



1986

# Reading Acquisition in Morocco

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## Recommended Citation (OVERRIDE)

Wagner, D.A. & Spratt, J.E. (1986). Reading Acquisition in Morocco. In Kagiticibasi, C. (Ed.), *Growth and Progress in Cross-Cultural Psychology: Selected Papers from the Eighth Confrence of the International Association for Cross-Cultural Psychology*, 346-355. Holland: Swets and Zeitlinger.

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# Reading Acquisition in Morocco

## **Abstract**

While interest in reading and writing has always been important to researchers and educational policy-makers, multidisciplinary investigations of the acquisition of literacy are a relatively new enterprise. In the Arabic-speaking world, in particular, there have been relatively few efforts to discover what kinds of literacy abilities the child brings to the classroom, and what kinds of home, preschool, and language environments lead to various levels of literacy both in and out of school. The research described here presents data collected during the first three years of the Morocco Literacy Project, whose general aim has been to investigate the process of literacy acquisition and retention in Morocco. The present paper will consider the effects of preschool experience and language background on a sample of primary school children living in contrastin rural and urban environments in Morocco.

## **Disciplines**

Curriculum and Instruction | Early Childhood Education | Education | International and Comparative Education | Language and Literacy Education

# READING ACQUISITION IN MOROCCO

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While interest in reading and writing has always been important to researchers and educational policy-makers, multidisciplinary investigations of the acquisition of literacy are a relatively new enterprise. In the Arabic-speaking world, in particular, there have been relatively few efforts to discover what kinds of literacy abilities the child brings to the classroom, and what kinds of home, preschool, and language environments lead to various levels of literacy both in and out of school. The research described here presents data collected during the first three years of the Morocco Literacy Project, whose general aim has been to investigate the process of literacy acquisition and retention in Morocco. The present paper will consider the effects of preschool experience and language background on a sample of primary school children living in contrasting rural and urban environments in Morocco.

The first issue addressed is that of language background. Does learning to read in one's native language, as opposed to a second language, make a difference? More specifically, do Berber- and Arabic-speaking children achieve different levels of Arabic literacy skills during primary school? Do such differences persist in subsequent years of schooling? Do differential language skills affect particular literacy abilities, leading to a different patterning of skills? The second issue concerns that of organized preschool experiences. Does Quranic preschooling experience facilitate literacy acquisition among rural Moroccan children in primary school? Does any initial advantage carry over into later years of public schooling? Third, we address the issue of general environmental influences on reading acquisition. Beyond the specific effects of language and preschooling, are there other aspects of the environment, such as parental literacy or mass media, which affect learning to read? Answers to these questions hold implications for Moroccan educational policy as well as for other multilingual and educationally diversified societies. To provide a context for a discussion of the present results, it is useful to start with a brief description of the linguistic preschooling, and environmental contexts available to children in Morocco.

## The Language Situation in Morocco

Contemporary Moroccan society can be characterized as a multilingual community in which three primary languages are used: Arabic (in at least two varieties), Berber, and French. The degree of multilingualism exhibited by any individual or group appears to be a function of the degree of urbanization, the geographical and ethnic origin of the speaker, and the level of his or her education. For example, in the large urban centers of Morocco, Arabic and French are widely used side by side, and code-switching is often engaged in by the more educated Moroccans. In contrast, French is rarely heard in rural areas, where Arabic and/or Berber dominate, depending on the region.

Standard (or literary) Arabic (SA) is the official language of the country and therefore the language of the mass media and school instruction. Standard Arabic enjoys considerably more prestige than Moroccan Arabic (MA), the regional dialect, because it is associated with Islam and the written Quran, and is viewed as a symbol of unity in the Arabic-speaking countries. SA is also the language of literacy, being the only variety of Arabic commonly used in written communication of any kind. Along with Arabic/French bilingualism and SA/MA diglossia, an additional opposition exists: that of the Arabic and Berber languages. While Arabic is a Semitic language, Berber belongs to the Hamitic family of languages, and is the language of nomadic groups who settled in Morocco long before its conquest by the Arabs in the 8th century A.D. While official statistics on the number of native Berber-speakers in Morocco are not available, estimates range from about 30% to over 60% of the population (Moatassime, 1974: 641). Most adult male Berber-speakers are at least partly bilingual or even trilingual (in Berber, Arabic, and French or Spanish), and schooling, media, and increased migration to urban areas in recent years have further promoted the "bilingualization" of Berbers, particularly among the younger generations. It is still possible, however, to find predominantly monolingual Berber-speaking individuals among the women and young children of certain rural areas. An example of such a place is the rural site selected for the study reported here, a small town in central Morocco.

