

## EMILIA FERREIRO: SEARCHING FOR CHILDREN'S UNDERSTANDINGS ABOUT LITERACY AS A CULTURAL OBJECT

Yetta Goodman, Iliana Reyes, and Kerry McArthur

She has most of all enabled us to see the minds of children at work and their great capacities as scholars and researchers as they develop their understanding of our written language.

-Eleanor Duckworth (1999)

Emilia Ferreiro is a world-renowned scholar who has devoted her academic career to understanding how children come to know literacy. Her questions and insights about how young children think about what it means to read and to write have led language arts and reading educators to significant understandings about early literacy learning and teaching. In this biographical sketch, we highlight her unique contributions to the field of literacy learning.

Yetta was introduced to Emilia's work in the 1970s. This was a dynamic period when language and literacy researchers were engaged in establishing new and exciting research directions about the influence of language use in homes, communities, and schools on children's language and literacy. We were thinking in new ways as psycholinguists, linguists, anthropologists, sociolinguists, and educators and were introducing each other to new ideas and insights about the social and cultural influences on children's literacy development.

In 1979, when Yetta was the incoming president of NCTE, and Dorothy Strickland was president of IRA, they planned a series of conferences called Oral and Written Language Development Research: Impact on the Schools (Goodman, Haussler, & Strickland, 1979). The goal of the "Impact Conferences" was to bring together interdisciplinary and international researchers, teacher educators, and teachers to discuss the dynamic research in language development and to consider its implications for curricular change and innovation. They had been hearing about Emilia Ferreiro, a literacy development psychologist in Argentina, who was using Piagetian theory to study how Spanish-speaking children learn to read and write. They invited Emilia to the conference where she reported on her longitudinal research with three- to six-year-old middle- and working-class children in Buenos Aires. This research showed how actively children are involved in learning concepts about literacy and how the relationship between oral and written language evolves over their life history (Ferreiro, 1979). Emilia introduced the audience to the concept of Piaget's term *psychogenesis*, as she applies it to literacy learning. Psychogenesis explores the ways in which humans contribute to their own ideas and knowledge development. Emilia focuses on how children use their intellect to understand written systems—how children respond to and come to know what it means to read and to write (Ferriero, 1979).

In this article, we provide a glimpse into Emilia Ferreiro's academic life and discuss her unique contributions to our understandings of children's intellectual literacy histories (Ferreiro, 1985). Her work is especially important to understand at a time when the focus on literacy in the U.S. has been narrowed to evidence-based research and reduced to making decisions about which skills and commercial reading programs are the best to use to teach reading. Emilia Ferreiro's work reminds us that to understand literacy learning, we need to focus our attention on young learners and how they contribute to their learning to read and to write.

At the same time that Emilia acknowledges the importance of the social environment influencing children's literacy learning, she highlights for teachers and researchers the importance of careful observation and analysis of children's reading and writing and of valuin the dynamic ways in which they develop literacy (Ferreiro, 1997). As educators in the U.S. become aware of children's literacy learning in a range of languages and cultures other than English, we broaden our perspective about children's linguistic knowledge and capabilities.

#### HER ACADEMIC LIFE AND ACHIEVEMENTS

Emilia is a professor at the Center of Research and Advanced Studies of the National Polytechnic Institute in Mexico (CINVESTAV) and a member of the Mexican Academy of Science. She was inducted into the Reading Hall of Fame in 1993, and in 1994 received both the International Citation of Merit from the IRA and the Liber tador da Humanidade medal from the state of Bahia in Brazil, previously awarded to only two well-known per

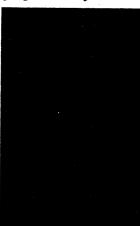
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sonalities, Nelson Mandela and Paulo Freire. She has been awarded the Guggenheim Fellowship and six Honoris Causa Doctorates, the most recent from the University of Athens, Greece, in 2003.

