Vygotsky's zone of proximal development: Rethinking its instructional implications

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Abstract

This paper proposes an alternate model of Vygotsky's zone of proximal development. It is argued that conceptions of the «zone» emphasizing the transfer of skills from adult to child are too narrow, theoretically misleading, and of limited instructional utility. The concept is then examined in relation to Vygotsky's broader theoretical and practical concerns. Examples taken from a recent classroom observational study are provided to illustrate how the concept of the zone can facilitate a critical assessment of children and of the social system created for the children to learn. The focus is on the appropriation and mastery of mediational means, such as writing, assessed not only or necessarily through independent performance after guided practice, but by the ability of children to participate in qualitatively new collaborative activities. The role of the adult isn't to provide structured cues to facilitate performance, but through exploratory talk and other social mediations assist children in taking control of their own learning. The concern is not only with creating individual zones of proximal development, but collective, interrelated zones as part of a teaching system.

Keywords: Zone of Proximal Development, Vygotsky's theory, Literacy acquisition.

La Zona de Desarrollo Próximo de Vygotski: Una reconsideración de sus implicaciones para la enseñanza

Resumen

Este artículo propone un modelo alternativo a la zona de desarrollo próximo a Vygotski. Se arguye que las concepciones sobre la «zona» que hacen hincapié en la transferencia de destrezas del adulto al niño son demasiado restringidas, teóricamente confusas y de una utilidad instruccional limitada. El concepto es contemplado aquí en relación con las preocupaciones teóricas y prácticas más amplias de Vygotski. Se aportan ejemplos tomados de un reciente estudio observacional en el aula que ilustran cómo el concepto de Zona puede facilitar una evaluación crítica del niño y del sistema social creado para que el niño aprenda. Se resalta la apropiación y el dominio de los instrumentos mediacionales, como la escritura, que se evalúa no sólo o no necesariamente a través de la ejecución independiente tras la práctica guiada, sino por la capacidad del niño para participar en actividades cualitativamente nuevas. El papel del adulto no es el de aportar claves estructuradas para facilitar la ejecución, sino ayudar al niño mediante el habla y otras mediaciones sociales a adquirir el control de su propio aprendizaje. No se trata tanto de crear zonas individuales de desarrollo próximo, sino de crear zonas colectivas interrelacionadas, como parte del sistema de enseñanza.

Palabras clave: Zona de Desarrollo Próximo, Teoría de Vygotski, Adquisición de la lectoescritura.

> Thought is not only mediated externally by signs.
> It is mediated internally by meanings.
> L. S. Vygotsky (1987; p. 282)

The publication in 1978 of an edited collection of Vygotsky's writings, under the title *Mind in Society*, has served as a catalyst for the introduction (or the re-discovery) of his ideas into the contemporary field of psychology. The same volume served to introduce Vygotsky to many educators, particularly his concept of the «zone of proximal development» (Vygotsky, 1978, Ch. 6; also see, Rogoff & Wertsch, 1986). Since the publication of the aforementioned volume, Vygotsky's theory has flourished, and his name has achieved prominence, particularly in developmental and educational psychology (see, e.g., Minick, 1985; Rivière, 1984; Vygotsky, 1987; Wertsch, 1985, 1986).

The «zone» is an attractive and clever idea. In brief, as Minick (in press) has explained, it addresses the issue that children differ in their current state of development in ways that cannot be assessed readily by techniques that analyze their performance when they are working alone (p. 8). That is, assessing a child's unaided performance will not «tap important differences in mental functioning that can be identified by analyzing how the child responds to assistance from adults or more capable peers» (p. 6). Vygotsky developed the concept of the zone as a critique and alternative to static, individual testing, namely IQ testing. He claimed that static measures assess mental functioning which has already matured, fossilized, to use Vygotsky's term (1978); developing mental functions must be assessed through collaborative not independent or isolated activities. He posited that what children can do collaboratively or with help today, they can do independently and competently tomorrow; as Cazden (1980) put it, a goal of the zone is to facilitate «performance before competence».

