

# ASSESSMENT OF SKILLS TO FACILITATE THE LEARNING OF READING AND WRITING: A STUDY IN THE 1ST YEAR OF SCHOOLING IN THE CONTEXT OF THE COVID-19 PANDEMIC

P. Fortunato Vaz<sup>1</sup>, V. Gonçalves<sup>1</sup>, C. Teixeira<sup>2</sup>

<sup>1</sup>*Centro de Investigação em Educação Básica (CIEB), Instituto Politécnico de Bragança (PORTUGAL)*

<sup>2</sup>*Escola Superior de Educação, Instituto Politécnico de Bragança (PORTUGAL)*

## Abstract

This paper presents the results of a quantitative study based on the assessment of competencies to facilitate the learning of reading and writing at the beginning of the 1st year of schooling. This study is part of the "Promoting Reading and Writing" project, which has been underway since 2018 in 11 school clusters of the Intermunicipal Community of Terras de Trás-os-Montes - Portugal. This project's main goals are to conduct screenings in the first four years of schooling to detect risks in the learning of reading and writing skills of the children involved, at an early stage of the school year and to train the respective teachers in the teaching of reading and writing to improve their classroom practices, in order to contribute to the success of all their students in these skills. In the screening carried out in the school year 2020/2021 (in the context of the Covid-19 Pandemic and after months of distance learning), 544 students from the eleven school clusters involved participated. The data collection tool used for this screening was the Know, Act and Change (Conhecer, Atuar e Mudar (CAM)) tests - Version 3 (2020) which, for the 1st year of schooling: (i) assesses knowledge of letters, (ii) identification of the final syllable, (iii) cultural knowledge of the printed word, (iv) identification of the initial phoneme and, consequently, (v) provides information on phonological awareness (identification of the final syllable plus identification of the initial phoneme). After the analysis of results, using descriptive statistics, it was possible to verify (based on data presented throughout the text) that regarding letter knowledge, most students were at the highest level of performance, and the data collected is in line with others that the team collected in previous years. As regards the identification of the final syllable, the results are not as good as in the previous item, with almost 40% (39.34%) of the scores obtained being in the two lowest levels ("very fragile" and "fragile. Regarding cultural knowledge of the printed word, 91.91% have no relevant difficulties in this competence, as they get between 7 and 12 answers right (12 being the maximum result). With regard to the identification of the initial phoneme, where more than half (51.47%) of the scores were placed in the two lowest levels, and phonological awareness, where 41% of the scores were placed in the same two levels, the greatest weakness in the area of these competences is evident. These results highlight that, on the one hand, no negative effect is visible from the changes forcibly introduced because of the Covid-19 Pandemic about letter knowledge and cultural knowledge of print. On the other hand, there is an added need for great attention and particular and intentional action in the development of phonological competence, remembering that this development is crucial for learning to read and write. The reflection and training with the teachers involved also included sessions whose objective was to work with different digital technologies (namely Storyjumper and vizia.com), from which they could develop reading and writing activities that promoted learning, in person or remotely. We would highlight yet the importance of professionals keeping a close eye on those students who are not in the majority group and who present a risk in one or more of the skills assessed. It is mainly to these students that our work with these teachers was directed.

Keywords: Reading, writing, phonological competence, risk.

## 1 INTRODUCTION

Promoting the educational success of our students (remember that the project that forms the basis of this work is part of the Integrated and Innovative Plan to Combat School Failure) implies that they develop a wide range of essential skills. In this context, reading and writing must be recognized as the most relevant for their undeniable transversality in relation to all learning, in a world where, despite all technological advances, knowledge (namely scientific knowledge) continues to be conveyed through written text. Furthermore, the importance of developing phonological awareness is now widely recognized so that, in languages with alphabetic orthography (as is the case of Portuguese), the learning

of reading and writing takes place successfully. In 2012, as part of a study on the topics discussed here, it was noted that,

In summary, we suggest that early progress in learning to read and spell in any language with an alphabetic orthography will depend on the child's ability to learn the sound-symbol mappings of the alphabet, the ability to segment and manipulate the speech segments (phonemes) that map onto the orthography, and the ability to fluently retrieve the pronunciations associated with symbols (letters and words). [1, p. 684]