Emilia was born in Argentina and received her first degree in psychology from the University of Buenos Aires. In 1970, she earned her doctorate at the University of Geneva in Switzerland, becoming the only Latin American to complete her dissertation under the direction of Jean Piaget. She returned to Argentina where she became a professor at the University of Buenos Aires.

Between 1973 and 1975, she designed a groundbreaking study with colleagues that built on the conceptual frameworks of genetic psychology and contemporary psycholinguistics. Working with children from a variety of socioeconomic backgrounds, the researchers examined children's understandings about the nature and function of writing systems. Emilia and Ana Teberosky published this work in Spanish in 1979 and the English version appeared in 1982. Emilia recalls the difficulties they had gaining access to schools due to lack of funding and support. In addition, there were complications because of the dictatorship in Argentina (1976–1983) (Ferreiro, 1999). As a result, she and several members of her research team left the country. She returned to Geneva, where she continued working with Hermina Sinclair in psycholinguistic research and was a research assistant at the International Center of Genetic Epistemology, directed by Jean Piaget. In 1979, she moved to her present position at CINVESTAV where she has been conducting research and teaching future researchers, building on psychogenetic theory.

Although the focus of this article is on her early literacy research, Emilia researches, writes, and speaks throughout the world on a range of literacy topics. For example, she explores the role of orthographies in Romance languages, the ways colonial languages such as English and



Spanish are hegemonic in their relations with indigenous languages, and the influences of globalization on indigenous populations and schooling. She studies literacy learning in adults with diverse socioeconomic backgrounds and abilities, and recently, she has become interested in researching the use of digital technologies. And all of her work reflects her concerns for social jus-

tice, linguistic self-determination, sociocultural issues, and democracy, as well as her belief that literacy and biliteracy are human rights.

Emilia's publications appear in Spanish, English, French, Italian, and Portuguese. She carefully reads the translations of her publications and sometimes writes in English to assure that she is appropriately represented. Her English writings are listed in the bibliography, as well as prominent publications in Spanish. To appreciate the power of her own voice, we encourage the reading of her work in Spanish whenever possible.

#### AN INTERNATIONAL COLLABORATION

Emilia's research is often collaborative and international. She is a member of a group of female psychogenetic psychologists and educational professionals living throughout the world who ask similar research questions. She is recognized as the leader of this group because her colleagues appreciate her special knowledge about psychogenesis developed through her work with Piaget (Ferreiro, 1999). During the time when Emilia returned to Geneva, many of her colleagues moved their research from Argentina to other countries. Ana Teberosky went to Spain, Liliana Tolchinsky did research in Israel and now works in Barcelona. Delia Lerner worked for the education ministry in Venezuela and now teaches in Buenos Aires. Over the years, other researchers, mainly from Brazil, France, and Italy, joined this international collaborative of Piagetian researchers. Living in different linguistic and cultural contexts provides the opportunity to establish a network that facilitates cross-cultural comparisons. The researchers are able to triangulate their results and examine the universality of psychogenetic processes in literacy learning. At the same time that their work corroborates research findings in different languages, the differences they discover stimulate continuous discussions and a wave of new literacy studies about the universal aspects of literacy learning as well as the individual characteristics influenced by linguistic and cultural factors. According to Emilia, such cross-linguistic comparative work provides the way to answer legitimate questions that can only be answered through such collaborations (Ferreiro, Pontecorvo, Ribeiro Moreira & García Hidalgo, 1996).

# THE SEARCH FOR CHILDREN'S LITERACY KNOWLEDGE

"Los niños tienen la mala costumbre de no pedir permiso para empezar a aprender." (Children have the bad habit of not asking for permission to begin learning.)

-Ferreiro (2003c)

The genius of Emilia's research is reflected in the questions she asks and the design of the tasks that make young children's thinking visible. The tasks unearth "what writing is as they [children] see it, what reading is as they understand it, what problems they pose, and how" (Ferreiro & Teberosky, 1982, p. 19). Emilia examines children's work for two kinds



of evidence. She wants to examine children's "systematic ways of thinking that cannot be attributed to any explicit information given by adults or by environmental situations," and she also wants to find an order in the problems the children face and the solutions they propose (Christou, 1999). As children participate individually in reading and writing tasks, the researcher asks questions that provide opportunities for children to explain their contradictions. "We introduce conflictive elements whose solution requires real reasoning on the part of the child" (Ferreiro & Teberosky, 1982, p. 21).

