IMPLICIT THEORIES OF READING AND METATEXTUAL KNOWLEDGE

Among Secondary, High School, and College Students

GERARDO HERNÁNDEZ

Gerardo Hernández Rojas is a full-time professor in the Educational Psychology Department of the School of Psychology at Universidad Nacional Autónoma de México. Avenida Universidad 3004, Facultad de Psicología, Edificio B, Cubículo 30, Colonia Copilco Universidad, Delegación Coyoacán (CU), 04300, Mexico City, DF, CE: gehero@yahoo.com. I thank Evelyn Sánchez and Minerva Ramírez for reading and making suggestions for this article.

Abstract:
This project addresses the implicit theories of reading and metatextual knowledge among third-year students in public secondary school, high school, and in two university majors (chemistry and Hispanic literature). As a methodological strategy, semi-structured interviews were held. The results showed qualitative changes in the analyzed years, including differences due to domain-specific and educational developmental factors. In metatextual knowledge, the youngest students revealed an epistemology that emphasizes the transmitting function of texts, while the college students manifested an epistemology based on the generating and dialogic/communicative function. Three varieties of the implicit theories of reading were identified: the reproductionist variety characteristic of secondary school students, the interpretative variety that was beginning to emerge among the high school students and predominated among the chemistry majors, and the constructive variety found among most of the literature majors.

Keywords: reading comprehension, students, psycholinguistics, theories, Mexico.

Introduction
Studies of reading comprehension have a solid tradition of more than five decades of psychological research. The indisputable progress made in this area of knowledge during recent years has been determined by the appearance of increasingly more sophisticated methodological strategies to analyze texts (for example, propositional analysis, the grammars of comic books, knowledge of expositive and argumentative discourse, etc.), by the development of new techniques to research the involved factors and processes (verbal reports, etc.), and by the incorporation of conceptual and methodological frameworks from other disciplines (linguistics, the analysis of discourse, etc.) (García, 2006; Graesser, Gernsbacker and Goldman, 2000; Parodi, 2002; van Dijk, 2000). As a consequence of the research, important models have been developed to explain reading comprehension; outstanding are the models of symbolic and interactive/constructivist explanation, such as the psychosociolinguistic model of van Dijk and Kintsch (1983), the model of structure construction by Gernsbacker (1990), and the constructivist model by Graesser (Graesser, Millis and Zwaan, 1997).

With an intent closer to the educational setting, a line of research has been developed in the past thirty years to permit characterizing reading comprehension as a strategic, self-regulated activity (Díaz Barriga y Hernández, 2002; Solé, 1992). Based on this line of work, the relevant roles of various strategic activities (specific and self-regulated) in reading comprehension have been documented, to a certain degree of detail. The differences of a strategic and self-regulated type between more and less skillful readers have also been identified. These and other studies soon bore fruit and permitted the generation of proposals of intervention regarding how to improve the reading process, with different populations and at different educational levels.

However, an aspect seldom addressed in this domain is the way readers represent or conceptualize the comprehension of texts—aspects of implicit theories or the epistemologies of reading, according to the theoretical system at hand. Some researchers who have studied the topic known as “epistemology of texts” (Cunningham and Fitzgerald, 1996) sustain that a main thesis is the idea that readers construct representations of reading and that these representations show
individual differences. A second thesis states that constructed representations have an important influence on the activities and experiences that readers have with texts (Hofer, 2001; Schraw and Bruning, 1996).

In this sense, Schraw and Bruning (1996), following other authors like Bogdan and Straw (1990), have identified three epistemologies or types of conceptualizations about reading: a) the model of transmission (T), b) the model of translation (Tr) and c) the transactional model (Ts). These representations are systems composed by a set of epistemic beliefs essentially of an implicit nature; in other words, not necessarily conscious. According to the T model, the meaning of texts is considered to be transmitted directly from the author to the reader so that the reader need only “expose himself to the text” to grasp the meaning. Thus reading is understood as a simple act of reception/transmission of meaning, and the text a simple vehicle between author and reader. On the other hand, the Tr model assumes that the meaning resides in texts, making the author’s intentions and the reader’s skills in constructing alternative interpretations relative. The text possesses meanings, explicitly or implicitly, and the reader must decode or decipher them (translate them “objectively”), without making reference to his previous experiences, to the author’s intentions, or to the cultural context in which the text was produced, in attempting to understand the text. Lastly, according to the Ts model, the meaning of a text is constructed thanks to the transactions between the reader and the particular context in which reading occurs. Readers who are guided by this model believe that understanding is not about receiving the meaning from the text; rather, the meaning must be constructed. Thus the same text can be interpreted various ways by different readers, independent from the author’s intentions or the content of the text. In this case, the act of reading is visualized as a subjective-constructive process more than a simple reception of meaning communicated by the author, or the mere objective translation of the meaning found in the text.

As a prototype of research in this line, Schraw and Bruning (1996) carried out a study to examine the models of reading conceptualization and their role in the act of reading (a comparison of the set of T/Tr models versus the Ts models). These authors worked with 154 university students from different levels, basically through a self-reporting instrument on readers’ beliefs. Thus, after asking readers to understand expositive texts of approximately 800 words, the researchers did quantitative analyses to show first, the plausibility of the defined models of conceptualization and the typical beliefs associated with these models; and second, the evidence that a reader’s assumption of one of the models was associated with a different form of approaching tasks of understanding and evaluating read texts. With respect to the differences found among those who assumed one of the implicit models of reading, the authors discovered that students who were guided by the Ts models: a) were able to remember more information from texts than those who used the T/Tr model; b) made more use of their knowledge and previous experience during the comprehension task; and c) made more personal and critical interpretations of the texts read.

In another, subsequent study, Schraw (2000) explored how the Tr and Ts models of university students (n=247) influenced the construction of meaning when they read narrative texts (a short story by J. L. Borges). Similar methodology was used by applying an instrument regarding the reader’s beliefs after the reader had answered a questionnaire on the main ideas of the text read; and then having the reader prepare a written essay on the text to give his interpretation and express his personal opinions. The results repeated the findings of the previous research. The participants who assumed one of the conceptual models were seen to have certain relevant differences. For example, those who adhered to Ts made more thematic and critical inferences (called extra-textual by others, see García, 2006) than those who assumed the Tr; and those from the Ts model showed greater ability to prepare interpretations of the texts with a high level of constructive activity.

Although the research by Schraw and team show important progress on characterizing the conceptual models of reading as implicit theories constructed by individuals, they throw no light on other aspects such as, for example, the possible evolitional differences that can be found in this domain. In other domains (learning, for example), with individuals of different ages or scholastic
experience, the conceptions of knowledge and learning have been shown to be qualitatively different; it has even been possible to identify something similar to a certain pattern of specific development of a domain (Hofer, 2001; Pozo, 2000; Pozo, Scheuer, et al., 2006). Similarly, current research on meta-cognition has shown that gradual changes occur in at least two areas, possibly associated with patterns of development: a) in the level of explicitness (from implicit to more explicit) and b) in complexity (expressed in form of theories) (see Schraw and Moshman, 1995; Mateos, 2001).