Vygotsky (1978, Ch. 6; 1987, Ch. 6) proposed differentiating *two* levels of development in the child: the actual developmental level which refers to individual performance or problem solving, and the more advanced proximal level which refers to aided performance or problem solving. He defined the zone of proximal development as the contrast between aided and unaided performance. In an oft quoted statement, Vygotsky (1978) wrote as follows: the zone is «the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers» (p. 86). The actual developmental level, he wrote, characterizes mental development retrospectively; the proximal level characterizes mental development prospectively (pp. 86-87). With the help of others, the child's the proximal level today becomes the actual developmental level tomorrow.

Vygostky specified at least two important, interrelated, instructional implications from his concept of the zone. One is that effective instruction must be prospective; is must be aimed at a child's proximal level of development, or as he called it «the upper threshold of instruction» (1987, p. 211). Teachers, Vygotsky suggested, must orient their work «not on yesterday's development in the child but on tomorrow's» (p. 211). A second implication is that what a child performs collaboratively or with assitance, the child will later perform independently. Vygotsky was suggesting that

in creating a zone of proximal development we're helping define the child's immediate, future learning. He indicated that the same mediational means (means of assistance) used interpersonally would be internalized and transformed by the child and used intrapersonally (Vygotsky, 1978). As such, central to the zone of proximal development are the characteristics of the collaborations that create the proximal level and define the parameters for the child' future, independent performance.

In what follows, I first examine current applications of the concept of the zone to classroom instruction. I'll argue that there are serious difficulties in abiding by the limits imposed by Vygotsky's basic but restrictive definition of the zone as providing assisted performance to children. The main difficulty is assuming uncritically that current instructional practices may aptly represent models of the zone. I'll then propose an alternative model of the zone based on instructional practices that emphasize not the transfer of skills from adult to child, but the development of meaning. As suggested by the opening quote, meaning as well as sign and tool use are essential components of Vygotsky' view of thinking and must be considered central to any conception of the zone of proximal development.

THE ZONE IN THE CLASSROOM

For the past few years we have been applying Vygotskian concepts, especially that of the zone of proximal development, in our study of classroom practices with Hispanic children (see, e.g., Moll, 1989; Moll & Díaz, R., 1987; Moll & Díaz, S., 1987). Curiously, despite the obvious relevance of Vygotsky's work to instructional practice, and the major role Vygotsky assigned formal schooling in his developmental theory (see, e.g., Vygotsky, 1987, Ch. 6), there are few applications of his work to the classroom (however, see Markova, 1979; Talyzina, 1981). For example, in a recent volume devoted to the zone of proximal development (Rogoff & Wertsch, 1984), only one article addressed issues directly relevant to classroom practice (Griffin & Cole, 1984). Similarly, in another major volume devoted to Vygotsky (Wertsch, 1985), one article, examining peer interactions, was devoted to classroom instruction (Forman & Cazden, 1985). Nonetheless, other studies have used Vygotskian concepts to analyze specific aspects of practice, such as teachers self-regulation and thinking (Gallimore, Dalton & Tharp, 1986), teacher explanations (Roehler & Duffy, 1986), students' private speech and task performance (Berk, 1986), reading assessment (Braun, Rennie & Gordon, 1987), and math instruction (Henderson, 1986).

The research mentioned above is usually critical of existing instruction. For example, Henderson (1986) suggested that current mathematics instruction, as characterized by presentations to large groups and by individualized instruction dominated by worksheets, is incompatible with Vygotsky's socially oriented perspective, particularly with the concept of the zone. We have reached a similar conclusion about reading and writing instruction, especially as it relates to the schooling of Hispanic children in the United States (see, e.g., Díaz, Moll & Mehan, 1986; Moll, 1988; see also Cole & Griffin, 1983).