Emilia's primary objectives are to understand the "evolution of the systems of ideas children build up about the nature of the social object that is the writing system" (Ferreiro, 1990, p. 13). She believes that children are thinkers as well as learners asking questions about the ways written language works and the purposes it serves in their lives. Children are trying to understand what it means to read and to write in their world (Ferreiro, 2003b). "We therefore studied children's performance, with the aim of making a theory about their competence, in keeping with a constructivist view of its evolution, rather than a theory about their performance" (Ferreiro, 1990, p. 13).

Using this perspective to guide their work, Emilia and her colleagues have explored a range of questions about children's literacy development:

- How do children decide what is readable? In other words, how do they use contextual information and how do they decide about formal features, such as combination of letters and the number of letters in a string? (Ferreiro, 1984; Ferreiro & Teberosky, 1979, 1982)
- What hypotheses do children hold about written language that are original constructions, and how do their interpretations change over time? (Ferreiro, 1978, 1994; Christou, 1999)
- What are the units of analysis that children come to understand before they become literate, and how does this

- change as a result of schooling? (Ferreiro, 1986, 1992; Vernon & Ferreiro, 1999)
- How do children represent different written units such as words, nominal phrases, sentences and stories? (Ferreiro & Pontecorvo, 1999; Ferreiro, Pontecorvo, Ribeiro Moreira, & García Hidalgo, 1996)
- In what contexts do children expect to find different written structures such as fiction, news stories, or dialog? (Ferreiro & Teberosky 1982).

The unique tasks Emilia and her colleagues design engage children in reading and writing words, sentences, and stories; responding to the characteristics of different kinds of texts in order for reading to take place; and explaining the distinctions between drawing and writing, between written genres, and between names and words.

One of Emilia's most fruitful approaches to studying writing development consists of encouraging children to read and write something that they have not been taught. For example, the researchers engaged sixthrough eight-year-olds from middle- and lower- socioeconomic classes in the spontaneous writing of the traditional folk tale, La Caperucita Roja (Little Red Riding Hood), in Spanish in México, in Portuguese in Brazil, and in Italian in Italy (Ferreiro, Pontecorvo, Ribeiro Moreira & Hidalgo García, 1996; Freeman & Goodman, 2000). The researchers analyzed the writing to document the children's concepts of word segmentation, invented spelling, punctuation, and the functions of repetition of lexical items. Although there were differences due to the specific orthographies of the languages, the researchers found that many of their findings were similar. For example, the children demonstrated that they understood the concept of words through spacing when they wrote nouns in their compositions. However, even though they used other features in the language that connected words, the children did not always show that they considered conjunctions and prepositions to be words. Emilia published the results of the study in Spanish and the other researchers have written in their native languages to avoid comparing one language to another simplistically. By publishing separately, each language is viewed from an equal vantage point. Emilia and her colleagues have formed an international database, TEXTUS, for further cross-linguistic investigations. Teberosky (1996) reports that the analyses serve as a window through which researchers with various backgrounds are able to observe how language works.

The results from this study and others cause Emilia to be especially interested in the nature of the linguistic unit of language that children use as their jumping-off point for their understandings about written language. Emilia

believes that writing systems that have developed historically are analytic representations of language and cannot be reduced to an imperfect mapping of elementary sounds. Since she believes that children construct the unit of analysis through their interactions with written language, she does not consider the phoneme to be the most important unit (Vernon & Ferreiro, 1999, 2001).