The above aspects and other questions served as inspiration for the current research. In principle, the central interest of this project was to study students’ possible theories of reading, with the understanding that these theories have the following characteristics: they are sets of more or less organized or articulated representations in some domain of knowledge (in this case, reading); they are implicit constructions (not necessarily conscious), in part personal (subjective) and in part, cultural (built in socio-cultural scenarios); they have pragmatic and adaptive functions (success) and they are assumed to play a mediatizing role in individuals’ activities (in this case, reading activity) (Pozo, Scheuer, Mateos y Pérez, 2006; Rodrigo, Rodríguez y Marrero, 1993). In such a sense, the key problem of the current project can be summarized in the following research questions: What type of implicit theories of reading (personal epistemologies) do secondary, high school, and college students in both majors (chemistry and literature) have? What characteristics do these implicit theories have?

As a result of the above, the attempt was made to explore the possible evolutional changes in these implicit theories of reading just as suggested, for example, by other explanatory frameworks such as the theory of representational redescriptions (Karmiloff-Smith, 1994) and the more recent meta-cognitive theories (Schraw and Moshman, 1995; Mateos, 2001). Therefore, another question of interest in the current project is the following: Do specific evolutional differences of mastery exist in the implicit theories of reading at the three levels of education considered in the study?

Lastly, the research considered an aspect that attempted to provide an angle beyond what has been discussed up to this point. The attempt was made to research the differences between two groups of university students of the same educational level from two different educational/cultural communities (chemistry and Hispanic letters and literature). These two communities possess their own textual types and train students in different ways to approach texts in reading activities (Cassany, 2006; Hernández, 2005). Within this vein of research, the required interpretative framework must go beyond the influence of the simple domain-specific evolutional and must enable the use of an explanatory discourse of a more educational and sociocultural type.

The Study

Participants

The study worked with 24 students from different public schools in Mexico City. All were voluntary participants and were distributed as follows:

- Six students from the third year of secondary school in public day schools. Average age: 14 years and 2 months.
- Six students from the fifth semester of high school at Colegio de Ciencias y Humanidades (CCH) of UNAM. Average age: 17 years and 6 months.
- Six participants from the School of Chemistry at UNAM, majoring in chemistry. All in fifth semester. Average age: 21 years 1 month.
- Six participants from the School of Philosophy and Letters at UNAM, majoring in Hispanic letters and literature. All in fifth semester. Average age: 21 years 7 months.
One-half of the students from each year in school were male, and one-half female. The project worked with students from these school years to explore possible changes in adolescence and early adulthood in the construction of the students’ implicit theories of reading and of their metatextual knowledge. It is presumed that the most important changes in implicit theories appear in the educational levels under consideration. As previously mentioned, the decision was made to form two groups in higher education (students of chemistry and Hispanic letters and literature) to research the possible differences in their implicit theories. It is assumed that the two groups pertain to different academic communities and use texts in a different manner (chemistry students in an “instrumental” form as part of their academic work, and literature students as their main “objects of study”).

Methodological Strategy Used
Semi-structured interview. Use was made of a semi-structured interview consisting of a series of basic questions for exploring metatextual knowledge (the students’ knowledge and conceptualization of texts) and central notions of the conceptualization of reading comprehension (see Table 1). Before reaching the definitive version of the interview, two previous versions were tested on each pilot study to calibrate the degree to which the questions permitted exploring the mentioned topics. Individual interviews were carried out for each participant. Before beginning the interviews, each student was asked to try to answer the questions to the best of his ability (“according to your opinion”) and was ensured veracity would not be questioned. To make the students feel more confident, they were told that the interview would cover topics “they were very familiar with”, on which they could give their viewpoint (texts and reading comprehension).

TABLE 1
Interview Script

Introduction
- Do you like to read texts (do readings)?/What texts do you like to read?
- Do you like to write texts?/When do you write texts?
- Do you like reading or writing better? Why?

Metatextual knowledge
- In your opinion, what is a text/writing?/How could you define it?
- Are you familiar with different types of texts/writings?/Which ones are you familiar with?
- How are the texts you mentioned similar and how are they different?
- Which characteristics/parts of texts do you believe to be most important?/Least important?
- Who creates texts and why do they create them?
- What do you think texts are good for?

Text comprehension
Research on aspects of conceptualization of comprehension
- What does it mean to comprehend a text?/What does comprehending a text consist of?
- What role does the reader/author/text play in comprehending texts?
- Can we talk about different ways/levels of text comprehension?/Why?/
  How can they be distinguished from each other?
- Can the same text provoke/generate the same comprehension in different readers?/
  How would it be different?/How would it be equal?
- What is comprehending texts good for?/How is it useful?
- What things/factors make comprehension easy or difficult?
In addition to the basic questions, other questions were used for each interviewee, depending on his previous answers; the intention was to reveal the complexity and depth of individual thinking (Delval, 2001; Ginsburg, 1997). The entire set of basic and derived questions dealt with establishing a colloquial dialogue. Each interview was recorded and then transcribed in integral form for analysis.

Results
The qualitative analysis presented was based on an exhaustive reading of each participant’s interview protocol. The systematic reading of the transcriptions along with notes taken during the interviews permitted identifying certain categories and tendencies in the educational levels under study, which were central for analysis. The categories of analysis used and the identified tendencies were not defined a priori; rather, they emerged in large part as a consequence of the inductive and systematic process of reading the interview protocols. Obviously, the categories were refined progressively based on each reading and on the identification of relevant aspects, until reaching a final definition.

Each category, according to my way of seeing, permits characterizing the participants’ metatextual knowledge and implicit theories of reading, as well as establishing some differences between the educational levels under study. In addition, as we shall see below, the categories often complement each other and permit an integrated description, which is made fully manifest during the interviews (in various participant answers), although the answers to certain key questions must be dissected and the possible relation between questions observed. For reasons of space, this project presents only the relevant results of metatextual knowledge associated with the conceptualization of comprehension, in order to explain the nature of implicit theories of reading, the central aspect of the project.

Metatextual Knowledge
Conceptualization of Texts
An initial aspect of interest within metatextual knowledge (Gombert, 1990) alludes to the way participants conceptualize texts; in other words, the way participants conceptualize and understand texts. Based on this idea, we found some differences between the educational levels observed in this study.

Among the secondary school students, high school students, and university chemistry majors, the majority defined texts as a simple set or sum of letters, words, or ideas in writing. Obviously, the way the participants express this answer differs according to the educational level. The older students express another series of ideas of greater complexity. Below I present extracts from some interview dialogues that express this type of conceptualization among secondary school and high school students.