Griffin and Cole (1984) propose expanding our understanding of the

zone as merely a response to inappropriate assessment measures. They suggest that «English-speaking scholars interpret the concept more narrowly than Vygotsky intended, robbing it of some of its potential for enabling us to understand the social genesis of human cognitive processes and the process of teaching and learning in particular» (p. 45). Our work also suggest that to enhance a critique of instruction and develop feasible strategies for educational change, we must surpass current definitions and uses of the zone (Moll, 1989). For example, a problem in applying the concept of the zone to the analysis of classroom instruction is that the basic definition of the zone, emphasizing the transfer of knowledge, and especially of skills, by those knowing more to those knowing less, may characterize virtually any instructional practice. Consider the following three characteristic of the zone derived from the summary provided above. The zone is:

1. Establishing a level of difficulty: this level, assumed to be the proximal level, must be a bit challenging for the student but not too difficult.
2. Providing assisted performance: the adult provides guided practice to the child with a clear sense of the goal or outcome of the child's performance.
3. Evaluating independent performance: the most logical outcome of a zone of proximal development is the child performing independently.

It is misleading to assume that classroom activities containing these three characteristics represent zones of proximal development. Is its very easy to go from Vygotsky's basic definition and discussion of the zone to believing that the rote, drill and practice instruction offered working class students (see, e.g., Anyon, 1980) is a reasonable example of a zone of proximal development. After all, rote instruction is usually meant to provide students with assistance in developing skills they do not have and the end-result is often some individual evaluation or test of learning. The same could be said about the atomistic, skills-based practices which characterize most classroom instruction (see, e.g. Goodlad, 1984). Standard instructional practices do not represent what Vygotsky meant by a zone of proximal development. As Valsiner (1988) has suggested, «... for Vygotsky, the example of comparison of the child's actual and assisted performances on some test served only as a means to get across to his pedagogically-minded listeners (and readers) a more basic theoretical message. That basic message was the *interdependence of the process of child development and the socially provided resources for that development*» (p. 145, emphasis in original). Below we discuss an alternative model of the zone in line with Vygotsky's more general theoretical thinking and intended to develop more fully the concept's pedagogical potential.

THEORETICAL CONSIDERATIONS

To clarify why an alternative model of the zone is necessary, I will first discuss three aspects of Vygotsky's theory that I believe essential to understanding his zone of proximal development. These aspects are also important in considering the instructional implications of the concept (for ad-

ditional discussions, see Griffin & Cole, 1984; Minick, in press; Valsiner, 1988; Wertsch, 1984).

Analysis by units. A neglected aspect of Vygotsky's theory, particularly as it relates to applications of the zone, is his warning against atomistic, reductionist approaches (see, Vygotsky, 1987, Ch. 1). He argued against reducing the phenomenon of interest, whatever it may be, into separate elements studied in isolation:

«This mode of analysis can be compared with a chemical analysis of water in which water is decomposed into hydrogen and oxygen. The essential features of this from of analysys is that its products are of a different nature than the whole from which they were derived. The elements lack the characteristics inherent in the whole and have properties that it did not possess. When one approaches the problem of thinking and speech by decomposing it into its elements, one adopts the strategy of the man who resorts to the decomposition of water into hydrogen and oxygen in his search for a scientific explanation of the characteristics of water, its capacity to extinguish fire... for example. This man will discover, to his chagrin, that hydrogen burns and oxygen sustains combustion. He will never succeed in explaining the characteristics of the whole by analyzing the characteristics of its elements» (p. 45).

Instead, Vygotsky insisted on the dialectical study of what we could call «whole activities». For example, he wrote as follows:

«... a psychology that decomposes verbal thinking into its elements in an attempt to explain its characteristics will search in vain for the unity that is characteristic of the whole. These characteristics are inherent in the phenomenon only as a unified whole. Therefore, when the whole is analyzed into its elements, these characteristics evaporate. In his attempt to reconstruct these characteristics, the investigator is left with no alternative but to search for external, mechanical forces of interaction between elements» (Vygotsky, 1987, p. 45).

