 2006; Rogoff et al. 2002) with micro-ethnographic discourse analysis, and an action-study approach (Reason and Bradbury 2001). One aspect of this that should be borne in mind is that the validity of these studies is not based on the frequency of appearance of a given phenomenon but rather on its detailed description – of cases that are capable of explaining how people attribute sense to their activities within defined sociocultural contexts (Spindler and Hammond 2006).

Participants

We focused on Maria, a 13-year-old girl with special needs and diagnosed by the team of psychologists as mentally retarded. She is from a working-class family of a white mainstream national ethnicity. Maria had already attended this school for eight years at the time of the research and had the same classmates for almost the entire period. When we began this study, she was insecure about establishing social relationships with her peers and for most of the time she kept herself isolated. During the school recess, she was in contact with students younger than she was. Maria has worked with her special education teacher for five years and currently spends about one hour per day in a special classroom, interacting with the teacher by herself or with one or two other students. She displays a need for specific attention in all parts of the curriculum, particularly in mathematics and language. From the perspective of the curriculum, assessment of her abilities had shown that she successfully performed maths and language tasks usually performed by 1st-and 2nd-grade pupils at her school.

The other participants in this experience were the special education teacher and the researcher. Both of them have middle-class mainstream backgrounds. The data were collected by the second author, who was a participant observer and worked closely with the teacher. In the course of the school year the teacher, a student at the university, and the researcher collaborated as a team to encourage Maria's participation in the school community and to provide her with specific tools to facilitate her everyday activities at present and in the future. Looking for an in-depth understanding of this collaboration we focus on the concept of the zone of proximal development as introduced by Vygotsky and others (Vygotsky [1978]1986; Rogoff 1998), that is we need to consider not just the girl as being supported by her teacher but also the two adults (researcher and teacher) as supporting each other.

Settings and data collection

This study was carried out in a public school in Cordoba in the south of Spain, where we were exploring innovative educational practices. About 700 children from 3 to 16 years of age attend this school, which is situated in a lower- to middle-class neighbourhood. The members of the

research team frequently visit this school, and at the time of this study they acted as participant observers; one of them was teaching educational psychology at the University of Cordoba, while the others were students in her courses in which some of the ideas in this paper were generated. This study lasted for three years, and during that time the main researcher visited the school twice a week for 1–3 hours at a time. After 3–4 months, we raised the level of participation, working at the school and collaborating with teachers; our own role as researchers changed from that of being an outsider to becoming an insider. All the visits were audio-recorded and specific classes video recorded. The research took place in an 8th-grade maths and arts classroom, with some 25–30 pupils, and a resource room where the special education teacher worked with the child.

To understand in depth the data that we are analysing in this paper it is important to bear in mind that we were following Maria, the girl who is the main focus of our study, when she was attending not only a special education class, but also when she was a member of "her habitual class group". In this context, multiple situations from which it would be possible to show the changes that happened in the educational processes were created. It is necessary to say that each of these situations has its own and global meaning. The work that we are presenting in this paper can be regarded as a concrete example of one of the main changes that took place as teacher and child moved from a traditional context of learning, relying on the textbook, to another much more innovative context orientated to introducing everyday life situations in the school. To analyse this process we examined 15 audio tapes, the summaries produced by the investigator and the work done in the classroom.

A first approach to data analysis

As well as video recording the sessions, we also collected all the children's productions. Finally, the researcher produced daily summaries of the sessions, thus enabling a close interpretation of the activity to be made. Once the audio recordings had been transcribed, they were examined using NVivo. There are two principal levels of interaction with NVivo: the textual and the conceptual. The textual level includes activities such as segmenting and organising data files, coding data segments and writing memos, while the conceptual level focuses on model-building activities, such as linking codes to form semantic networks. In that context, two levels of analysis were carried out in succession before they were combined by adopting a macro- and micro-analytical approach to the phenomena. We have tried to combine narrative and analytical techniques:

- Narrative is a way of understanding one's own and others' processes of organising events and objects into a meaningful whole, and of connecting and perceiving the consequences of actions and events through time.
- A conversational analysis was carried out using a micro-linguistic perspective, by focusing specially on the content of the conversations. We regard this level of analysis as an interesting tool that enables us to consider how participants construct meaning in terms of their social role in and out the classroom.