Adriana (13:10; secondary school): –In your opinion, what is a text/writing?/How could you define it? A text?… Yes… Maybe various ideas that are joined to make a reading, to have… a reason for the what the reading is.

Gonzalo (17:11; high school): –Gonzalo, in your opinion, what is a text/writing?/How could you define it? Writing is the narration of a story, an event, and can be simply letters. Only letters? Letters that join to form words while expressing ideas. What is a text composed of? It would simply be reaffirming or commenting that they are various words that give you an idea about a topic.

It was possible, however, to identify some differences in degree between the high school students and chemistry students on one hand, and the secondary school students on the other. The older students, in addition, understand that another principal characteristic is that texts have a syntactic
arrangement, a certain order that provides coherence and meaning. This more elaborate form of understanding texts was made manifest in almost all the high school and chemistry students and was quite similar at both educational levels. For example, a conceptualization of greater complexity than that of the secondary school students can be found in the answers given by Teresa and Nora, a high school student and chemistry student, respectively. Besides indicating that a text is information that conforms an idea or topic, they add that a text must have a certain organization or structure:

Teresa (17: 4; high school): –How could you define a text? As a writing that has an amount of information about an idea or, more than anything, something that tells something. What do you think a text is composed of? It's always something like an introduction to what you are talking about, trying to explain in general what it is, and then it goes deeper to give more detail and then a time comes when you reach a conclusion.

Nora (21: 6; chemistry): –Nora, in your opinion, what is a text? A text or a writing?/How could you define it? Well, something that someone else wrote to confirm a fact or to express his ideas. –What else could you say about texts? If’ll… –What are they? A set of well-organized words to express an idea, to give a meaning.

In contrast with all the above, the literature students seem to propose a definition that has greater structural complexity. In their opinion, texts, besides having a content (ideas) and an order (an arrangement and a meaning), have above all a communicative purpose and are directed to other people—possible readers. These final aspects, which allude to a more communicative and pragmatic (intentional) dimension of texts, seem to be absent from the conceptualizations of students in secondary school, high school, and chemistry. The literature students sustain that a text, besides having a topic and a “logic” (order and structure), has a certain intention or purpose with regard to readers:

Daniela (22: 1; literature): –In your opinion, what is a text/writing?//How could you define it? It's a composition that does not necessarily have to be literary. It can be a text that talks about a scientific topic, a topic from everyday life, a sociological text. Then it can be a composition that has a certain logic within itself… What is a text or writing composed of? The topic that is going to be covered, the objective where the text will take us, the language that is going to be used and the treatment to be given to the topic, the author's viewpoint.

Who Prepares Texts and Why
This section is of great interest because of the items it reveals. Most of the secondary school and high school students expressed that texts are prepared by “those who know” and to a lesser degree, by “those who know how to write”. In their opinion, either of these two agents is responsible for preparing texts, and is often called “the author” or “the writer”—words with a special connotation that seem to designate not just anyone. The person must be someone “who can write books because he knows about topics or because he knows how to”.

When the students are asked about the reasons for preparing a text, both the secondary school and high school students indicate, as a majority, that the writer’s intent is to “teach what he knows”. To a lesser degree, the students declare that the writer wants to demonstrate his interest in writing itself or his skill as a writer. We shall see some examples given by participants from these two educational levels:

Andrés (14: 8; secondary school): –Who creates texts and why do they create them? Specialists in a topic. Any why do you think they create them? To teach us what they already know, in written form. Why do they teach us what they know? Yes… […] to learn more about a specific topic.
Teresa (17; high school): –Who creates texts and why do they create them? They are writers and they do it because they are interested in it, because they like to do it, and because they have the skill to do it.

In contrast with the above situation, although some chemistry students continue to believe that texts are created by people who know something about a topic or topics, other students manifest that we are all able to create texts. Most of the literature students argue that we are all potential authors without necessarily being experts in a topic or knowing how to write correctly. Regarding the reasons for writing, the chemistry students continue to believe that the reason “people who know” write is their interest in teaching or spreading their knowledge; on the other hand, loyal to the idea that we can all be writers, the literature students argue that people write because of the simple desire to communicate with others. The reader should take the time to examine the following extracts. The first is from Agustín, who states ideas that oscillate between the opinion that only “authors” write and the opinion that “we can all write”. The following is from Carlos, who expresses a firm idea that texts can be written by anyone to communicate with others, through participation in a socio-communicative process.

Agustín (21; chemistry): –Who creates texts and why do they create them? They are created by writers, by people who have the need to represent an idea, a lot of people. As I had said, everyone writes and there are people who like writing more than others. And people who create a text, are people who need to communicate something, an idea, a project, a feeling; but in the end I think texts are created by people who need to express something.

Carlos (23; literature): –Who creates texts and why do they create them? A text can be created by anyone but if it is a specialized text it should be someone who is an expert in the subject; but in general anyone is able. And why are texts created? Why does an author or any person decide to write? I think it is something natural in human life to try to communicate because we are social beings and we cannot isolate ourselves; we live in a community and we have to communicate.

Primary Functions of Texts

According to the secondary school and high school students, texts seem to have the basic function of providing information to readers. In fact, the chemistry and literature students also manifest their agreement with this indisputable function of texts. However, if the analysis were to remain here, we would not notice the existing differences in terms of other matters. Once identified, they again coincide, in complementary form, with some of the marked tendencies from the above section. At that point, some differences begin to reappear between the older and younger participants.

The secondary school students believe that texts have an important educational function, whether seen from the authors’ viewpoint (to teach possible readers) or from the readers’ viewpoint (to learn). The high school students showed the same tendency although in less accented form, since their opinions begin to reveal additional functions that are not necessarily pedagogical. Certain fragments serve to illustrate this point.

Delia (13; secondary school): –What do you think texts are good for? For learning, for finding out about some things or simply for improving your reading.

Juan (17; high school): –What do you think texts are good for? How are they useful? Texts are good for helping people to acquire more knowledge, to avoid being limited to a single opinion, and to see things from different point of view, according to different opinions authors have on each topic.
In a somewhat different manner, both the chemistry and literature students refer to the communicative function—with multiple sub-purposes—as the main usefulness of texts. On this point, no difference between the two groups is expressed. The only difference is that the literature students are more skillful about expressing their viewpoint because they seem to have more information in this regard.

Agustín (21:11; chemistry): –What do you think texts are good for, Agustín? They’re good for a whole lot of things, but in general I feel that they serve to broaden our culture, view of the world, our way of thinking. The more you read, the more criteria you have in relation to that topic; to learn and be in communication, informed about what is going on.

Aldo (20: 1; literature): –And in general, what do you think texts are good for? What functions do you attribute to them? I would go to the most basic definition: to communicate what you want, that depends on the context in which the communicative situation is occurring; but the most basic thing for me would be communicating due an outside need of the person who creates the text.