Although MA and Berber constitute the two predominant mother tongues for Moroccan children, neither language is used as a medium of instruction or literacy training in public government schools. Since the most recent enactment of an educational policy of Arabization, the official language of schooling and literacy at all stages is SA (Grandguillaume, 1983). Thus, the public school obliges both MA- and Berber-speaking children to learn in a language other than their mother tongue.

For both Arabic- and Berber-speaking children, then, direct exposure to the language of literacy occurs mainly in the school setting. This is especially the case in rural areas, where there is limited access to print media outside of the schools. For a good number of children of both MA and Berber backgrounds, such literacy exposure begins in the preschool, and in most rural settings, the single type of preschooling available is the Quranic school. A general discussion of the relationship between language, literacy and context in Morocco is available in Wagner, Messick and Spratt (1986) and Ezzaki, Spratt & Wagner (in press).

## Preschooling in Morocco

Two principle types of preschooling are available to families of limited means in Morocco: the Quranic preschool, which accounts for the vast proportion (roughly 90%) of Moroccan preschools; and government-controlled "modern" preschools, based on the French model (roughly 7%). A third type of preschool, the private bilingual French/Arabic preschool serving the elite, was not included in our study. In addition, a considerable number of children attend no preschool at all.

For both Arabic-speaking and Berber-speaking children, the Quranic school experience may begin as early as three years of age, and represents an important introduction to the language (SA), learning activities, and strict discipline expected in formal school settings. For many Berber-speaking children coming to the town's Quranic school from outlying areas, it also provides a first opportunity for intensive exposure to MA as a language of peers. As such, the Quranic school can be viewed as an environment for the early development of bilingual skills. For the Moroccan child, whose parents are likely to be illiterate, the Quranic preschool may well be the richest print-media and SA language environment yet encountered. It was hypothesized, therefore, that Quranic preschooling might foster early reading knowledge. While reasonable in light of the practice obtained in the preschool context, this hypothesis runs counter to the assertions of some education specialists who have claimed that Quranic schooling has a negative effect on cognition and literacy. For more information on the contemporary Quranic school and discussion of potential childhood consequences in Morocco, see Wagner and Lotfi (1980), Wagner (1982), and Spratt and Wagner (1986).

The "modern" preschools controlled by the social welfare ministries of the government are available primarily in urban settings. These preschools emphasize preparation for primary school, through activities such as beginning reading and arithmetic. While rote learning and recitation of poems, songs and some Quranic material may occur among the everyday activities in modern preschools, the time devoted to rote activities is much less than in Quranic schools.

## Rural vs. Urban Environment

Finally, an environmental contrast was thought to be important since literacy and educational ecologies vary dramatically between Rural and Urban Morocco. This contrast was also helpful in terms of contextualizing the effects of Quranic schooling in the two settings. While the Quranic schools were, according to our ethnographic observations, substantially similar in terms of pedagogy and teacher competence in the Urban and Rural settings, the kinds of home-learned and street-learned skills and attitudes which children bring to school were thought to differ markedly across these two environments. In addition, though mothers in both settings were typically unschooled and illiterate, and father's education and literacy was generally limited to a few years of Quranic and/or primary school, the Rural and Urban settings were known to differ in the availability of literacy in the ambient environment (signs, billboards, notices), as well as in access to written mass-media such as newspapers and books. Furthermore, children

had greater access to and contact with television in the Urban environment.

### Research Design and Method

The sample of children on which this study is based was drawn from first-grade classrooms of primary schools in two locations: a town in the foothills of the Middle Atlas mountain range in central Morocco; and in the urban setting of Marrakech, a city of about 500,000 inhabitants. Children were chosen to participate according to three main criteria required by the research design shown in Table 1: (1) maternal language (Arabic or Berber); (2) preschool experience (no preschool, Quranic preschool, modern preschool); and (3) Urban or Rural environment. Children were 6-7 years of age when the study began, and were assessed once a year over a three-year period. The sample included roughly equal numbers of boys and girls, but since there were no gender-related differences in results, these cells have been collapsed to constitute the seven main comparison groups outlined in Table 1.

