

# IDENTIFYING RISK IN READING AND WRITING IN THE 2ND YEAR OF SCHOOLING: A STUDY IN NORTHERN PORTUGAL IN THE CONTEXT OF THE COVID-19 PANDEMIC

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## Abstract

The present work falls within the scope of the "Promoting Reading and Writing" Project, implemented from 2018 to 2021 in 11 school groupings of the Intermunicipal Community of Terras de Trás-os-Montes (CIM-TTM). This project pursued objectives such as: (1) screening the students of the first four years of schooling in order to detect risk in the learning of reading and writing skills of the children involved, at an early stage of the school year; (2) training the respective teachers in the teaching of reading and writing with a view to improving their classroom practices, in order to contribute to the success of all their students in these skills. We now present the quantitative results obtained by the 2<sup>nd</sup> year classes (N= 559) 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), as well as the reflection and capacity building work done with the teachers involved, in the context of a webinar and specific sessions in which different digital technologies (namely Storyjumper and Vizia.co) were used to develop reading and writing activities. For this screening, the data collection tool used was the "Conhecer Atuar e Mudar (CAM) tests - Version 3 (2020)" that allow the classification of students "at risk" vs "no risk", based on a cut-off point. The 2<sup>nd</sup> grade tests assess: letter and syllable recognition, listening comprehension, word reading fluency, grammar and word dictation. After the analysis of results, using descriptive statistics, it was possible to observe, as regards letter recognition, that 0.89% (n=5) of the students identified between 0 and 10 letters, 4.65% (n=26) of the students identified between 11 and 19 letters and 94.45% (n= 528) of the students recognised between 20 and 23 letters. As for the recognition of syllables, 1.61% (n=9) of the students recognized from 0 to 10 syllables, 15.92% (n=89) of the students recognized from 11 to 28 syllables and 82.47% (n= 461) of the students recognized from 29 to 31 syllables (being that the total was 31 for identification). In listening comprehension, 18.25% (n= 102) students were identified as being at risk, in word reading fluency 27.55% (n= 154), in grammar 37.39% (n= 209) and in word dictation 42.93%. When analysed the cumulative risk it was found that 38.28% (n= 214) showed no risk in any area assessed and 22.36% (n= 125) was at risk in one area, 20.75% (n= 116) in two, 12.16% in three and 6.44% (n= 36) in four areas. It was concluded that: (i) most of the students assessed were not at risk at the level of letter and syllable recognition; (ii) most students were not at risk in the comprehension of heard texts, in word reading fluency, in grammar, nor in word dictation; (iii) the highest percentages of students at risk appear in word dictation, followed by grammar, highlighting that, in the case of word dictation, the value is close to half of students; (iv) most students are at risk in at least one of the four skills mentioned. We stress the importance of a close look at the students who, not being in the majority group, are at risk in one or more of the skills assessed. It should be noted that these students are the focus of our work with the teachers involved in this project.

Keywords: Reading, writing, grammar, risk, digital technologies.

## 1 INTRODUCTION

In a world of growing complexity and in which the information available has increased exponentially, the development of reading and writing skills is absolutely crucial as it is the main gateway to knowledge and to the conscious and critical processing of that information. In addition, the mastery of reading and writing is both fundamental for the access to knowledge and also generates possibilities to express and represent this knowledge in the most diverse areas of knowledge, leading to linguistic, musical, artistic, technological, mathematical and scientific products. These two competencies must also be recognized as fundamental in the construction of a democratic and humanistic school, due to their relevance in accessing and interacting with the cultural and civilizational traditions that constitute us and have brought us to the historical moment we are in. If we want to think about the future and intervene in it, we have to know how to read and write the world of yesterday and today. No wonder, then, that one of the

Sustainable Development Goals (the fourth) is "Quality Education" and has as one of its fundamental indicators "the level of proficiency in Reading, Mathematics and Science". It is, therefore, a goal that everyone must embrace: the development of these skills so that schools, in their multiplicity of experiences and functions, are effectively a space/time of education for development and global citizenship.

It happens, however, that the goal of sustainably increasing the proficiency levels of children and young people in reading has not been globally achieved. The National Board of Education, in its report on The State of Education, published in 2021, notes that,

*"according to the PISA 2018 results, the EU has not met its goal of reducing low achievement in basic skills to less than 15% of pupils. There are only marked differences between girls and boys in reading - with higher percentages of underachievement in boys. The results also highlight the importance of the school environment for students' well-being and performance." [1p. 12].*

These findings (cross-referenced with other studies that go in the same direction) are troubling for the negative impact that a low level of proficiency in reading and writing has. As Lopes stated, "The rudimentary levels of reading and writing skills of these students upon leaving elementary school quickly prove incompatible with the demands of secondary school. The risk of absenteeism, disruption of classes, and early school leaving increases dramatically." [2p. 93].