Conceptualizations of Reading Comprehension

Obviously, at the educational levels included in this project, it is already understood that conceptualizing reading comprehension is beyond simply reading or deciphering what the text says. These students are centered more on the meaning or ideas that the texts communicate; however, it is at that point where the differences are found.

It was possible to identify basically three categories that correspond to each mode of conceptualization. They coincide in part with the work carried out by R. Schraw (Schraw and Bruning, 1996) on the conceptual models of reading, as well as those carried out by the group of J. I. Pozo (Pozo, 2000) on students’ and teachers’ conceptualizations of learning and other domains in which different types of “ingenuous epistemologies” (Hofer, 2001) are made manifest. These modes of conceptualization, in my opinion, are the nucleus of the implicit theories of text comprehension. Among them, three were identified with relative clarity; these are the receptive-reproductive, interpretative, and constructive conceptualizations.

The receptive-reproductive conceptualization of reading sustains that understanding a text consists basically of reproducing or reflecting the ideas or message that the author wanted to put in the text he wrote. This idea tends to prevail completely among secondary school students, and among slightly more than one-half of the high school students studied in this project. In general, the students who maintain this conceptualization refer to the act of comprehension as a reception of ideas or meanings that they have to “recover” from texts (see fragment from Jorge and Teresa below). The possibilities of differing from the author are mentioned infrequently; thus if something similar to this has occurred, it is primarily because comprehension “did not occur in an appropriate way”. Below I present a fragment from an interview to illustrate this argument.

Jorge (13: 10; secondary school): –In your opinion, Jorge, what does it mean to comprehend a text? To try to understand what that text is talking about, yes, more than anything to know what it is talking about. When you comprehend a text, what stays with you? What it was talking about, what that text was trying to tell me.

Teresa (17: 4; high school): –What does it mean to comprehend a text? How can you define that? It would be understanding it and giving it an appropriate meaning… ( ) So it would be seeing how the text advances and seeing what it is referring to exactly. What relation exists between what you comprehend about a text and the text itself? That many times you try to associate what it says with something else. Maybe the text wants to give you a certain meaning and you take that meaning. But you also try to associate it with something else so that you can understand it. Anything else? That the text should have the same idea as what you comprehend
from it, because having read it would be useless. You are supposed to have a certain knowledge about what you read. So the relation would be having the text say the same thing as what you think… having the same idea.

As a result, the act of comprehending the text is understood as a one-way process from the author to the reader. Therefore, the only thing the reader should do is try “to understand the message” to learn the text, and especially, to reproduce it. Several of the interviewees comment that comprehending a text is generally evaluated later, and must be “reproduced exactly”. Let us see the case of Salvador, a high school student.

Salvador (18: 5; high school): –Sal, what does it mean to comprehend a text? What does comprehending a text consist of? **Knowing what it is about, understanding the main ideas and secondary ideas, really knowing what it said, knowing its parts and everything the text really wanted to tell me.** When you comprehend a text, what relation exists between your comprehension and the text? (…) **Many times your comprehension can be mistaken. You say you understood it, but the idea is not what the text is trying to give you.**

The interpretative conceptualization of text comprehension appeared in incipient form among some high school students as well as among one-half of the chemistry majors, in more explicit form. In only two literature students is it present with a certain degree of clarity and explicitness. This interpretative mode of conceptualization is characterized by a recognition of comprehension as a subjectively affected activity; what is comprehended is filled with referential frameworks, previous knowledge, or reader biases. Thus the reader is able to elaborate his own version, assume a viewpoint, or derive a possible conclusion based on the meanings that the text gives him. In contrast with the previous mode (receptive-reproductive), the interpretative mode seems to sustain that the meaning is no longer in the text simply to be received by the reader; rather, the meaning is now in the reader. However—different from the constructive conceptualization mode—although subjective and personal force is recognized, there is an attempt to respect what the author wanted to say or express in the text. In other words, although the reader’s active role is accepted more in comprehension, the reader is still subordinated to a large degree to what the author wanted to say. In this case, the reader’s role is to interpret the author’s message. According to the sample studied, this model of conceptualization is present in high school and is predominant in the chemistry major; therefore, below I offer an interview excerpt from each of these educational levels, to support and justify their mode of understanding reading comprehension.

Nora (17: 6; high school): –What does it mean to comprehend a text, Nora? **It means to emphasize what the author is trying to say, and trying to relate it with what you are learning, in reference to what it is telling you, you know, to be able to learn better…** Is that how you define comprehension? Yes, it would be trying to give your own focus to what you are reading.

Erick (21: 4; chemistry): –Erick, what does it mean to comprehend a text? **Understanding what the writer is trying to say, above all it would be that, and giving a personal interpretation.** Would that be comprehending a text? Yes. Any text? Yes, because you have to say how you interpreted it because each person gives it a unique characteristic according to his own ideas.

Lastly, it was possible to identify a third mode of conceptualizing comprehension, which I define as constructive; this mode appears only in one-half of the literature majors. From my viewpoint, this mode of conceptualization, like the interpretative mode, sustains that meaning does not come
The reader can go beyond the text without being restrained or restricted by what the author proposes; in other words, the reader can go beyond the text to evaluate or criticize the text. This mode of conceptualization also seems to be accompanied by the idea that the meaning or ideas are representations that are elaborated or constructed by the reader as a consequence of his interaction with the text (as in the transactional model by Rosenblatt, 2002). In fact, we can accept that a continuum exists between the constructive and interpretative version in the elaborative activity that the reader is assumed to carry out; the difference is that the interpretative mode accepts without difficulty the author's demarcation in the text regarding what must be comprehended, while this does not seem to be the case in the constructive mode.

Aldo (20; 1; literature): –In your opinion, what does it mean to comprehend a text? Could you define what comprehending a text consists of? **Maybe comprehending a text would not be simply getting the main ideas from the text or from what the author says. Rather, it would be having various abilities based on comprehension in order to be able to re-express those ideas, reinterpret them, manipulate them, recreate them […] in my opinion, that would be comprehension of a text—being able to manipulate the text based on my reading of it. […] The text exists to the degree that there are readers who can read it, comprehend it, enjoy it, manipulate it, change it, work with it.**

Luis (22; 0; literature): –In your opinion, what does it mean to comprehend a text? How could you define what comprehending a text is? **In my opinion, comprehending a text is the experience you have with a text, analyzing the author's ideas, his points of reference, how he defends them. You comprehend the text based on your experience with your reality and you put it into practice because it is worthless to analyze the ideas of a text if you cannot put it into practice and judge those ideas based on your experience […] I interpret what the author says and based on his interpretation, I do an interpretation of his ideas based on my reality. So it's an interaction of ideas between a person who writes something and a person who reads it.**

Chart 1 presents the way the three types of implicit theories are distributed in each school group studied. Notice the tendencies as these modes of conceptualization progressively appear and disappear in each of the four school groups.