#### **DEVELOPMENTAL PATHWAYS**

Over the years, Emilia has identified three developmentally ordered levels in a child's literacy history. First, children become aware that drawing and writing are different. Although both systems use the same kinds of lines, the children hypothesize that the lines follow the object's contours in drawing. Writing, on the other hand, has a linear order, and the form of the object the letters are referring to is arbitrary and has nothing to do with its physical features. Once they discover the characteristics that distinguish drawing from writing, "children start looking for the conditions that a piece of writing must have in order to be good for reading to take place" (Ferreiro, 1990, p. 17).

During the second level, children construct quantitative and qualitative requirements that are necessary to deal with the written systems. Children tend to believe that three letters (quantitative) are sufficient to represent something to be readable, but the letters must show variation, i.e., not be the same (qualitative) (Ferreiro & Teberosky, 1982, p. 27). Children at this level of development are not analyzing the sound pattern of the word but are working with the linguistic symbol as a totality—meaning and sound together as a single entity.

As they move into the third level, children are aware that there are relations between the system of the sounds of a language and its written system. At this level of development in Spanish, Portuguese, Catalan, Italian, and Hebrew, Emilia and her colleagues document three welldifferentiated hypotheses-syllabic, syllabic-alphabetic, and alphabetic (Ferreiro & Teberosky, 1982; Goodman, 1990). Similar research in English supports these developmental levels, although the different conclusions English-speaking children reveal in their spellings suggest the nature of the influence of their linguistic knowledge on their constructions (Kamii & Manning, 1999). For example, during the syllabic period, English children are more likely to use consonants to establish the relationship between letters and syllables by spelling, for example, vacation as VKN, while Spanish-speaking children are more likely to use vowels, spelling mariposa (butterfly) as AIOA.

The levels that Emilia and her colleagues propose are based on the belief that children construct their own knowledge. Their constructions occur in social settings because it is impossible to grasp the specific relations between language and written marks without participation in literacy events. However, in order to assimilate this information, children transform it in several ways, following a definite pathway. These levels are not discrete stages or steps that children follow in simplistic ways, at the same age, or at the same time in all contexts. Rather they are conceptual notions, deep thoughts that children consider and discard as they build schema or concepts to understand what a language is composed of, what a language needs in order to work as a communicative tool, and what it means to read and to write. This focus on the child as an intellectual being does not minimize the importance of the cultural community or the educational establishment that influences the children's sociogenetic development. Rather it recognizes the unique intellect of the young learner. Emilia calls the children's individual construction of knowledge psychogenetic development.

Emilia hypothesizes that children construct their literacy knowledge and come to their understandings about alphabetic writing systems by asking a series of questions and the resolution of each leads to new questions. She concludes that, "Literacy is a developmental process during which information is always assimilated... Assimilation means transformation in order to be understood.... Children's theories are developmentally ordered" as children use the information in their social environment to make sense of their learning. Certain behaviors or accomplishments appear before others, and understanding how these accomplishments are sequentially ordered provides insight into the ways in which what comes earlier contributes to what follows (Christou, 1999).

# THE RELATIONS BETWEEN PSYCHOGENESIS RESEARCH AND PEDAGOGY

Emilia is well aware of the significance of her work for pedagogy. Teachers and teacher educators are drawn to her presentations as if she were a rock star; thousands of teachers in Brazil, Argentina, and Chile fill stadiums to hear what she has to say. Her examples are enlightening and educators know that her conclusions have challenging implications for teaching. She is revered and quoted, though at times, misunderstood.

She is not comfortable telling professional educators what should happen in classrooms. From her perspective, teachers must build theoretical understandings of the evolution of learning in children and the psychological evolution of writing systems and apply these understandings to their teaching. She believes such knowledge provides teachers, psychologists, and diagnosticians with ways to "see" unnoticed signs of literacy development. However, knowledge about learning and writing systems alone does not solve the problems teachers have in planning classroom opportunities for literacy learning. Teachers need to use their pedagogical knowledge to organize the classroom environment, take advantage of developmental moments, and encourage opportunities for students to engage with reading and writing in many ways—not simply to wait for the next level of literacy development to appear (Ferreiro, 1990).