A lot of scientific literature has also been produced in Portuguese on the development of phonological competence and its relevance to the processes of learning and development of reading and writing [2-6]. Therefore, today we are fully aware of the importance of developing skills for recognition, analysis and manipulation of language sounds, developing this type of work with children from early childhood. This project of ours involved children who were in educational contexts of early childhood education and focused on children who attended the first cycle of basic education, as it is for this level that there are duly validated phonological tests. According to Ribeiro, Viana, Cadime, Santos, Baptista, Morgado

in the beginning of the 1st year of schooling, the data obtained allow, essentially, to know the heterogeneity of the students with regard to the skills that facilitate the learning of reading and writing. The information obtained will allow the teacher to qualitatively analyze the observed variability, in order to adjust both the language used in the interaction and their teaching practices. [7, p. 4],

Our focus was precisely on obtaining data relating to fundamental domains of phonological awareness, from which teachers could reconfigure their practices. We know that the development of phonological awareness takes place on a continuum in which the child is able to consciously recognize and analyze the sounds (and the sound system) of the language they hear and speak. This process takes place from the recognition of more easily identifiable and manipulable sound segments (such as syllables) to smaller segments, starting to recognize and manipulate intrasyllabic constituents and phonemes. In a quick review of the definition of concepts discussed here, we can clarify that phonological awareness is subdivided into three types: (i) Syllabic awareness – ability to isolate, identify and manipulate syllables; (ii) Intrasyllabic awareness – ability to isolate, identify and manipulate units within a syllable; (iii) Phonological or segmental awareness – ability to isolate, identify and manipulate phonemes, each of the speech sounds. The study developed, as we have already suggested, seeks to identify development profiles from which teachers, in effective classroom work, can intervene in order to optimize their practices with regard to the development of these skills and, consequently, to the development of reading and writing learning.

Thus, in this context, we have been implementing, since 2018, the intervention project “Promoting reading and writing” involving the 11 school groups of the Intermunicipal Community of Terras de Trás-os-Montes (CIM-TTM). This project's main goals are to conduct screenings in the first four years of schooling to detect risks in the learning of reading and writing skills of children, at an early stage of the school year and to train the respective teachers in the teaching of reading involved and writing to improve their classroom practices, in order to contribute to the success of all their students in these skills.

## **2 METHODOLOGY**

### **2.1 Population**

In the 2020/2021 school year, students from the 1<sup>st</sup> to the 4<sup>th</sup> grade of schooling (1st Cycle of Basic Education) from eleven groups of schools in the northern region of Portugal participated in this project. The data presented here refer to 1<sup>st</sup> grade students (N=544) of the eleven clusters in the screening carried out in the school year 2020/2021 (in the middle of the Covid-19 pandemic and after months of distance learning). It should be noted that all students who participated in the project had authorization from their parents or guardians.

### **2.2 Main data collection tool**

For this screening, the data collection tool used was the “Conhecer Atuar e Mudar (CAM) tests” - Version 3 – 2020 [7] for the 1<sup>st</sup> year of schooling. It is a test that “does not aim to identify students «at risk», but a set of skills that facilitate the learning of reading and that must be taken into account in the organization of the teaching process” [7, p. 3]. Thus, according to the authors, the results should be analyzed from

the perspective of being able to point to the need to pay special attention to possible weaknesses of some students in the skills evaluated and to closely monitor their learning, More specifically, five skills are assessed:

- Knowledge of letters,
- Identification of the final syllable,
- Cultural knowledge of printed text,
- Identification of the initial phoneme,
- Phonological awareness.

### 2.3 Data collection and procedures

The data collection process took place in three stages: (i) training of teachers to administer the tests; (ii) administration of tests in the classroom, correction and insertion of results in an online platform; (iii) analysis of results; (iv) training of teachers in the field of digital technologies to promote reading and writing. Thus, each moment unfolded as follows:

(i) Training of teachers for the administration of the tests: the head teachers of the class and of support participated in previous training for the administration and quotation of the tests through participation in a webinar and in small group sessions to clarify doubts.

(ii) Administration of tests in the classroom, correction and insertion of results in an online platform: the head teachers of the class, with the collaboration of support teachers, administered the tests for approximately one morning. Then, they proceeded to insert the students' answers in an online platform for learning, sharing and collaboration previously built for this purpose and which later provided them with a report with the results of the entire class. These tasks took place at an early stage of the 2020/2021 school year.

(iii) Analysis of the results: the results were analyzed by the teachers, at first, and by them together with the technical team of this project which, in addition to the analysis of the results of the class, provided a broader analysis in the context of the results obtained by the students of the school cluster and the eleven school clusters involved in the project.