**CHART 1**

**Frequencies of the implicit theories of reading in the four groups studied**

<table>
<thead>
<tr>
<th>Educational Level</th>
<th>Receptive-reproductive</th>
<th>Interpretative</th>
<th>Constructive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary school</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>High school</td>
<td>4</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Chemistry</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Literature</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

Functions of Text Comprehension

Three categories were identified regarding the possible functions that the participants attributed to reading comprehension. The first is associated with understanding comprehension as a process whose principal function is to receive the information in writing so that it is simply known by the possible reader. This function was mentioned often, in most part by the secondary school students. It is understood that the act of reading functions for receiving information and that reading can be described with the phrase of “reading for information”; once the reader understands what texts say,
he can re-transmit or share (reproduce) that information with another person. Let us examine the
cases of Adriana and Jorge, who believe the functions of comprehending texts are simply attaining
information or understanding the meaning of texts.

Adriana (13:10; secondary school): –What is comprehending texts good for? Knowing what the reading
is about [...] In your daily life, how is it useful for you to comprehend texts? Understanding what is
being indicated or what it's about. And at school? The same thing. Understanding what it's about.

Jorge (13:10; secondary school): –What is comprehending texts good for? How is it useful? It's good for
being able to understand and to know what the text says. Then you can tell another person about
what you understood.

Added to the above is a function that recognizes that the reader not only hopes to acquire the
information that the text presents, but also hopes “to read to learn”. Reading can comply with
something more than a simple instructional function and attain a broader educational function,
given that it can permit readers “to grow as individuals” or “develop more”. In contrast with the
above function, in this conception the meanings contained in texts improve the reader in some
manner. The previous posture, on the other hand, seems to indicate that the secondary school
participants mark a certain distance from the text: although they recognize that texts can be
important sources of information, there is no assumption that contact with texts will ensure that
such information is assimilated and changes are produced in the reader. This function, which I call
educative, was frequently mentioned by the high school students, chemistry majors, and by some
literature majors.

Teresa (17: 4; high school): –What is comprehending texts good for? Comprehending is something
like understanding what it says. Many times there are texts that give you knowledge. You learn
something there. So if you comprehend it, it's easier for you to learn. Because if you don't
comprehend it, it's something like “What did you learn?”.

A notion that is somewhat similar to the above mentioned function—without marking a strictly
qualitative difference—was identified by some of the literature students (and by some chemistry
majors) who find the ability to comprehend texts as useful for learning, and especially for better
understanding their personal reality or surroundings. In the opinion of these students, what is
learned through texts gives them an instrument for seeing or understanding people or their social
reality in a new way. We seem to see these views, for example, in the following fragments from the
interviews with Ileana and Carlos (both literature majors).

Ileana (21: 9; literature): –What is comprehending texts good for? How is it useful? A text gives us
knowledge or an experience. In my opinion, it is a way to approach and understand the world,
and not remain only within my own experience. I can see farther to the ideas of other people.

Carlos (23: 8; literature): –What is comprehending texts good for? How is it useful? It's very useful. As I said
before we're social beings and we have to be in communication. So if we don’t comprehend texts it’s as
if we were “blindfolded”. I think it's like that. Comprehending a scientific text helps us to learn knowledge
that we can later expand. Comprehending a more literary or artistic text gives us knowledge that
appeals more to the “creative instinct” rather than reason, as stated in Philosophy. It's also
important because it reaffirms us in life and it gives us tools to understand what we are and what
other people and our reality are like.

Factors That Influence the Difficulty of Comprehending Texts
In relation to this item, it was possible to identify in the participants’ answers the factors that they believe influence the act of comprehension. Two major categories were registered (see chart 2): a) those that depend on the reader and b) those that depend on the author. Within these categories, some subcategories of interest were found (see Chart 2, with percentages of categories and subcategories, which are not exclusive).

**CHART 2**

*Percentages of Factors That, According to the Participants, Influence the Degree of Reading Comprehension*

<table>
<thead>
<tr>
<th>Categories and Subcategory</th>
<th>Secondary School</th>
<th>High school</th>
<th>Chemistry</th>
<th>Literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>It depends on the reader</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Use of previous knowledge</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>66</td>
</tr>
<tr>
<td>- Motivational aspects</td>
<td>33</td>
<td>50</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>It depends on the writer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Appropriate use of vocabulary</td>
<td>50</td>
<td>83</td>
<td>83</td>
<td>66</td>
</tr>
<tr>
<td>- Explanatory clarity of ideas</td>
<td>33</td>
<td>50</td>
<td>83</td>
<td>83</td>
</tr>
<tr>
<td>- Visual support for presentation</td>
<td>16</td>
<td>50</td>
<td>50</td>
<td>33</td>
</tr>
<tr>
<td>- Standard aspects (spelling, punctuation, etc.)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>50</td>
</tr>
</tbody>
</table>

*Individuals' responses can include ideas from the two major categories as well as various subcategories at the same time.

Although the participants at all educational levels attribute the origins of the difficulties to the reader as well as to the writer, two tendencies can be underlined:

1) At almost all educational levels, problems are attributed in a greater degree to the factors that would seem to depend essentially on the writer and on the resources that the writer uses to produce texts that must be understood.
2) The college students tend to attribute factors to the reader and writer in a balanced manner, as if indicating a shared responsibility in text comprehension.

Regarding the first tendency, for example, most of the participants at all educational levels indicated that aspects having to do with use of lexicon or vocabulary, and expositive clarity in writing are factors that have a decisive influence on what and how much is comprehended in texts.

Other matters are worthy of attention. A surprising factor, for example, is the unimportant role the secondary school, high school, and chemistry students attribute to previous knowledge or personal experiences in reading skill. Also of note is the lack of mention of reading strategies in addition to the “use of previous knowledge” as possible factors that influence ease (to solve problems or difficulties) in reading for comprehension. Lastly, it was of interest to confirm that: a) the visual supports in the text, which were much more recognized as important by the high school and chemistry students, were not highly recognized by the secondary school and literature students, and b) the important role secondary school, high school, and chemistry students attribute to motivational matters was not mentioned by the literature students.

**Discussion and Conclusions**

*Regarding Metatextual Knowledge: Text Epistemologies*

As mentioned above, this study's interest in researching metatextual knowledge was based on a desire to clarify in greater depth the nature of the implicit theories of reading and the possible
changes that occur among them. Our findings regarding this type of knowledge are quite revealing and deserve careful study, due to their implications on students’ implicit theories of reading.

In the first place, it is evident that the results permit referring to metatextual knowledge differentiated by educational level and group of study. For interpreting the results, I am reminded of the two functions of texts according to Bajtín (Wertsch, 1993) and Lotman (1988a and 1988b). These authors state that a text can have a transmitting or univocal function and another generating or dialogical function. In the transmitting function, the reader adheres to the author’s intended meaning and the basic conditions are created for communication; in the generating function, on the other hand, the meaning presented by the author is a true “pre-text” that is completed with the reader’s contributions and constructions. Let us consider this line of argument in the following comments on the studied groups, since the differentiated metatextual knowledge presented by the various groups can be characterized as authentic “epistemologies of the text” (Cunningham and Fitzgerald, 1996; Hofer, 2001) (see table 2).