A traditional Spanish context for special education needs

The support classes, the scene of the activities analysed in this study, are regarded by Spanish educational policy as an instrument of reinforcement for children who are not capable of following the normal rhythm of the class. All members of the educational community, including the teacher and the special needs teacher, the girl herself and her classmates are thus aware of the functions of these classes. They realise that the children who attend such classes have some sort of learning difficulty, and that they are "labelled" as having special educational needs. In the words of Varenne and McDermott (1998), the ceremony of degradation starts with the mere fact

of attending such classes. Everyone thought that the children who attended special support classes had poorer capabilities and in accordance with this way of thinking they were given tasks and used lower-level textbooks. The methods used in these classes utilised an asymmetric learning environment and reflected typical patterns of support environment, with the peculiarity that the zone of learning disability was perceived and regarded by its participants as a zone of incapacity. There is no doubt that the nature of the tasks employed contributed to this, in that they were often very remote from the capacities of the children concerned.

In these scenarios, traditional tasks based on textbook examples are carried out. Such tasks do not make any sense for Maria since they are very remote from her own experience of life and do not permit her to employ the strategies which she utilises in her daily life when she is not at school. The teachers and administrators at Maria's school feel that one of the main goals of the teaching process is to convey knowledge to students as it appears in the textbook or in other printed material. However, they do not pay much attention to the meaning that information could have for learners, nor to the fact that students sometimes need to apply things learned at school in different contexts, many of which are closely related to everyday life. This is a matter of a "mechanical approximation" that associates school work with a learning process in which the significance of the knowledge acquired within and outside the school is given very little weight: learning is thus associated with getting good grades or by successfully completing the exercises in the text-book. Figure 1 shows a traditional Spanish textbook supporting this pedagogical approach.

In this context, at the beginning of the school year, the researcher accidentally discovered that Maria showed different types of behaviour when she was faced with arithmetical operations or language tasks, depending on the context and on the significance that she and the people participating with her – adults and classmates – assigned important the activities and tasks and the ability to deal with them that Maria displayed. We show here how, after that time, the special education teacher, with the help of the researcher, began to transform the set of activities, moving from a traditional pedagogical approach to a community of learners' perspective (Table 1).

As the semester advanced, the special education teacher and the investigator were reflecting on the various learning scenarios in the special needs class. As a result of these analyses the scenarios were transforming from a zone of learning-teaching disability, as limited many times

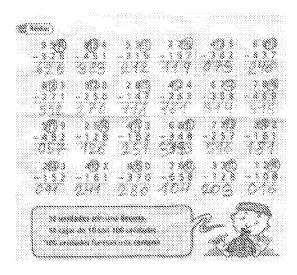


Figure 1. A traditional Spanish textbook.

Table 1. Transformation of the learning scenarios.

Activity system	Sense of knowledge	Tools	Participants relationships
Traditional pedagogical approach	Curricular contents of learning far from everyday life, high level of abstraction. The process of learning is orientated to solve "textbook problems"	Textbooks	Always asymmetrical relationships between teacher and learner
Community of learners	Activity important for the student (Maria) and required improvement	Activities are carried out in real life supported by everyday tools (planner, telephone book, etc.)	Learning community of practice
			People outside the school participate (for example, sellers or other customers)

to a meaningless acquisition of information or procedures, more to a zone of collaborative learning that enabled the child to understand meaningful knowledge for everyday life. In this way, the teacher began to introduce new kind of tasks, they were much better contextualised for Maria by using examples from her own everyday experiences (for example, going shopping with her mother, reading a newspaper or watching TV in family situations). Her realisation of repeated failures promoted the teacher to shift her focus to helping Maria understand a meaningful sense of her learning (for example, writing a shopping-list or planning what kind of TV programmes they could watch by comparing the timetables of different channels). Through this process, the teacher created a zone of proximal development for the girl's school tasks.

Our analysis focuses on the end of this process, presenting cases that occurred in the special class and involving the teacher and Maria working together on planning and buying supplies for the class storybook. During this project, the teacher was a collaborative partner to the girl, supporting her activities and providing her with opportunities to assume more responsibility for the activity. This experience is an example of how teachers and students constitute a community of learning based on a project.

Looking for a new context of learning: working on the storybook project

This project, which was introduced by the teacher, involved preparing a storybook that would later be shared with children from other classes and their parents. When the children had finished writing the stories and songs, they were faced with the problem of buying supplies to produce the book. The teacher helped Maria at all stages of planning this task, with Maria gradually assuming more responsibility for the activity. The teacher and Maria had to plan a budget for the book, find a store to buy the items needed and make a transaction.

Planning and writing for every day life

Now, everything has changed, the aim of the educational process is not only to teach the contents of the curriculum, but to carry out useful activities for the community. In this scenario, the goal of the task was gradually shared between the participants, as we see in the dialogues between Maria and the teacher:

(1) Teacher: Well, let's see – <u>write down here in the notebook what we are going to do</u>; for example, tomorrow. Tomorrow, let's see, tomorrow is Wednesday, yes, tomorrow Wednesday we will call to ask for a budget, OK?