Vygotsky proposed partitioning the whole into what he called units (see, Vygotsky, 1987, Ch. 1; Valsiner, 1988; Wertsch, 1985; Ch. 7). In contrast to atomistic elements, units designated a product of analysis that had all the basic characteristics of the whole. The unit, then, is an important and irreducible part of the whole. As Bakhurst (1986) has suggested, paraphrasing Vygotsky (1987, p. 46), in the «water analogy the H_2O molecule, and not the properties of hydrogen and oxygen considered separately, should be taken as the unit of analysis when attempting to explain water's propensity to extinguish fire» (p. 110). Vygotsky rejected artificial divisions and abstractions and insisted on what we'd call a holistic approach: the unit of study must be pshychological activity in all its complexity, not in isolation. Wertsch (1985) has noted that the unit of study «could not be derived through artificial divisions or abstractions of real psychological activity. It had to be a microcosm of the complex interfunctional processes that characterize actual psychological activity» (p. 185).

It is important to relate this proposal to the concept of the zone of proximal development. One way is to reject conceptualizing the zone as the teaching or assessment of discrete, separable, skills and subskills. Cole and Griffin (1983) have pointed out that from a Vygotskian or socio-historical perspective «we should be trying to instantiate a basic *activity* when

teaching reading and not get blinded by the basic *skills*. Skills are always part of activities and settings, but they only take on meaning in terms of how they are organized. So, instead of basic skills, a socio-historical approach talks about *basic activities* and instantiates those that are necessary and sufficient to carry out the whole process of reading in the general conditions of learning» (p. 73, emphases in original). The same point applies to the teaching of writing or other subject matter (see, Moll, 1989; for a compatible perspective see, Goodman, Smith, Meredith, & Goodman, 1987). By focusing on isolated skills and subskills, the essence of reading or writing, or of mathematics, as a «whole activity» evaporates, to use Vygotsky's metaphor.

It's easy to miss this point when applying the concept of the zone to the study of classroom instruction because an atomistic, «skills» perspective is so pervasive that, as Edelsky (1986) has pointed out, it is taken for granted that reading and writing skills and sub-skills are accurate or authentic instantiations of literacy.

Mediation. Vygotsky placed great emphasis on the nature of interactions between adult and child, particularly as it relates to formal instruction. He wrote about the «unique form of cooperation between the child and the adult that is the central element of the educational process», and how by this interactional process «knowledge is transferred to the child in a definite system» (Vygotsky, 1987, p. 169). By a «definite system», Vygotsky was referring to the *social organization of instruction*. He mentioned those «sensitive» or optimal periods in which instruction is maximally productive and how the concept of the zone provides us with the potential to identify these periods (Vygotsky, 1987, p. 212). However, in contrast to other theorists who sought a biological bases for those sensitive periods, Vygotsky proposed that they were associated with social and cultural processes, with collaboration and instruction. Central to his concept of the zone, then, are the specific ways that adults (or peers) socially mediate or interactionally create circumstances for learning.

The above suggest that it is incorrect to think of the zone solely as a characteristic of the child or of the teaching, but of the child engaged in collaborative activity within specific social environments. The focus is on the social system within which we hope children learn, with the understanding that this social system is mutually and actively created by teacher and students. Central to a Vygotskian analysis of teaching is recognizing how the adult, through the mechanism of social interactions, creates and regulates those social systems for learning that we call lessons.

As several authors have noted (e.g., Wertsch, 1984), Vygotsky never specified these forms of social assistance to the learner within a zone of proximal development. He wrote (Vygotsky, 1987; p. 209) about collaboration and direction, and about helping children «through demostration, leading questions, and by introducing the initial elements of the task's solution», but did not specify further. However, it is clear that he considered central to his analysis what we'd now call the characteristics of classroom discourse (see, Cazden, 1988). Vygotsky (1981) claimed that the intellectual skills children acquire are directly related to *how* they interact with others in specific problem-solving environments. He posited that children internalize and transform the help they receive from others and subsequently

use these same means of guidance to direct their own problem-solving behaviors. Thus, we can consider the study of social transactions as a key to a zone of proximal development analysis.