<table>
<thead>
<tr>
<th>Groups</th>
<th>Metatextual knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>All secondary school students</td>
<td>Epistemology of the text that emphasizes the transmitting function</td>
</tr>
<tr>
<td>Some high school students and most chemistry students</td>
<td>Epistemology of the text in transition</td>
</tr>
<tr>
<td>Most of the literature students</td>
<td>Epistemology of the text that emphasizes the generative-dialogical function</td>
</tr>
</tbody>
</table>

As previously mentioned, among the secondary school students, the predominant text conceptualization is an accumulation of ideas in which order and arrangement receive little emphasis; it is also a “providential source of knowledge”. In other words, the document is seen as elaborated only by those who retain certain knowledge (thematic or literary) that is exhibited on the text’s pages. Thus the function of texts is predominantly educational and even directly “authoritarian” in the sense that texts are created by “authors” and as a result, their ideas must be respected (reproduced) just as they are. In this sense, it could be sustained that in the secondary school group, a text epistemology prevails that would emphasize the above-mentioned transmitting function of Lotman (1988a); while texts are understood as finished products, a one-way vision of transmitting text meanings to the reader is also assumed. This epistemology would be similar to what Bajtín has called the “authoritarian discourse” of texts (quoted by Wertsch, 1993); according to this theory, sentences and their meanings are considered as already established or not modifiable through contact with other voices (for example, readers’ voices). Therefore, it should not be surprising that these students have a prevailing conceptualization of texts as recourses that primarily “teach” since they are considered potential fixed sources of meanings that should be learned/reproduced; the text becomes a device or means exclusively from which to learn.

In a different line is the metatextual knowledge sustained by most of the literature students who, in first place, enrich their representation of texts by stating that besides possessing content and rhetoric organization, they also have a purpose and are directed necessarily to a determined recipient. The principal function of texts is no longer education, but communicative (in principle, anyone can prepare texts and relate to them); texts are recognized as able to play important roles in cultural groups, such as leaving a cultural heritage or helping to understand the surrounding reality. Thus it would seem that literature students assume a qualitatively different epistemology of the text based on what Lotman (1988a) calls the generating function of texts, given the emphasis placed on the
communicative dimension with which they are attributed. According to Lotman (1988a), the generating function of texts permits not only inter-subjectivity (the approach and possible synthesis with the author’s meanings), as permitted by the transmitting function, but also alterity (the possible discrepancy among proposed meanings). In a similar manner, Bajtin believes that a dialogical function permits the inter-animation of meanings between author and reader. In this sense, the conception of the textual would permit a more interactive and communicative view of the processes of comprehension (and composition), and would be less one-way than that sustained by secondary school students. According to this conceptualization, texts stop being the principal sources of knowledge and become means for communicating or having a dialogue with others, and in that sense even for establishing semiotic dissent and consensus, as the case may be.

But what happens with the textual epistemologies of the high school and chemistry students? I believe that, in principle, they have a conceptual nucleus with certain similarities to the younger students’ epistemologies. Yet they have differences (which of course are more marked with respect to the second than to the first), since the students add traits that manifest certain changes that could be by educational level. As previously mentioned, one of the principal changes was to add the organizational/structural dimension and genre to their conceptualizations. According to the high school and chemistry students, texts are no longer a simple accumulation of ideas—as adduced by the secondary school students, who focus on the dimension of content—since they do not hesitate to recognize that texts possess a necessary organization and rhetorical structure. Another apparent change was made evident by broadening the students’ conceptualization of texts beyond perceiving them as only “school texts” (by recognizing that there is a variety of possible texts that have a different genre, and not simply a different content that makes them pertain to one “subject” or another). However, perhaps the most significant change, especially manifest among the chemistry majors, lies in the recognition of the communicative function of texts and with that, in the fact that we can all be authors.

Based on these changes, it seems to be evident that the high school and chemistry students (although I insist that a perceptible difference exists between the two groups, in favor of the chemistry majors) gradually begin to move away from the reproductive-transmitting scheme characteristic of the secondary school students, and assume an epistemology of transition between the transmitting and generating modes. It is an epistemology of transition because, as I have previously mentioned, the students begin to recognize progress in the rhetorical-organizational dimension of the functions attributed to become more sensitive to the communicative function; thus this epistemology is situated halfway between the two epistemologies, which seem to constitute a continuum.

Implicit Theories of Reading
The central questions of this research were focused on the nature of the implicit theories of reading and the possible differences between the groups studied. Based on the results found in the semi-structured interview (including the part that refers to metatextual knowledge), it is possible to provide a response to these questions and identify in the most general terms the principal characteristics, although preliminary, of the implicit theories of the four groups studied. I attempt to describe and organize these theories in summarized form in Table 3.

With certain clarity and evident epistemic coincidences with regard to their metatextual knowledge, the secondary school students are guided by a reproductionist theory when they comprehend texts. In their opinion, the preponderant matter is to obtain and then reproduce the meanings that the author transmits through a text, so that the principal function of comprehension is “knowing what the text says”. In some manner this view is completely synchronized with the epistemology of the transmitting text; since the text is erected as a principal source of knowledge, comprehension seems to be predetermined to a great degree by the author. It is also interesting to observe that this theory is more simple and ontogenetically previous to other, more complex
theories found in the groups of older students, as discussed below. This idea was not studied with such a focus by US researchers Schraw, Cunningham, Bogdan, and others.

### TABLE 3
**Implicit Theories of Reading**

<table>
<thead>
<tr>
<th>Implicit Theory of Reading</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reproductionist (&quot;to reproduce what the text says&quot;)</td>
<td>Text comprehension is conceptualized as a simple act of recovering the meaning/message that is put in texts by the authors, who “know”. In this sense, the act of reading consists of employing the text to become instructed from it and reproduce faithfully the ideas that the author expresses in it. The main recognized function of reading comprehension is “transmitting knowledge”. It is therefore not surprising that difficulty or ease in comprehension seems to depend especially on the writer of the text.</td>
</tr>
<tr>
<td>Interpretative (&quot;to interpret what the text says&quot;)</td>
<td>The act of text comprehension is understood as a cognitive activity that depends to a great degree on the reader's active role in searching for and interpreting the meaning of the texts. The reader, therefore, can put a subjective imprint on what he comprehends, but in the end must attempt to reproduce what the text says. The main function of comprehension is approaching texts is to “learn” (rather than having the texts teach from the author's viewpoint). The difficulty in reading comprehension is believed to depend above all on the reader's participation in the motivational and cognitive dimension.</td>
</tr>
<tr>
<td>Constructive (&quot;to construct meanings along with what the text says&quot;)</td>
<td>Reading is a constructive activity in which understood meanings are understood as constructed by the reader, thanks to what the author says in his text. Evaluative or critical attitudes can be assumed regarding texts or regarding what the author says or how he says it. The main function of comprehension is communicative, although it is recognized that reading functions for learning, for developing cognitive instruments, and for helping to interpret the surrounding reality. It is considered that difficulty in reading comprehension depends on what both the writer and reader do or fail to do.</td>
</tr>
</tbody>
</table>

A second identified theory is interpretative, which begins to appear among high school students and is present in predominant form among the chemistry majors. Its principal characteristics are: a) the recognition of the reader’s active role in the comprehension of the text, b) greater emphasis on learning based on texts and not simply texts that teach (as in the reproductionist model above) and c) greater responsibility attributed to the reader in comprehension. The interpretative model, in spite of recognizing progressively and being more aware of the reader’s role in interpreting the message found in the texts, continues to emphasize the writer’s creativity and seeks to respect what the writer wants to say.