Table 1: Description of the children in the sample

I. ENVIRONMENT	MAIN CONTRASTS						
	Rural				Urban		
II. PRESCHOOL	None		QS		None	QS	MPS
III. LANGUAGE	B	A	B	A	Arabic-speaking only		
Subsample groups:	RNB	RNA	RQB	RQA	UNA	UQA	UMA
Subsample Size	27	23	56	60	29	66	89
Total N = 350							
Gender:							
boys	13	11	30	29	12	33	44
girls	14	12	26	31	17	33	45
Mean years age:	7.4	7.4	7.4	7.4	7.3	7.2	7.1
Mean years of preschooling:	0.1	0.1	1.1	1.6	0.1	1.7	1.9

QS: Quranic preschool; MPS: Modern preschool; B: Berber-speaking; A: Arabic-speaking; RNB: Rural Non-preschooled Berber-speaking; RNA: Rural Non-preschooled Arabic-speaking; RQB: Rural Quranic preschooled Berber-speaking; RQA: Rural Quranic preschooled Arabic-speaking; UNA: Urban non-preschooled Arabic-speaking; UQA: Urban Quranic preschooled Arabic-speaking; UMA: Urban modern preschooled Arabic-speaking.

A battery of experimental Arabic (SA) reading tests, constructed especially for the purposes of this project, was administered to the children in the Spring (April 1983) of their first year of primary school and again, in separate forms and with some additions, in the spring of grades 2 and 3. Five tests form the database for the present discussion:

a) Letter Knowledge test. Administered in years 1 and 2, this test

consisted of four subtests which measured the child's knowledge of Arabic orthography. Individual scores were calculated as the mean of z-scores of the subtests. These subtests are as follows: (i) Recognition of a written symbol, to be chosen from among three letters (e.g., "Where is the kaf? Point to it please."); (ii) Recognition of two configurations of the same letter (e.g., "Here are three letters. Which two have the same sound?"); (iii) Identification of a given letter (e.g., "Look at this letter; what is this letter?"); and (iv) Voicing of a written letter combined with a vocalizing diacritical mark (e.g. "How do you read this?").

b) Word Decoding test. Administered in years 1-3, this test required the child to read aloud a list of increasingly difficult words, all selected from school primers at and above the child's school grade. The number of correctly read words constituted the score for each child. Psychometrically, this test was less effective than the other reading tests described here, because in year 1, many rural children did extremely poorly, leading to a "floor effect" for Rural groups. By years 2 and 3, however, most children had mastered this task to about the same high degree, leading to a "ceiling effect." Nonetheless, this measure is included here in order to provide a comprehensive view of the nature of measures used to assess beginning reading.

c) Word Picture Matching test. Administered in all three years, this test is similar to many standard reading tests, requiring the child to choose which written word, among 3 choices (4 choices in year 3), "names the picture". Thus, the Word Picture Matching test measured the child's ability to recognize and comprehend text at the single word level.

d) Sentence Maze test. Administered in years 2 and 3, this test represents a popular measure of reading comprehension at the sentence level. It consisted of a series of sentences with a single word missing. From an adjacent list of 3 (year 2) or 4 (year 3) possible choices, the child was asked to select the one word that best completes the sentence.

e) Paragraph Comprehension test. Administered in years 2 and 3, this test is also typical of many standard reading assessments. The child was asked to read a series of short paragraphs, and respond to multiple-choice questions of fact and inference following each paragraph.

These measures were constructed based on words and Arabic syntactic structures selected from first through third grade Moroccan primary school primers, and were pretested on different children prior to use in this project. The five tests were administered in alternate forms over the years of testing, which controlled for possible learning effects on specific measures. All tests were administered individually in years 1 and 2; in year 3, tests were presented in a group testing format. The overlapping test design was necessitated by the wide range of ability exhibited by the children in this study. Detailed statistical analyses of the results are in progress, though some analyses have appeared in Wagner and Spratt (1987) and Ezzaki, Spratt and Wagner (in press).

## **Results**

### Effects of Moroccan Arabic vs. Berber as mother tongue

Because of the wide variety of tests used in the project, and because the five tests vary in content and length across the years of research, the subsample contrasts may be seen more clearly from standard or z-scores

which were calculated on the entire sample for each separate task. The z-score results are shown in Figures 1-5.