Vygotsky also emphasized that social interactions are themselves mediated. Humans use cultural signs and tools (e.g., speech, literacy, mathematics) to mediate their interactions with each other and with their surroundings. A fundamental property of these artifacts, Vygotsky observed, is that they are social in origin. They're used first to communicate with others, to mediate contact with the social world; later, with practice, much of it occurring in schools, these artifacts come to mediate our interactions with self, to help us think, we internalize their use (see, e.g., Vygotsky, 1978, Ch. 1-4; Wertsch, 1985, Ch. 2-4). Therefore, from a Vygotskian perspective, a major role of schooling is to create social contexts for mastery of and conscious awareness in the use of these cultural tools. It's by mastering these technologies of representation and communication (Olson, 1986) that individuals acquire the capacity, the means, for «higher order» intellectual activity. Vygotskian theory posits a strong, dialectic connection between external (social), practical activity mediated by cultural tools, such as speech and writing, and individuals' intellectual activity. As Wertsch (1985) has written, Vygotsky «defined external activity in terms or semiotically mediated social processes and argued that the properties of these processes provide the key to understanding the emergence of internal functioning» (p. 62).

Change. The most common way to conceptualize change within a zone of proximal development is as individual change: the child can do something independently today that he could do yesterday only with help. It is, in part, Vygotsky's examples that have led to this formulation. For example, he wrote, «What lies in the zone of proximal development at one stage is realized and moves to the level of actual development at a second. In other words, what the child is able to do in collaboration today he will be able to do independently tomorrow» (Vygotsky, 1987, p. 211).

As Minick (in press) has emphasized, however, Vygotsky was concerned with the *qualitative* assessment of psychological processes and the dynamics of development. The essence of zone of proximal development concept is the qualitatively different perspective one obtains by contrasting a student's performance alone with his or her performance in collaborative activity. He also used the zone to emphasize the importance of *social conditions* in understanding thinking and its development (Vygotsky, 1978, 1987; Wertsch, 1985). Hence, he viewed thinking not as characteristic of the child only, but of the child-in-social-activities with others (Minick, 1985). In terms of classroom learning, as mentioned above, Vygotsky specifically emphasized the relationship between thinking and the social organization of instruction. That is why the zone of proximal development is of great theoretical interest: it provides a unit of analysis that integrates dynamically the individual and the social environment.

I want to suggest, based on Vygotsky's qualitative emphasis, an extension to assessing change within the zone of proximal development. The focus would be on the appropriation and mastery of mediational means, such as writing, assessed not only or necessarily through independent performance after guided practice, but by the ability of the child to participate

in qualitatively new collaborative activities. The focus, therefore, is not on transferring skills, as such, but on the collaborative use of mediational means to create, obtain and communicate meaning. The role of the adult isn't necesarily to provide structured cues, but through exploratory talk and other social mediations assists children in appropriating or taking control of their own learning. The goal is to make children consciously aware of how they are manipulating the literacy process and applying this knowledge to re-organize future experiences or activities. The emphasis, then, isn't on transmitting knowledge or skills in pre-packaged forms in the hope that these skills will be intenalized in the form transmited. The emphasis is on the interaction between tool use and meaning alluded to in the opening quote. This perspective is consistent with what Vygotsky (1987, Ch. 6) felt was the essential characteristic of school instruction: the introduction of conscious awareness into many domains of activity; that is, children acquiring control and mastery of psychological processes through the manipulation of tools of thinking such as reading and writing. As Bruner (1986, p. 132) has put it, it is this «loan of consciousness» that gets children through the zone of proximal development.

In the examples provided below, I will illustrate how some teachers create and mediate the type of social system in their classrooms that leads to this «loan of consciousness».