The interpretative theory assumes an intermediate point between the reproductive and constructive theories. In other words, the theory considers that the representation elaborated in the reading is no longer a copy of text determined in a single direction (different in this aspect from the reproductive model and similar to the constructivist model), because the reader filters and provides a characteristic imprint for this representation as a consequence of his own subjectivity (previous knowledge, previous experience, strategies, etc.). In the end, what matters is the precision or exactness of the representation that the reader obtains in relation to what the author expressed in the text (once again close to the reproductionist model, and ending up halfway between the two theories). In this sense, although a certain degree of emphasis is put on the reader (in contrast with the above theory, which puts all emphasis on the author), this emphasis is relative since in the end, the importance of what the author wanted to say is recognized.

Last is the constructive theory, identified among most of the literature majors (and a low percentage of the chemistry majors). In this model, the reader’s role is re-dimensioned and the reader becomes co-responsible with the author for the meanings constructed in the dialectic between them. Therefore, an interactive-transactional posture is assumed (no emphasis is put on the text as in the reproductive model, nor on the “reader” as in the interpretative model) (Rosenblatt, 2002). Thus, in contrast with the reproductionist theory, which believes that any failure
in comprehension is due exclusively to the reader, failures in comprehension can be due to the reader as well as the writer. According to this theory, more creative/critical and evaluative reading begins to be possible—reading that goes beyond what the author suggests in the text or that can even show disagreement in the way the text is treated. In this sense, it can be stated that both arguments permit full communication with the reader to carry out a joint process of constructing meanings as well as possible semiotic dissent. Without doubt, this is the most complex theory from an developmental viewpoint. It also has a complementary relation with the epistemology of the text, in which the generating or dialogical function is emphasized.

The Differences Between Reading Theories: Educational Contexts and Reflective Activity as Explanatory Factors

The results seem to show that between the secondary school participants and the chemistry majors, the progressive tendency of the implicit theories and the text epistemologies, a certain domain-specific developmental course seemed to be followed.9 Therefore, what must be taken into account is the specification of a tendency that manifests a growing complexity of the implicit theories of reading, not associated exclusively with determined chronological ages but very probably linked to educational level and experiences in using processes of greater complexity and better functional utility. But when the Hispanic letters and literature majors were introduced in the study, in spite of their having a chronological age similar to the chemistry majors, the tendency seemed to travel a different course, an alternative to exclusively the age factor. What was the reason for this difference?

In this research, studying the defined age groups was particularly of interest because of the assumption that changes in the domain of knowledge (consolidated reading and writing) would occur in this age range. But exploring the difference between the chemistry and literature students was also of interest. The understanding was that based on their academic experiences up to high school, they already had a collection of qualitatively different practices and activities. In other words, while the chemistry students (and of course the secondary school and high school students as well) use texts in their academic activities in an essentially instrumental manner as semiotic resources to learn certain curriculum knowledge, the literature students seem to employ texts in a different way: as an object of study for delving deeper, reflecting, and applying specific theoretical and methodological systems for their comprehension and analysis.

How do students learn from texts in the secondary, high school, and university years if texts are seen as an instrumental resource? Unfortunately, all seems to indicate that the academic activities typically carried out in secondary school and high school and in some university majors (like chemistry) constitute a “typical trajectory of pedagogical experiences” of reading and writing that influences in an important manner the configuration of the implicit theories assumed by the above-mentioned students.

This finding seems to be proven by research focused on studying the type of reading and writing practices carried out by secondary, high school, and university students (for example, Alverman and Moore, 1991; Solé, et al., 2005). Alverman and Moore’s work (1991) in United States pre-university classrooms found that practices to teach reading are characterized by using: a) a traditional focus consisting of the exacerbated use of the textbook as the principal source of information, b) an orientation to the factual content to the detriment of the conceptual content, and c) an over-determination of the teacher’s direction of the way students should interact with texts. In a similar manner in the Spanish context, Solé, et al. (2005) showed that students’ habitual reading activities and tasks in the classrooms of secondary and higher education are of extreme cognitive simplicity (copying literally what the teacher explains or what the text says, answering questionnaires of literal answers, etc.), while little use is made of more complex tasks that require, for example, the conceptual integration of various documentary sources (for reading and writing). Most proposed tasks use the sole and exclusive source of the “textbook” or the “manual”.

I believe that in our country, not many differences should exist in relation to the findings of these studies (although we should recognize that projects are needed to explore these problems in
In my opinion, the predominant practices for teaching reading and writing in elementary and secondary school play a fundamental role in constituting reproductionist theories of reading and textual epistemology based on the transmitting function. The types of activities requested preponderantly in each one of these domains in elementary and secondary education are activities of teaching and/or evaluation, which exercise powerful influence in their structure. I agree with the arguments of Schraw and Bruning (1996), who indicate that readers tend to assume reproductionist theories since: a) they are more acceptable for classroom work, given their better adjustment to the predominant types of teaching and evaluation that occur there (readers are asked continually to “remember” what the author said “objectively and explicitly” in the text); b) students avoid differing with the teacher’s interpretation (when possible) because of the possible repercussions on their grade; and c) almost no experiences of constructive and critical reading in the classroom exist.

As a consequence of the above, three factors may contribute to changes in the construction of more elaborate theories (such as the interpretative or constructive theory): the confrontation with a larger number of tasks that require more constructive activity, the encouragement of students’ reflective ability in relation to the operation of processes, and the possibility of having more reading activities “between the lines” (inferential) or “behind the lines” (critical/evaluative) (Cassany, 2003).

It is obvious that at the high school and university level, “textbooks”—of the most typical kind—begin to lose their importance in the presence of “reference texts” (of different types and genres) in documenting the activities of reading tasks in various subjects. In a similar manner, activities are more complex than those usually required of students in the lower grades. These activities may be one of the reasons that certain students begin to develop implicit theories of greater complexity, although not in all cases. As seen in Chart 1, because of individual differences, at the high school and university level it may be possible to find students who still maintain reproductionist theories of reading.

