

The development of phonological awareness across different grade levels

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<https://doi.org/10.36505/ExLing-2024/15/0010/000635>

Abstract

Over the past three decades, phonological awareness has emerged as one of the strongest predictors of reading. Although phonological awareness has been found to correlate with reading in cross-linguistic studies of Romance languages, much is still unknown about how phonological awareness is manifested in linguistically complex countries such as Morocco. This study examines how phonological awareness is developed during early literacy stages. To assess children's phonological awareness, phoneme and syllable awareness tasks were administered to 45 pupils. The results revealed that performance in syllable awareness tasks was higher than performance in phoneme awareness tasks across the three grades. The results are discussed in light of the Arabic orthography and the Moroccan educational system.

Keywords: Phonological awareness, children, Arabic, orthography

Introduction

Phonological awareness has been recognised as an important component of reading. Not only does phonological awareness indicate an awareness among children of the internal structure of words, but it also underlies individuals' ability to operate on and manipulate the phonemic and syllabic structure of spoken words (National Reading Panel, 2000). The importance of phonological awareness in reading is especially apparent in children's early stages of learning in which their ability to manipulate the sound structure of words is crucial for understanding letter-sound correspondences in written words. Accordingly, phonological awareness is the foundation upon which many literacy skills are based as well as one of the best predictors of children's reading development.

While research on phonological awareness has significantly improved researchers' understanding of the cognitive and linguistic factors involved in reading development, much is still unknown about the factors that enable or restrain the development of phonological awareness in linguistically complex countries such as Morocco. Thus, this study seeks to examine the development of phonological awareness in the Moroccan setting. To this end, the following research question was formulated: How is phonological awareness manifested across three grade levels?

Methodology

The present study examined the development of phonological awareness in Morocco. Data collection took place in a public elementary school in Casablanca-Settat, Morocco. Elementary schools in Morocco allocate a significant portion of the syllabus to teaching languages. In first grade, children start learning Modern Standard Arabic (MSA) and they start learning French in the second grade. The sample of the study consisted of 15 first graders (Mage = 7), 15 second graders (Mage = 7.6) and 15 third graders (Mage = 9). The selected participants speak Moroccan Arabic as their native language, and they have learnt MSA in school.

Phonological awareness was assessed through phonemic awareness tasks and syllable awareness tasks. These tasks tested children's abilities to blend, segment, and delete phonological units. The test items for the phonological awareness tasks were adopted from Saiegh-Haddad et al. (2020). 15 test items were administrated per task; words across the six tasks were matched based on phonemic length, syllabic structure, morphological structure, and orthographic length. The test items progressed in difficulty from a simple syllabic structure to a structure consisting of consonantal sequences (i.e., geminates). Cronbach's alpha corresponding to the phonological awareness tasks provided a value of .773, ensuring the reliability of the instruments used.

Results

The present study examined the development of phonological awareness across three grade levels. Phonological awareness was measured as the mean of phoneme awareness and syllable awareness tasks. Table 1 below provides descriptive statistics of the performance of participants on all phonological awareness tasks used in the study.

Task	Mean	SD
Phonological awareness	9.3860	2.02975
Phoneme Awareness	9.1373	2.27032
Syllable Awareness	9.6191	2.19871

Table 1. Descriptive statistics of all tasks.

In order to compare children's performances in phonological awareness tasks, analysis of variance (ANOVA) was performed to determine whether changes in the independent variable (i.e., grade) had significant effects on the dependent variable (i.e., phonological awareness). ANOVA revealed no statistically significant differences in phonological awareness across the three grades ($F(2,3) = 4,407, p = .128$).

Although our analysis did not find a statistically significant results, the graphical representation of the data revealed a potential trend where

participants across the three grades performed better in syllable awareness tasks than in phoneme awareness tasks (see Figure 1). In particular, Children across the three grades performed poorly in both syllable and phoneme deletion tasks in comparison to the blending and segmentation tasks. Adding to that, second graders were the highest performing group in phonological awareness tasks while first graders were the lowest performing group.

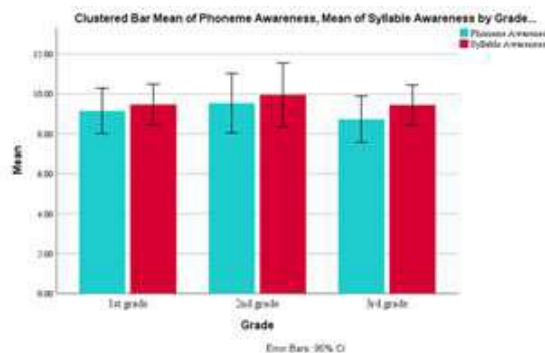


Figure 1. Children's performances in phoneme awareness and syllable awareness tasks.

Discussion

Although ANOVA found no statistically significant differences, results still do show interesting tendencies. It is important to note that second graders were the highest performing group in phonological awareness. This odd developmental curve could be explained by recent educational reforms in Morocco. Recently, The Moroccan government has introduced a new reading reform that focuses on learning phonological components through different tasks instead of focusing on text and sentence reading. Educational experts, such as Khalid Chouker, elaborated that phonological awareness is an initial but essential step in learning to read as it helps develop learners' linguistic competencies necessary to acquire reading.

Although all participants have been taught to read through the syllable-based reading method, first graders were the lowest performing group in phonological awareness. Their low performance may be due to the Arabic orthography and/or their lack of familiarity with/awareness of orthographic information. These results are consistent with Castles et al. (2003) who argue that to obtain high phonological awareness children need to first acquire orthographic information. Similarly, Ziegler et al. (2010) showed that the impact of phonological awareness in reading was regulated by the transparency of the orthography. Thus, our results as well as similar results from Castles and Coltheart (2004) highlight phonological awareness as a variable that is influenced by the orthography of the language being learnt.

Results from this study lend support to the psycholinguistic grain size theory that argues that larger phonological units are acquired earlier than smaller ones. According to the grain size theory, when learning to read, children first acquire larger grain sizes, and they gradually start to recognise phonemes as they grow older. Accordingly, Moroccan children across the three grades performed better in syllable awareness tasks than in phoneme awareness tasks. One interpretation for their high performance in syllable awareness tasks is that syllable awareness is dependent on the syllabic structure of the language being learnt. In this study, children's high performance in syllable awareness tasks may be associated with the simple syllabic structure of MSA that does not allow for complex consonant clusters. In this line of thought, Duncan et al. (2006) discovered that children who speak a language with a simple syllabic structure were more phonologically aware than children who speak a language with a complex syllabic structure. Nevertheless, it is important to highlight that the acquisition of reading among Arabic-speaking children may also be influenced by the morphological structure of Arabic. In this regard, it is recommended that future studies consider phonological, orthographic, and morphological processing skills as to acquire a more comprehensive look into reading.

Acknowledgements

This work was supported by the Centre Nationale de la Recherche Scientifique et Technique (CNRST) as part of the "PhD-Associate Scholarship- PASS" program.

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