- (2) Maria: OK.
- (3) Teacher: Good, let's write that down. Wednesday, Wednesday, today is the 22nd, right?
- (4) Maria: Yes. [Maria is writing.]

As we can see in this conversation, at the first (turn 1) and although the discourse uses the word "we", it is the teacher who takes the initiative and Maria's participation is very peripheral (she only intervenes to show her agreement). It is the teacher who tells the girl what tasks they have to carry out and the order in which they should perform them.

We see now how, at a later point in the dialogue, the behaviour of Maria changes. At the suggestion of the teacher, the girl makes a list of what they have to do. The notebook and the use of writing act as mediators for planning and organising the activity. This is a clear Vygotskyan example of how a more expert member of a team introduces the apprentice to the use of instruments with a concrete sociocultural significance. The teacher gradually gives Maria the responsibility for the task (turn 3). She allows the girl to take over part of the activity; to write in the notebook (Figure 2).

In the notebook, Maria took notes after the teacher made up the plan for the future actions. However, Maria deviated from the teacher's idea of writing a plan in the notebook by writing her own reflections on the process of carrying out the plan. She wrote that it was difficult to make a phone call to a store because she had not called before.

Much more than a phone cull

We focus now on the process in which Maria and her teacher carry out one of the activities that they had listed in their notebook. They need to find a bookshop where they can buy the materials. The scenario and the discourse used by the teacher and the girl are gradually coming to resemble a community of learning. The following dialogue shows us how their actions are becoming more and more coordinated, on the basis of a shared need; that of finding a stationer. In this example, we see that the teacher is no longer interested in Maria's responses being correct, but that she is more concerned with the success of the task that they are carrying out together. The girl and the teacher start looking in the Yellow Pages for the stationers closest to their school. The girl is at

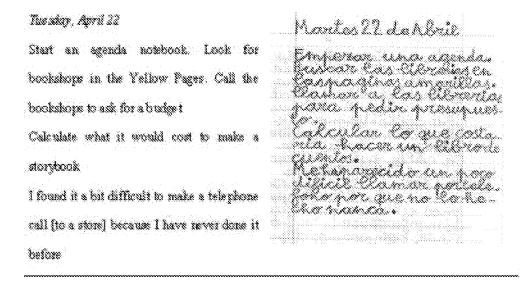


Figure 2. The notebook.

that moment a very active participant in the conversation, she introduces her own initiatives and proposals:

- (1) Maria: In Barcelona Avenue [very low].
- (2) Teacher: In Barcelona Avenue [confirming].
- (3) Maria: In Carlos the Third Avenue.
- (4) Teacher: Aha! Carlos the Third Avenue. Look, that's even closer to us.
- (5) Maria: Or here, in Virgin de la Fatima St. there is another one.
- (6) Maria: Perhaps the one in Carlos the Third Avenue is the nearest to us, isn't it? So it would be the "Maimonides", right?

Unlike in the previous dialogues between Maria and the teacher, here Maria assumes an active role and participates ever more fully in the activity. This change in the scenario encourages Maria to take new initiatives and she turns down an idea of the teacher and corrects her, suggesting a different stationer that is closer. In a community of learning, the opinion of the adult is neither the most correct nor the only legitimate one. It assumes that there is a possibility, often suppressed in traditional classrooms, to negotiate and reconstruct authority relationships in the design of the task (Candela 1999).

After having located a number of stationers, as we see in the previous conversation, Maria called several stores to see where she could find the best deal. One of the dialogues follows here. Maria called the store to ask how much the supplies required for the book project would cost. Maria talked on the phone with the salesperson while the teacher was writing down the prices in the notebook:

- (1) I would like to know how much a sheet of carton costs.
- (2) That one. How much did you say?
- (3) White is 30 and coloured, how much, 50. [The teacher writes "50", and mentions the folders for binding.]
- (4) Folders for binding. How much are they?
- (5) What?
- (6) (Teacher): Any type of nice folder for binding.
- (7) A nice folder.
- (8) (...) Something I can use for binding.
- (9) (Teacher): Binder.
- (10) Binder 65.
- (11) [The teacher tells Maria how to finish up the telephone conversation correctly: Agreed, "Many thanks".]
- (12) Many thanks.

We can observe three interesting aspects in this conversation:

- A change of roles. Now the teacher is writing while Maria dictates (turn 3). In this situation, the roles of the adult and the child are much more symmetrical, sharing the responsibility and approaching a "shared expertise". Maria feels that she is capable of calling the store in order to obtain information, because there is no such thing as a correct or incorrect answer, or a unique way of carrying out the task.
- A situation of "scaffolding", of general support. The teacher helps Maria, adapting herself to the needs and demands of the girl. We have seen how she left Maria to talk to the salesperson and only interrupted when she asked for help. She gave her simple help with her vocabulary and manner of speech (for example, in turn 12, she told her how to say goodbye to the salesperson). With these small helps, Maria feels that she is competent and is an important part of the project.