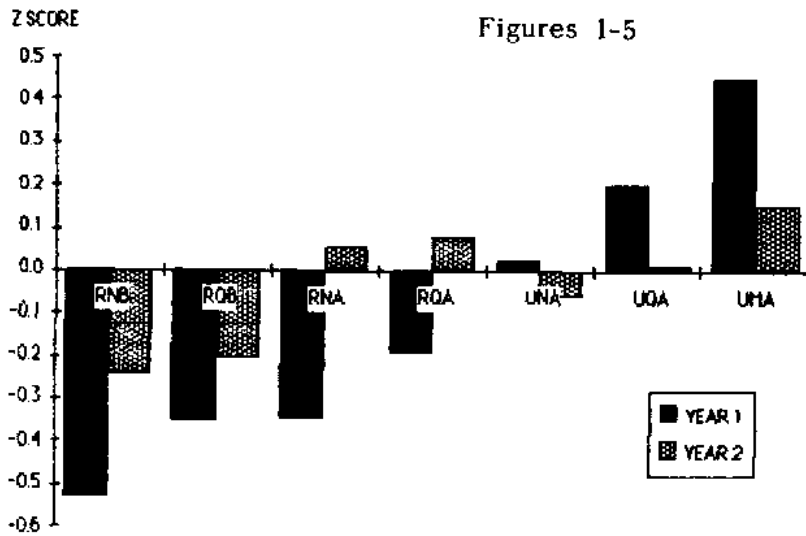


FIGURE 1. LETTER KNOWLEDGE TEST: YEARS 1 & 2

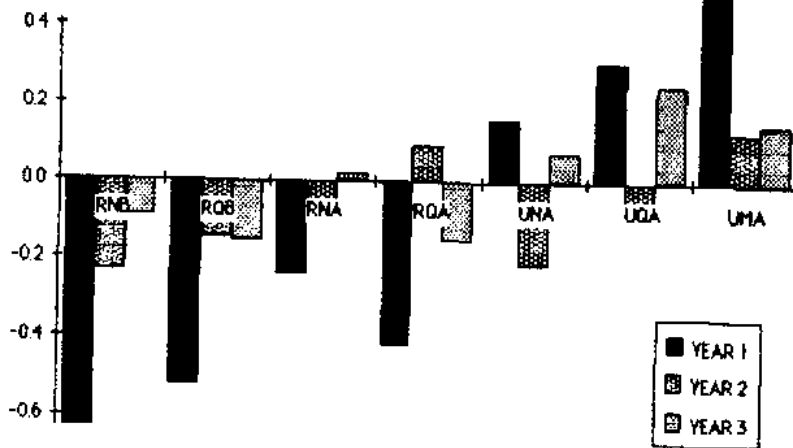


FIGURE 2. WORD-DECODING TEST: YEARS 1-3

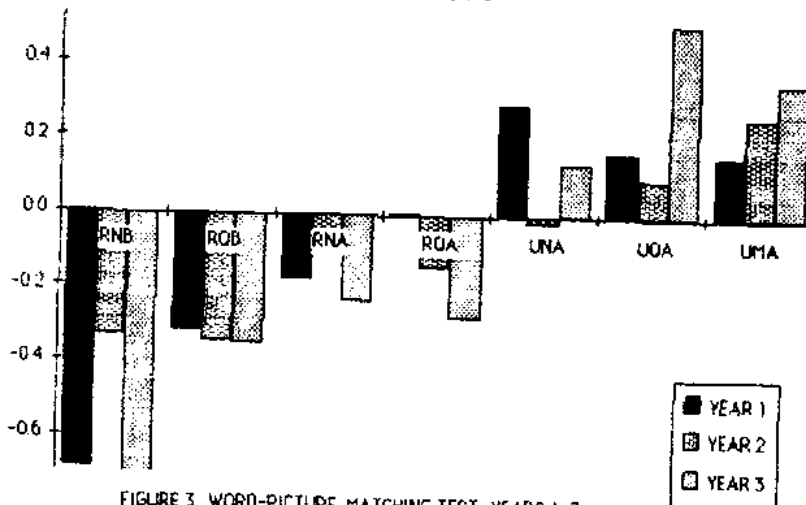


FIGURE 3. WORD-PICTURE MATCHING TEST: YEARS 1-3

UMA = URBAN MODERN ARAB  
 UQA = URBAN QURANIC ARAB  
 UNA = URBAN NONPRE ARAB  
 ROA = RURAL QURANIC ARAB  
 ROB = RURAL QURANIC BERBER  
 RNA = RURAL NONPRE ARAB  
 RNB = RURAL NONPRE BERBER



Figures 1-5 (Cont.)