However, failure trajectories do not have to be, nor can they be, a fatality that is imposed on certain children. We postulate Cruz's understanding when he argues that

*"In fact research shows that if a student cannot read well by the end of 3rd grade, their chances of success become significantly lower. However, research also suggests that most children who enter kindergarten and Grade 1 at risk of failing in reading can learn to read at an average or higher level if they are identified early and provided with systematic, explicit, and intensive instruction." [3p. 245].*

Along these lines, the present work stems from a project ("Promoting Reading and Writing") that seeks an action that promotes the development of reading and writing skills. From this perspective, the suggestion of a set of digital technologies was a key aspect of the project to enhance the development of skills through the use of technologies and learning objects suitable for strategies to promote reading and writing.

This project pursued objectives such as: (1) screening the students of the first four years of schooling in order to detect risk in the learning of reading and writing skills of the children involved, at an early stage of the school year; (2) training the respective teachers in the teaching of reading and writing with a view to improving their classroom practices, in order to contribute to the success of all their students in these skills. We now present the quantitative results obtained by the 2<sup>nd</sup> year classes (N= 559) 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), as well as the reflection and capacity building work done with the teachers involved, in the context of a webinar and specific sessions in which different digital technologies (namely proposed tools like Storyjumper and Vizia.co) were used to develop reading and writing activities.

## **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 (1<sup>st</sup> 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 2<sup>nd</sup> grade students (N=559) 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 [4]" that allow the classification of students "at risk" vs "no risk", based on a cut-off point. It is

not the purpose of these tests to place students on a performance scale. The results should be analyzed by the class teachers in order to be confirmed based on their knowledge of their students. These tests are held collectively and can last up to a maximum of one morning, with the teacher correcting/grading them afterwards.

The 2<sup>nd</sup> grade tests assess: listening comprehension, grammar, reading comprehension, spelling, writing fluency, reading fluency. Given the pandemic period experienced in 2020/2021, which included the interruption of face-to-face classes as of March 2020, the assessment of letter and syllable recognition was included in the 2nd grade test and reading fluency (of text) was replaced by word reading fluency. The assessment of comprehension of the text read and writing fluency were not retained, but the assessment of spelling was kept. Thus, the following skills were assessed:

- Letter recognition
- Recognition of syllables
- Listening comprehension
- Grammar
- Spelling
- Word reading fluency

The risk was found based on the students' scores in the skills of listening comprehension, word reading fluency, grammar, and word dictation.

### **2.3 Data collection and procedures**

The data collection process was carried out in three stages: (i) training of teachers for test administration; (ii) administration of tests in the classroom, correction, and insertion of results in an online platform; (iii) analysis of results. In addition, there was a webinar on educational technologies, which was followed by training sessions for teachers per group of schools on previously selected digital technologies.

In the first phase, the classroom teachers and support teachers participated in a previous training for the administration and quoting of the tests, as well as through participation in a webinar and in sessions for clarification of doubts.

In the initial phase of the 2020/2021 school year, the classroom teachers, in collaboration with the support teachers, administered the tests for approximately one morning. Then, they entered the students' answers in an online learning, sharing and collaboration platform previously built for that purpose, and which later returned to them a report with the results of the whole class.

The results were analyzed by the teachers, at first, and by them together with the technical team of this project that in addition to the analysis of the class results provides 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.

Subsequently, 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", which was followed by teacher training sessions per cluster on digital technologies for the promotion of reading and writing, according to the perception previously collected. Observation and the researchers' diary were the main data collection tools during these training sessions. At the end, their perceptions about the strengths, weaknesses, threats, and opportunities were also collected through a form that allowed us to perform the SWOT analysis of this project, but which we will not detail here so as not to deviate from the focus of the article (students in the 2nd year of schooling).

## **3 RESULTS**

The following are the students' results in the CAM tests regarding letter and syllable identification, listening comprehension, word reading fluency, grammar, and word dictation. Table 1 shows the results obtained in letter identification.

Table 1. Letter recognition

2.º Year (N= 559)	Level 1 0 a 10 letters	Level 2 11 a 19 letters	Level 3 20 a 23 letters
	0,89% (n=5)	4,65% (n=26)	<b>94,45%</b> (n=528)

After the analysis of results, using descriptive statistics, it was possible to observe, as regards letter recognition, that most students (94.45%) were able to identify almost all the letters of the alphabet (between 20 and 23 letters). However, it should be noted that there are 5.54% of students who identified between 0 and 19 letters (out of a possible maximum of 23 letters).