Emilia says "some teachers are so accustomed to asking for new methods, new materials, new tests, . . . that they sometimes start asking researchers like myself to do their job for them" (Ferreiro, 1990, p. 23). She is especially concerned when she hears that teachers are trying to directly teach the levels that she hypothesizes children grow through without appreciating the opportunities children need to explore literacy as an object of study in order to problem solve and come to their own hypotheses.

Emilia believes that there is confusion in pedagogy between teaching method and learning process. "We find unacceptable that success in learning is attributed to the method and not to the learner" (Ferreiro & Teberosky, 1982, p. 12). Inherent to genetic psychology is "the basic assumption that there are learning processes that do not depend on methods. A method may help or hinder, facilitate or complicate but not create learning. Obtaining knowledge is a result of the learners' own activity" (p. 15).

She also strongly believes that teachers must consider the specific cultural and language issues related to the particular context in which children grow. In Brazil, where she interacted with Paulo Freire and other educators, she describes being uneasy when some teachers applied her theory to practice without taking into consideration their Brazilian context and the Portuguese language (Ferreiro, 1999). She therefore engages local scholars to consider the unique cultural and literacy practices to plan curriculum. In México, she was involved years ago with the special education sector of the Ministry of Education. Now, some of her former Mexican students are engaged in positions of responsibility at the Ministry. In Argentina, some of the original collaborative group members, such as Delia Lerner and Anna Kaufman, are conducting research to explore local teachers' successful literacy practices, especially with working-class children in kindergarten through the end

of primary grades. According to Emilia, there are no neutral pedagogical practices. "There is no escaping the necessity of reflecting on how we conceive the object of the knowing process and the process of knowing when we talk about school" (Ferreiro, 1990, p. 25).

#### RECOGNIZING THE WORK OF EMILIA FERREIRO

Emilia's discoveries have had an important influence on our work and the work of scholars around the globe. We are concerned that her conclusions and insights built on a highly respectable research tradition have not been part of recent discussions about reading instruction taking place at the federal level. As we noted earlier, the recent focus on literacy in the United States has used narrow research findings to mandate the use of skills and commercial reading programs appropriate for classroom use. This has shifted discussions in the early childhood community away from understanding how children come to know the social conceptualization of the object called literacy.

There are other reasons that her research is not as well known in the United States as it should be. The present focus in some circles on sociocultural issues erroneously suggests that psychogenesis research does not contribute to understandings about cultural and linguistic diversity in society. Certainly, as we have demonstrated, the psychogenetic collaborations that Emilia leads add a rich dimension to valuing the contributions and discoveries that children make about their own learning to read and to write. In addition, there is an unfortunate academic tradition in the United States that tends to ignore research conducted in other countries and in languages other than English. Yet when we compare cross-linguistic and cross-cultural studies to our work, we understand more fully what has worked elsewhere and what can be adapted to our classrooms.

At a time when reading research and instruction are often reduced to test scores, Emilia's significant contributions about how children learn must be highly visible and in the mainstream of our current debates. We hope this article, dedicated to Emilia Ferreiro, encourages early childhood and literacy educators to expand their knowledge about the psychogenetic and psycholinguistic nature of literacy development. As she explores the theoretical and historical issues about literacy, Emilia brings the world view of the child into this serious discussion. Her own words highlight the importance of her work.

My role as a researcher has been to show and prove that children think about writing, and that their thinking demonstrates interest, coherence, value and extraordinary educational potential. We've got to listen to them ... from the very first written babbling—the moment they made their first drawings. ... We cannot reduce children to a pair of eyes that see, a pair of ears that listen, a vocal mechanism that emits sounds and a hand that clumsily squeezes a pencil and moves it across a sheet of paper. Behind (or beyond) the eyes, ears, vocal chords and hand lies a person who thinks and attempts to incorporate into his or her own knowledge this marvelous medium of representing and recreating language which is writing, all writing (Ferreiro, 2003b, p. 34).

#### **Authors' Note**

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### Suggestions for Further Reading on Literacy Learning and the Young Child

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