(iv) Later, at the level of teacher training in digital technologies, a large group webinar was held on "Technologies to support the learning of reading and writing in the 1st cycle". After this webinar, one teacher training session was schedule per each cluster (or group of teachers) to work on digital technologies for the promotion of reading and writing. According to the perception previously collected, different digital technologies (namely Storyjumper and Vizia.co) were used, in these sessions, to develop reading and writing activities. The activities developed by the teachers, namely in these tools, were shared with all their peers to enrich their own collection of materials.

## 3 RESULTS

The following are the students' results in the CAM tests regarding: assesses knowledge of letters, identification of the final syllable, cultural knowledge of the printed word, identification of the initial phoneme and phonological awareness.

Table 1 shows the results obtained in letter identification, as it is possible to verify that more than half of the students (52.02%) identified almost all the letters of the alphabet.

*Table 1. Identification of letters*

<i>0-10 letters</i>	<i>11-19 letters</i>	<i>20-23 letters</i>
5,51%	42,46%	52,02%
(n=30)	(n=231)	(n=283)

Table 2 shows the results obtained in the identification of the final syllable, and it is possible to observe that most students do not have difficulties in identifying the final syllable, given that 60.66% (n=230) are at the medium or mastery level (levels 3 and 4, respectively). However, 39.34% (n=214) are in the very fragile or fragile levels (levels 1 and 2, respectively).

Table 2. Identification of the final syllable

Level 1	Level 2	Level 3	Level 4
19,12% (n=104)	20,22% (n=110)	18,20% (n=99)	42,46% (n=231)

Legend: Level 1 – very fragile; Level 2 – fragile; Level 3 – medium; Level 4 - mastery

Table 3 shows the results related to cultural knowledge of printed text. It is possible to verify that almost all the students evaluated (91.91%) do not present difficulties in terms of cultural knowledge about printed text, as they get between 7 and 12 answers right (12 being the maximum result).

Table 3. Cultural knowledge of printed text

0-6 correct answers	7-12 correct answers
8,09% (n=44)	91,91% (n=500)

Regarding the identification of the initial phoneme, it is observed that a little more than half (51.47%) of the evaluated students are in the very fragile or fragile level (levels 1 and 2, respectively) in the competence of identification of the initial phoneme. The remaining 48.53% (n=264) are at medium or mastery levels (levels 3 and 4, respectively) (See Table 4).

Table 4. Identification of the initial phoneme

Level 1	Level 2	Level 3	Level 4
25,55% (n=139)	25,92% (n=141)	17,28% (n=94)	31,25% (n=170)

Legend: Level 1 – very fragile; Level 2 – fragile; Level 3 – medium; Level 4 - mastery

As for phonological awareness, from the observation of Table 5, it can be seen that a little more than half of the students (59.01%) are in the medium or mastery level in this competence. The remaining 41% (n=223) are in the very fragile or fragile levels (levels 1 and 2, respectively).

Table 5. Phonological awareness

Level 1	Level 2	Level 3	Level 4
22,43% (n=122)	18,57% (n=101)	35,11% (n=191)	23,90% (n=130)

Legend: Level 1 – very fragile; Level 2 – fragile; Level 3 – medium; Level 4 - mastery

## 4 CONCLUSIONS

After analyzing the results, it was possible to verify that, with regard to knowledge of letters, most students are at the highest levels of performance, and the data collected are in line with others that the team collected in previous years.

As for the identification of the final syllable, the results are not as good as in the previous item, noting that almost 40% (39.34%) of the scores obtained are located in the two lowest levels (“very fragile” and “fragile”). Even so, most students do not have difficulties in identifying the final syllable.

Regarding cultural knowledge about printed text, it was observed that 91.91% did not present any relevant difficulty in this competence, given that they got between 7 and 12 answers (with 12 being the maximum result).

As for the identification of the initial phoneme, where more than half (51.47%) of the scores are located in the two lowest levels, and phonological awareness, where 41% of the scores are located in the same two levels, it is evidently the highest weakness in the domain of these competences.

These results allow us to point out that, on one hand, there is no visible negative effect of the changes forcibly introduced because of the Covid-19 Pandemic, with regard to knowledge of letters and cultural knowledge about print. On the other hand, there is also the need for great attention and a particular and intentional action in the context of the development of phonological competence (in the different levels of identification and manipulation of syllables and phonemes), remembering that this development is crucial for the learning of reading and writing.

It should be noted that, despite the results obtained by the majority of students, within the scope of this project, special attention was given to students who showed results that reveal greater fragility in the learning of certain skills and the training of teachers was promoted by carrying out sessions specially organized for this purpose.

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