With regard to syllable identification (see Table 2), it can be seen that most students (82.47%) also identified almost all syllables (between 29 and 31 syllables), but 17.53% identified between 0 and 28 syllables (out of a maximum possible 31 syllables).

Table 2. Syllables recognition

Level 1 0 to 10 syllables	Level 2 11 to 28 syllables	Level 3 29 to 31 syllables
1,61% (n=9)	15,92% (n=89)	<b>82,47%</b> (n=461)

Table 3 shows the percentages of students at risk in listening comprehension, word reading fluency, grammar, and word dictation.

Table 3. Results in listening comprehension, word reading fluency, grammar, and word dictation.

CTO	FLP	Grammar	Word Dictation
18,25% (n=102)	27,55% (n=154)	37,39 (n=209)	<b>42,93%</b> (n=240)

Legend: CTO - Listening Comprehension; FLP - Word Reading Fluency.

Comparing the results in the four competencies or skills despite the existence of students at risk in all of them, more students are at risk in word dictation, followed by grammar (42.93% and 37.39%, respectively).

Table 4 shows the results regarding the accumulated risk in more than one skill.

Table 4. Cumulative risk

No risk	Risk in one skill	Risk on two skills	Risk on three skills	Risk on four skills
38,28% (n=214)	22,36% (n=125)	20,75% (n=116)	12,16% (n=68)	6,44% (n=36)

It is important to note that 20.75% of students are at risk in two skills, 12.16% are at risk in three skills and 6.44% in four skills, which means that 39.35% of students are at risk in two or more skills and 61.71% are at risk in at least one skill.

## 4 CONCLUSIONS

After analyzing the results, it is possible to conclude that most of the students assessed did not show any risk in terms of letter and syllable recognition. This result, besides being positive, was expected. However, in the case of a project in which one of the objectives is to detect early the existence of risk in reading and writing so that early intervention can be made, the results of 5.54% of students who identified between 0 and 19 letters, and the 17.53% who identified between 0 and 28 syllables, being in the 2nd year of schooling, are worthy of special attention for the effective risk they place these children in the learning of reading and writing.

It can also be concluded that most students are not at risk in comprehension of heard texts, word reading fluency, grammar, or word dictation. However, it is in word dictation, followed by grammar, that higher percentages of students at risk appear, and in the case of word dictation, the value is close to half (42.93%). If on the one hand these results, when they correspond to the majority, are positive, on the other hand, as we mentioned in the previous paragraph, it is important to bear in mind the paramount need to pay special attention to students who are at risk in these skills. It should be noted that the percentage of students at risk in word dictation is very similar to that found by [5] for the 3rd grade, which was 42.49%. As for grammar, the percentage of students at risk in this study is lower (37.39%) than that found in the study by [5] for 3rd grade (50.18%) and for 4th grade (48.36%), which seems to indicate an increase of difficulties at this level from 2nd grade to 3rd grade. The same trend is found for the results concerning comprehension of texts heard.

Most students (61.71%) are at risk in at least one of these four skills (comprehension of heard texts, word reading fluency, grammar, word dictation).

In the context of the results and conclusions presented here, it is important to stress that these students, in their 1st year of schooling, were without classes for one month, and approximately 2.5 months in the distance learning modality. This situation was caused by the COVID-19 Pandemic that since March 2020 has caused major constraints in Portuguese schools and all over the world.

As we have already understood, the administration of these tests aims to detect less developed skills, at an early stage of the school year, so that in the context of a preventive/interventive action, a pedagogical action can be triggered directed to the learning and development of these same skills, especially in students at risk. It should be noted that, as mentioned by [2], it is necessary to identify difficulties as early as possible, and also to intervene as early as possible in these difficulties so that they do not crystallize and do not lead students who have them to discouragement.

In this sense, the proposed sessions on educational digital technologies aimed to provide the essential skills and competencies for teachers to take advantage of their potential in the promotion of reading and writing. In the field of educational technologies, *Storyjumper* is a digital tool primarily for teachers and students to use in creating or teaching how to create online interactive, narrated books. It has multimodal components that can be used to maximize students' potential in a situation where all modes of meaning-making are valued and given visibility [6]. The possibility to use this tool as a collaborative work environment in which everyone could simultaneously edit the same book was a relevant aspect, and one that was noted in the teachers' testimonies.

The present study, as well as the project it is part of, has a social impact by allowing the earliest possible detection of emerging difficulties in reading and writing and intervening in them within the context of an articulation between the technical team/researchers and teachers to promote, also early, the overcoming of these difficulties. Moreover, this work included the training of the class teachers not only to encourage the use of digital tools to promote reading and writing skills, but also to contribute to the minimization of the difficulties encountered using these tools, given the importance they have assumed in the current context in education.

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