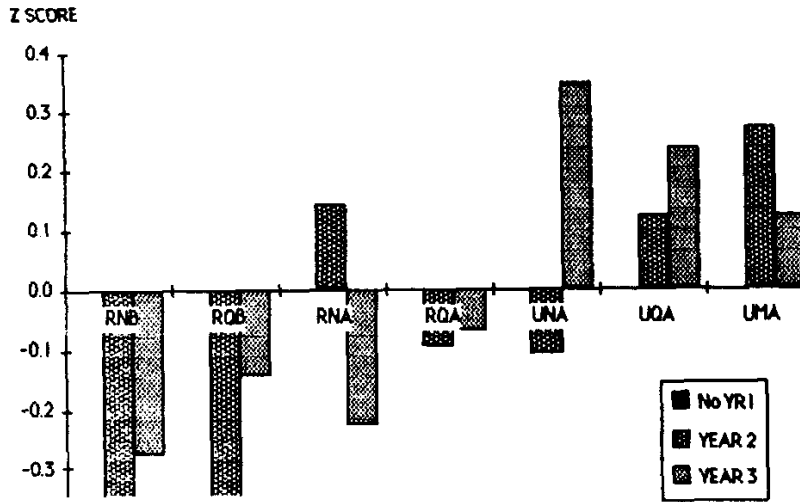


FIGURE 4. SENTENCE MAZE TEST: YEARS 2 & 3

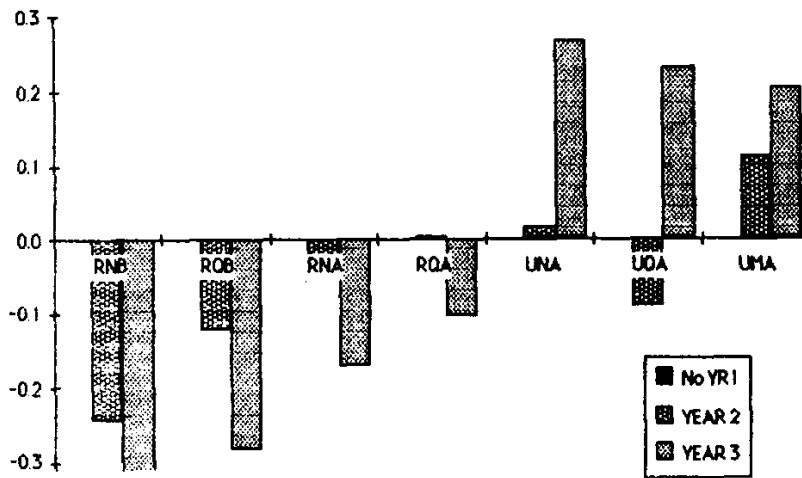


FIGURE 5. PARAGRAPH COMPREHENSION TEST: YEARS 2 - 3

In terms of language differences, the most direct comparison is between the Arabic- and Berber-speaking samples in the Rural environment. Arabic-speaking children performed significantly better than the Berber-speaking children on all three first-year reading tests. This superiority of the Arabic-speaking group was basically maintained in the second and third years across the different tests, although in somewhat attenuated form. In each case which compares an Arabic-speaking subsample with its preschooled or non-preschooled Berber-speaking counterpart, the former is superior over all three years of measurement.

### Effects of preschool vs. no preschool experience

With respect to preschool experience, the results are mixed. The Quranic and modern preschooled children were generally superior to those without preschooling in year 1. In year 2, this trend of preschool superiority still held in most paired comparisons over most tests. By year 3, preschooling led to superior performance only for the rural preschooled children when compared with rural non-preschooled children. The largest inter-group differences appeared to be between the Berber-speaking samples who did or did not go to Quranic school, with the non-preschooled Berber-speaking group performing least well on most measures over the three year period.

Thus, while Quranic preschool experience appears to be helpful for both Berber and Arabic-speaking children in the early stages of literacy acquisition, the effects are fairly small. Finally, as noted elsewhere (Wagner & Spratt, 1986), the presumed differences between Quranic and modern preschool experiences were, in terms of empirical results, virtually non-existent.

