The main purposes of the research reported here were: (1) to examine the relationship between children’s level of writing and phonological awareness and (2) to consider the physical presence of writing as an important variable in phonological awareness studies. We present the results of two different studies concerning phonological awareness in Spanish-speaking kindergarteners. Study 1 comprised a blending task (not previously reported) and two different segmentation tasks, which have previously been reported in Vernon and Ferreiro (1999) and Vernon (2002). The second study deals with a letter-identification task, which has not been discussed in previous papers, and two initial phoneme deletion tasks (Vernon, Calderon, & Castro, 2004; Vernon, 2002). Results for both studies show that in all the tasks, the children’s level of writing explains most variance. The physical presence of writing is also an important variable for segmentation and deletion tasks.

12.1. Introduction

The question whether writing has an effect upon cognition is a long-standing one. Olson has claimed that writing has historically been “responsible for bringing aspects of spoken languages into consciousness, that is, for turning aspects of language into objects of reflection, analysis and design” (1994, p. 258). Different scripts represent different aspects of language, so what is brought into consciousness depends upon the type of script. Not all aspects of what is said are brought into consciousness, so any writing system can be a “model of some properties of language” (p. 258). Metalinguistic awareness is not unitary, but depends, in part at least, on the proficiency with which each person can use and think about a particular kind of script.

The effect of writing on cognition is addressed in different chapters of this book: Klein, Boman and Prince (this volume), for example, finds that elementary school children and
university students can both write to learn, and that “metacognitive writing operations make a strong contribution to the level of students’ general writing strategies.” Nottbusch, Weingarten and Sahel (this volume) report a study concerning written language production at the levels of words and sentences. They suggest that segmental information is not completely specified at the beginning of word writing, and hence this is actively processed in the course of writing. In the process of writing sentences, cognitive processes such as sentence planning are also involved. Wengelin (this volume) compares adult dyslexic subjects to normal writers, and finds that spelling difficulties influence the production process (pauses, editing and vocabulary in the finally edited texts). Even if poor spellers do not have a more restricted vocabulary in general, they show lower results concerning lexical diversity and lexical density. Encoding seems to take cognitive capacity from other processes such as vocabulary choice and sentence structuring.

This chapter deals with a particular aspect of the relationship between writing and cognition. The main issue that concerns my research programme is whether writing makes a special contribution to phonological awareness. This contribution is examined in two different ways: first, by examining the relationship between the development of children’s knowledge of a particular script (Spanish) and their phonological awareness; second, by considering the physical presence of writing as an important variable in phonological awareness studies. The hypotheses that have guided the research are that: (1) writing development interacts strongly with phonological awareness; (2) phonological awareness develops, and its development is related strongly with writing development, and (3) the physical presence of writing enables a more analytical analysis of words and thus contributes to a better performance in phonological awareness tasks. All these hypotheses lead to the assumption that writing does, in fact, enhance metalinguistic awareness (or at least phonological awareness) as Olson (1994) has pointed out.

In order to explore these hypotheses, we adopted Ferreiro and Teberosky’s (1979) writing task in order to distinguish between levels of early writing ability and examined how it was related to various features of phonological awareness. In the studies presented here, several tasks that have been traditionally used to test phonological awareness have been adopted (blending, segmentation and initial phoneme deletion).

In one study, we focussed on blending and segmentation. Blending has been amply tested in research because it has been thought to be one of the main skills involved in reading. If children must identify sound units separately through lettersound recognition, they must also be capable of blending these sounds together in order to identify words. This is an easier task than segmentation or deletion (Yopp, 1988). Segmentation of the oral word is particularly important for novice writers, who depend upon their analysis of the sound structure in order to decide how many letters to use for each particular word.

It is our belief that as children progress in their writing development their capacity to analyze words into different kinds of segments increases and they become more competent to analyze features that are not readily available in the speech signal. Therefore, children, who are better able to represent language externally, should show more metalinguistic awareness.

If the hypothesis that the external representation of language facilitates metalinguistic awareness is correct, then we would expect that letters in the written words would make phonemes and intra-syllabic units more apparent. Children should perform better in