ZONES FOR LEARNING

The examples presented below are taken from classroom observations conducted in schools located in a major Southwestern city in the United States (Moll, 1988). The teachers followed what is know as a «Whole Language» approach (see, e.g., Edelsky, Draper & Smith, 1983; Goodman, 1986; Goodman *et al.*, 1987). Central to this approach is a view of literacy as the understanding and communication of meaning. A major instructional goal of the teachers was to make their classrooms literate environments in which many language experiences could happen and different types of «literacies» could be practiced, understood and learned. This approach rejects reducing reading and writing into skill sequences taught in isolation or in a successive, stage-like manner. Rather, it emphasizes the creation of social contexts in which children learn to use, try, and manipulate language in the service of making sense or creating meaning. As Goodman *et al.* put it: «Oral language is learned holistically in the context of speech acts; written language is learned holistically in the context of literacy events» (p. 398). These «events» consists of a series of interrelated but diverse learning activities, usually organized around a specific theme or topic.

The role of the teacher, in these social contexts is to provide the necessary guidance, mediations, in a Vygotskian sense, so that children, through their own efforts, assume full control of diverse purposes and uses of oral and written language. Reading and writing occurred in many ways, and they were usually integrated as part of a broader activity: for example, reading individually, being read to, or reading to prepare a report; or, writing to prepare a project, writing for fun, or writing in journals and logs. Each of these activities represented a social situation where the teacher could as-

sess children's performance, the type of help they needed, and whether the children were taking over the activity, making in their own. What Goodman *et al.* (1987) refer to as events, then, provide us with an useful, holistic unit of study for the understanding of the zone of proximal development.

Mediating meaning. The most prominent characteristics of these classrooms was not the transfer of specific skills, but the constant emphasis on creating meaning. Every observation we collected had notations of the teacher's efforts at clarifying, expanding and monitoring the students' understanding of the activities and tasks. This making of meaning permeated every instructional activity in these classrooms, regardless of topic, theme or purpose (see, Moll, 1988).

There are three aspects of the instructional activities that I want to elaborate as examples of zones of proximal development. First, how comprehension was always the primary goal of reading. Second, how these teachers helped the students understand, make sense, of strategies authors used to convey meaning. Third, how the teachers encouraged the children to apply to their own writing what they were learning in analyzing texts.

These teachers emphasized comprehension as the goal of reading. They rejected drills that disassembled reading into essential components and used only trade books, no basal readers. Their reading lessons consisted of discussions about the text and its meaning, including how the students felt about the characters and why, and predictions about what would happen next. Consider the following example taken from a 5th grade reading lesson. The students have been reading a novel about the U. S. revolutionary war. The teacher assembles seven students to discuss the text. The students represent a variety of reading abilities and are grouped here because of their interest on the topic. The teacher starts by summarizing the different social relationships central to the novel.

T: «We have two relationships here». «We're following, haven't we, Tim and the father, Tim and Sam, and there's also a bigger conflict like in (another book they read). We've got personal relationships, but our big conflict going on are the British and the patriots».

After a brief comment to the students, she elaborated:

T: «You've got this conflict going on in the story. One is a society conflict, a whole group of people against another group of people. We have personal relationships going on: Tim and his father, Tim and Sam, actually we also have the relationship of...»

S: «Sam and his father».

T: «Sam and his father, you bet. So all of these different, various conflicts. This is why this book is hard, that's why a lot of kids your age don't like to read this book (because it's difficult).

Following this summary of the text, the students and the teacher discussed several themes found in the story, including women's role in society, the ambivalence of the characters regarding the war, family discipline and conflict, religious beliefs, and ways of understanding history through reading novels and through social studies lessons. Some children quoted passages from the text to clarify their points and some introduces personal experiences similar to events depicted in the story. Throughout,

the lesson's focus was on extending the students' understanding of the text and analyzing the substantive issues presented.