### Effects of Rural vs. Urban environment

The overall pattern of results from the three years of testing shows a large and consistent superiority of Urban over Rural children for all subsamples over all reading measures. Moreover, these differences are just as salient in year 3 as in years 1 and 2, showing that the number of years of schooling does little to attenuate entry differences, as was the case (discussed above) for the effects of maternal language and preschooling. Of particular interest is the Urban non-preschooled subsample (UNA): in year 2, these children were behind other Urban preschooled children, but in year 3 had become the highest scoring group on the advanced reading tests (Sentence Maze and Paragraph Comprehension).

## **Discussion and Conclusion**

Language background and preschool experience appear to have differential and complex effects on literacy acquisition among rural Moroccan children in the first three years of primary school. For example, the superiority of the Arabic-speaking children in the early stages of literacy acquisition may be understood in terms of the similarity between the spoken language (MA) and the language of literacy (SA). This similarity involves a closer relationship of the phonological system of spoken MA with that of written SA, which makes the task of vocalizing letters, letter blends, and words easier for the Arabic-speaking group than for the Berber-speaking group. Similarly, the kinship between the lexico-semantic systems of the two varieties of Arabic gives an advantage to the Arabic-speaking group in terms of word recognition, decoding words, and comprehension.

As to the effects of the Quranic preschool experience for promoting reading skills, the data suggest that the reading advantages held by children who attended the traditional preschool were modest but relatively consistent over the first three years of primary school for Rural children, while such advantages were attenuated almost completely by year 3 for Urban children. In addition, Urban children who attended modern preschools were roughly equivalent in performance to children who had attended traditional

Quranic preschools for about the same time period. In years 1 and 2, both preschooled groups often outperformed the group of urban children who did not attend any preschool. Our ethnographic observations supported these findings in that substantial similarities were found between so-called "modern" and "traditional" preschools. As noted above, while more focused on religious learning, Quranic preschools also provided elementary instruction in reading and arithmetic. Conversely, the modern preschools offered some Quranic study and employed rote recitation and memorization techniques to an extent greater than expected (cf. Wagner, Messick & Spratt, 1986).

In sum, the analyses reported here suggest that, even though the modern primary school in Morocco is an important mainstreaming institution, its effects over the three years of this study did not eliminate initial differences caused by the early effects such as maternal language and preschooling. Even more dramatically, it was found that the effects of urban environment not only overshadowed language and preschooling effects, but were also more longlasting.

There are a number of policy implications to this research. First, it appears that the standardized curriculum of Moroccan primary schools is not having an early or complete effect of reducing entry differences among contrasting groups of children. For example, among the Berber-speaking children -- with the lowest entry literacy abilities -- the traditional Quranic preschool seems to be of considerable benefit for literacy acquisition in Arabic. While differences in literacy ability between Quranic preschooled and non-preschooled children are not very large in magnitude, it would seem useful to maintain and improve such preschooling for as many children as possible in rural Morocco. Though some specialists might prefer an emphasis on modern preschooling, there is little evidence that such schools are superior to traditional schools in Morocco, particularly as evidenced in year 3 higher level reading measures (Figures 4 & 5). Furthermore, it is unrealistic to hope, in the near future, that modern preschools could come close to accomplishing the enormous service already being rendered by the network of widely dispersed Quranic schools. In addition, it is clear that Urban children are at a great advantage with respect to Rural children in literacy skills even well into grade 3 of primary school. Remediation of this gap should be given serious attention by policy planners.

In conclusion, this kind of in-depth research on literacy can be useful in identifying and developing equitable programs that offer the maximum opportunity for children of different social and language backgrounds. By studying the various influences of such factors as maternal language, preschooling and environment simultaneously in the present study, we are convinced more than ever that understanding the social and cultural context of schooling and environment is essential to the sensitive understanding of any aspect of children's learning.

### Note

This research is an outcome of a collaborative research project undertaken by the Faculte des Sciences de l'Education of the Universite Mohamed V (Rabat) and the Graduate School of Education of the University of Pennsylvania. Funding was provided, in part, by grants from the National Institute of Education (G-80-0182), National Institutes of Health (HD-14898) and the

Spencer Foundation. This paper was prepared while the first author was a Visiting Fellow at the International Institute of Educational Planning (Unesco) in Paris, France. More information may be obtained by writing to Daniel A. Wagner, Literacy Research Center, University of Pennsylvania, Philadelphia, PA. 19104.

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