On the other hand, the growing ability of reflection and thematization of processes may be another explanatory factor of importance. Although the ongoing execution of routine, stereotyped modes of work in comprehension may have the previously mentioned effects, they may paradoxically create the development of a degree of “stabilization” in the form of carrying out tasks that require little conscious activity. Yet at the same time, they may create the opportunity to carry out alternate activities of reflection that lead to the possible progressive structuring of theories thanks to others of greater complexity and executive potential. In this sense, I find the idea of Karmiloff-Smith (1994) useful since it explains the progress in metatextual knowledge and in the implicit theories of reading by means of progressive “representational redescriptions”. Thanks to these redescriptions, representations (for example, implicit theories) are not only more progressively sophisticated but also more thematized and reflective, and are expressed through qualitatively different activities.

However, the changes most worth taking into account are those that occurred between the participating chemistry and literature majors. As we can assume, they have similar academic backgrounds and an almost equivalent chronological age; they seem to have differed only in the type of educational experiences of participating in different disciplinary contexts in the last two years of their academic life (besides the possible existence of other factors of a personal type beyond the research design). In addition to the difference we have already mentioned of using texts in a different manner in chemistry and literature (as an instrument for accessing knowledge versus objects of reflection and analysis), other differences exist:

1) The genres and types of texts used. While the chemistry students employ texts of scientific information (descriptive, expository, argumentative) and their main genres are articles and research reports, the literature students employ literary and scientific/humanistic texts, and the principal genres are narrative (novels), poetry, and scientific and literary essays.
2) Belonging to communities that have different discourse for talking about texts and their functions (see Sharples, 1999, the notion of the “language of design”). While the literature students pertain to an academic community that surely has a richer and more useful discourse for talking about texts, for reading, and for communicative, rhetoric, and aesthetic functions, the chemistry students do not seem to have discourse of this type available. Sharples (1999) indicates that in regular schools, no explicit teaching tends to occur regarding a “language of design” for writing (and perhaps reading); such a language would be greatly helpful in understanding, studying, and thematizing reading and writing activities and their subprocesses and implied skills/strategies.

In relation to this last point, it should not be forgotten that education in various disciplines can also be understood as participation in the scientific/cultural communities that have their own history/discipline, collective identity, forms of producing knowledge, use of discourse (use of specific genres), and different types and varieties of activities of shared learning (Lave and Wenger, 1991; Mercer, 2001). Therefore, the chemistry and literature students pertain to two different disciplinary communities in which work with and for texts is qualitatively different—a possible influence in the changes observed in textual epistemologies and theories of reading.

Academic/disciplinary activities in which literature students participate seem to create a context in which activities of reflecting on texts and reading processes may become more profound. Thus richer and more complex conceptualizations and theories may be constructed. Their activities and experiences with texts in their academic/disciplinary community allow them new exploration of the representational, communicative, and rhetoric possibilities of texts, and as a result, of the processes of comprehension and composition that operate through them.

This line of explanation coincides with that sustained in studies on the conceptions of learning (Pozo, 2000; Pérez, Pozo y Rodríguez, 2003; Scheuer et al., 2000), which indicate that the most complex versions (for example, the constructive versions) appear with greater probability among students who have participated in a different instructional context. Thus they create the conditions for attaining greater reflection on a topic (for example, the case studied by the Pozo group on the learning of psychology students who are able to build a constructive epistemology).

Although we must recognize that contextual or cultural/educational factors have an important causative role in the construction of implicit theories and more complex metatextual knowledge—as developed by the literature students—we must not forget that this context is a direct (or perhaps indirect?) influence in encouraging subjective/reflective activities that also play an important causative role in the above-mentioned construction. Yet we must remember, as previously indicated, that important individual differences exist (for example, some literature students have an interpretative theory of reading) and seem to show that the contextual effect is not direct in all students and that the reflection and/or reflective coordination of the subjective experiences of reading and writing play an important role in the construction of their theories. I believe that both factors may act in a spiral that interweaves and enables synergetic action to the benefit of elaborating more complex reading theories.

This project studies and presents evidence on the construction of readers’ conceptual representations of texts and implicit theories of reading comprehension. These are authentic constructions that take shape in the uniqueness of each individual, and that are restructured or redefined progressively with age to the degree students participate in more complex academic and social situations and activities, and also to the degree students reflect progressively on these situations and activities. In other words, although we recognize that these situations and activities are in part shared and in this sense are co-constructed, they are also in part reconstructed as a product of active reflection with texts and through texts, and with reading and through reading.

Notes
1 This study forms part of broader research on relations between the implicit theories of reading and writing, as well as the study of these theories with domain-specific strategic, self-regulated behavior among secondary school students, high school students, and college students (Hernández, 2006).

2 Starting here, I use the male gender to refer to students and participants at each educational level.

3 Broader results of the topics addressed here, relative to the entire script of interview questions—and other matters—can be found in Hernández (2006).

4 The interview excerpts use cursives for the participants’ answers, and bold print to emphasize points or ideas relevant for the interpretation. For each participant, the excerpts specify the name (pseudonym), age (in years and months) and the educational level or major.

5 In another article (Hernández in process), I describe in detail the reading strategies that these same participants report (by thinking out loud), when they are asked to carry out a reading comprehension activity based on a scientific text.

6 According to Lotman (1988b), the transmitting function of texts is older in the history of literature than the generating or dialogical function.

7 I believe that the interpretative theory can guide a valid and useful reading activity, particularly from a certain viewpoint. On many occasions, we approach texts to attain information or learn so that, given these purposes, reading guided by an interpretative theory is completely pertinent: it permits creating appropriate contexts of intersubjectivity for sharing meanings between author and reader (for example learning significantly, attributing meaning and constructing meanings with and thanks to the author) and between reader and reader (sharing meanings on a common basis, in spite of certain differences of interpretation between readers). What an interpretative model of reading limits is going beyond the author’s semiotic proposal in the text, and the possibility of going beyond to make a critical reading that may even be in disagreement with the author, with his intent, or with his ideology. This last factor of course permits with greater clarity a constructive model of reading (see Cassany, 2003 and 2006).

8 I agree with Karmiloff-Smith, who comments that a domain is a set of representations that sustains a specific area of knowledge (language, reading, physics, etc.) (1994:23). Like many other current developmental psychologists, Karmiloff-Smith sustains that development is specific to each domain where progressive modularization (specialization) occurs (in the case under review: reading).

9 I indicate that the influence is indirect because in disciplinary educational contexts (in the concrete case of the literature major) no intentionally designed experiences are expressed to obtain these effects. Such educational courses of service seek other valid disciplinary purposes. I believe that they can only indirectly influence the promotion of reflective activities on the subject under discussion.

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**Article Received:** September 3, 2007  
**Ruling:** January 22, 2008  
**Second Version:** February 1, 2008  
**Accepted:** February 12, 2008