Through their questioning, the teachers made the students examine the writer's strategies in some depth, especially how writers manipulate words, phrases, descriptions or dialogue to influence readers. In the next example, the story being read is about a panther that kills a little boy's (Lonny) dog. The teacher asked the group to predict upcoming events.

1.   Mary: I think Lonny is going to kill the cat.
2.   John: I think Lonny is not going to kill the cat...
3.   Barb: The reason why he is not going to kill the cat is because she has babies.
4.   Juan: I think that he's going to kill the panther and his dad is going to help him. (Other children give their opinion what whether Lonny is going to kill the panther.)
5.   Teacher: (interrupting) I just want to explain what we just did in the group. [Moll, 1989].

 The teacher points out that Mary (the first student to respond) offered the prediction that the panther would be killed, and that other students also shared what they felt would happen to the panther. The teacher then emphasized to the group that as readers we're always predicting. The children nodded affirmatively.

The teacher continued the lesson by asking: «We've been predicting what will happen, how about anything else? About the author or something that struck you about the story?» Roberto raised his hand and said that he liked the way the writer described the dog's death because he could «see» exactly how it happened and «see» the wound in the dog. Manuel said that he could feel the sadness because Lonny's tears were dropping on the dog's body.

The teacher's questioning made the children aware of writing strategies. She encouraged the children to develop their own strategies and borrow strategies from authors to use in their own writing. The next example illustrates how the children used in writing what they were learning in reading. The teacher asked the class if anyone wanted to share their writing, a routine that formed part of the students' writing activities. Lisa and Ernesto volunteered and the rest of the class moved to the front of the room. The teacher asked Lisa to read first and asked her, «Why are you doing this?» Lisa responded, «To see if it (the piece she's written» is o.k.» Lisa then read a fairly lengthy story. After she was done reading, the teacher asked, «What worked well?» Lisa's classmates responded that she introduced her characters by providing a physical description and used the dialogue well to describe the characters' thoughts. Another student commented that she didn't start the story with the typical «Once upon a time...» but with «The bus was coming...», a more interesting introduction. Two other students commented that by having her characters use different languages (Spanish and English) Lisa interested her readers and helped define her characters.

Most of the students' comments occurred with limited prompting by the teacher. The children were used to commenting on writing by pointing out strategies used by authors, including themselves. Our analysis suggest that by making reading and writing part of the same general literacy event, the analysis of text, the teacher helped the students consciously generalize

strategies from reading to writing. As such, the children could display in various ways and in different situations how they were mastering literacy.

DISCUSSION

The concept of the zone of proximal development must be understood and applied in terms of Vygotsky's broader theory. Central to this concept is the social character of learning. We've argued that the zone facilitates a critical assessment of the children *and* of the social system created for the children to learn. Applications of the zone to classroom instruction, therefore, must exceed the interpretation of didactic practices which stress the transfer of skills from adult to child. Instead, it should lead us to explore how to create instructional circumstances in which children consciously apply what they're learning to deal with novel and more advanced activities. This emphasis is fully consistent with Vygotsky's thinking (see, Vygotsky, 1987).

Participants in a classroom function within a system of meaning. The examples cited above are atypical in that the lessons were not based on a hierarchy or sequence of skills. The emphasis was not on determining how well children were able to assimilate help that is transmitted by the adult. Instead the emphasis was on the re-creation of meaning: on how well children were able, with the support of the teacher, to make knowledge their own and use this knowledge to transform other learning situations. As such, in our interpretation, the concern was not only with creating individual zones of proximal development, but collective, interrelated zones as part of a teaching system. The curriculum was learned through different types of social relationships that teachers facilitated. Teachers re-organized instruction to engage students or to give them practice with different aspects of the process. The teachers qualitative assessment of children's performance in different contexts guided their modifications of lessons, it guided the changes in the zones, in such a system the children develop what Bruner (1986) calls «reflective intervention» in the knowledge encountered; the ability to control select knowledge as needed (p. 132). Within zones of proximal development children become collaborators in knowledge making as well as conscious recipients of knowledge transmission (p. 127).

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