• The participation of non-teaching personnel. Maria's communication with the teacher and vendors and her entries in the notebook mediated her learning. When Maria was on the phone to the salesperson the teacher also guided the process (e.g., by the questions asked (turn 6) – metacognition, or by guiding her to be polite – metacommunication. In communities of learning, there is room for other people not connected with the school.

Calculating a budget

We focus now on what happened next when Maria and her teacher worked together on the project. After having ascertained the prices of the materials, it was necessary to work out how much money would be needed to produce the storybook. At this point, mathematics started to be an instrument for finding out what they needed to know. The task was to work out the cost of making a storybook for 15 stories (the number of children in the class) and the supplies necessary for the storybook.

It is apparent from the notebook (Figure 3) that first Maria found the number of pages in the storybook -i.e., 36 (paragraph 5), the total of 15 students in the class - each using two pages, one for a story and one for a song - plus six extra pages for the cover page and titles. It is important to stress that not only was maths embedded in the activity of budgeting that the child was involved in, but also the maths made a difference to the activity. To calculate the number of pages was important for the final budget; to spend too much money than was necessary would have wasted the class money, which would probably have had negative results for the class and for Maria. The girl was responsible for the budget, while trying to save the class money by using too little money would have resulted in a failure of the storybook project, because it might not have enough pages for all the stories of the children in the class.

It is important to notice that the academic curriculum of money maths – setting, calculating and comparing budgets to find the best deal – was embedded in the activity of obtaining the supplies for the class storybook and was a by-product of the project, along with more of Maria's learning, such as using the Yellow Pages telephone book, the 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 maths such as algebra and functional analysis, as well as non-mathematical academic skills. Both Maria and the teacher were involved in the same activity and were partners in it, with the teacher guiding the process.

- I. Number of pages the book will have
- Number of book sections 15
- Every section to have two pages one for the story, the other for the song
- We will need 30 pages plus an extra 6 pages for the cover and titles
- 5. Total 36 pages

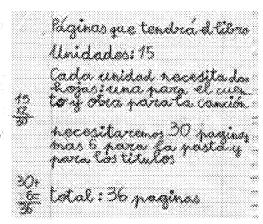


Figure 3. Working on an everyday mathematical task.

Conclusion

Some final comments can be regarded as the fundamental contributions of this study. The following are open questions that orientate us towards new ways of investigation, rather than contributing definitive answers.

- (1) From a theoretical point of view, the sociocultural model, which is based on Vygostky (Vygotsky 1993) and has been extended in recent studies (Varenne and McDermot 1998), has proved to be especially useful in offering a new perspective to what traditionally has been understood as "learning difficulties". Through this lens. Maria and her teacher took part together in situations that they built and that, in turn, transformed them as persons. In this way, for example, the teacher moved from a traditional educational model, centred on the curriculum and on the skills of the pupil, to one that concentrated on the needs that a person has when she has to become a participant in her community. This experience allowed us to look at how the transformation of the learning scenario enabled changes in ways of learning to appear, in the participation of the learner in her own learning process and the relationship between teacher and student.
- (2) In considering that a methodological perspective needs to be very close to the theoretical approach, we also considered that an ethnographical approach (Green, Camili, and Elmore 2006) enables us to understand better the educational process, and not only its products. Moreover, as participant researchers we understood the teachers' culture and their educational approach. In this particular study, the interaction between the teacher and the investigator favoured this change, but we particularly want to emphasise that by adopting an interpretative approach to the research this change can be explored in depth.
- (3) In the same way as in other studies (Rogoff et al. 2002), when learning language or maths are distanced from traditional pedagogical methods and are related to everyday life, the fact of using some extracurricular tools makes learning easier and more efficient. Bringing the student closer to the social use of knowledge and designing new scenarios whose content serves to solve real problems helps the student to attach a different significance to what she is learning, to become better motivated and to learn in a better, more authentic, way. Such improvements are particularly recommended for students with learning difficulties.
- (4) The experiences that we have described in this study reflect a process of change in teaching strategy and in the form of teaching that could help to transform schools and provide a better response to the needs of such students (Sawchuk et al. 2006). When a teacher distances herself from methods based on the curriculum and the textbooks, she facilitates a change in the "position" occupied by a student with learning difficulties. While in traditional classes, such a student is presented with problems that she cannot solve and that place her in a zone of weakness, in scenarios based on a community of learning concept she assumes an active role and her contributions are important to the solution of the problems.

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