

Journey to the syllables' world: Intervention in phonological awareness

Sónia Costa
Universidade do Minho, CIEd
ssilvacosta@gmail.com

Susana Gomes
Universidade do Minho, CIEd

Cátia Sacadura
Universidade do Minho, CIEd

Cidália Araújo
Universidade do Minho, CIEd

Ricardo Cardoso
Universidade do Minho, CIEd

Anabela Cruz-Santos
Universidade do Minho, CIEd
acs@ie.uminho.pt

Maria João Gomes
Universidade do Minho, CIEd

Abstract

This poster aims to present the interactive game "Journey to the syllables' world." This game has two tasks with the following goals: a) to promote the acquisition of phonological skills, and b) increasing the quality and quantity of vocabulary. It can be applied by a mediator (teachers, parents, other educational professionals) or even by the child on his or her own in a variety of contexts since it has a script that guides the child through the tasks. The development of phonological awareness at the syllable level arises as the purpose for which this game was created and where lies the whole game but, associated with this, it also provides: vocabulary development; guidance through clear instructions, accurate and adequate volume, absence of distracters' stimuli without, however, ceasing to be appealing for the children. Four main characters were created to make it more playful and foster the interaction between the child and the software in an attractive, dynamic and familiar way. The game can be applied to children from the age of 4 or more. The task "Visit to animals" was developed in order to identify names of animals and suppress the initial syllable while the task "Going to the supermarket" consists in detecting the initial syllables of supermarket products. The exploration of the game can contribute to understand child's language development and analyze potential difficulties in phonological skills in children that are at risk to develop language problems.

Keywords: phonological awareness, interactive game, language, intervention.

Introduction

The component of language which the game focuses is phonology, focusing specifically on phonological awareness, i.e., on the "ability to consciously manipulate (move, combine or abolish) the sound elements of oral words" (Tumer & Rohl, 1991, as cited in Silva, 2003). These sound elements can be divided into the following phonological units: syllables and phonemes (Silva, 2003). A systematic work with explicit and targeted instruction in preschool allows you to create an awareness of the phonetic structure of words and manipulation of phonemic segments that will facilitate the learning of reading, writing and the level of metacognitive development (Silva, 2008). The Battery of Phonological Tests developed by Silva (2008) has 6 subtests: a) classification based on the initial syllable, b) classification based on the initial phoneme, c) suppression of the initial syllable, d) suppression of initial phoneme, e) syllabic analysis, and f) phonemic analysis. Based on this test we developed an interactive game, called "Journey to the syllables' world". Its objective consists on the development of phonological awareness, i.e., effectively increase of the skills of phonological awareness, since processing and specific phonological skills are predictors of future capabilities in reading and spelling (National Institute for Literacy, 2008). Furthermore, it is intended to also promote the child's vocabulary.

This game, being multimedia, may be applied in a variety of contexts, requiring only, as material, a computer or a tablet. Four main characters were created to make it more playful and foster the interaction between the child and the software in an attractive, dynamic and familiar way. Therefore, and depending on the goals which is used, it can be used individually, in small groups, in after-school recreation centers, in classroom or other contexts. It can be applied as an activity to develop phonological awareness at the syllabic level, especially in the early ages, but also as an intervention activity, when children show difficulties in these language competencies.

Method

This game consists of two activities: "Visit to animals" and "Going to the supermarket" and aims to promote the phonological skills acquisition and the increase of the quality and quantity of vocabulary. The choice of subjects took into account that children in pre-school ages need to acquire concrete concepts that are part of their experiences. The activity "Visit to animals" is intended to identify the name of animals and suppress the initial syllable, while "Going to the supermarket" consists in detecting initial syllables of supermarket products.

The game can be applied to children from the age of 4 or more. We considered this age group because, according to Rigolet (2008), at this age it is already possible to implement activities from images without being necessary the concrete representation of the object /concept. The choice of these themes took into account that this age group still needs to acquire many concrete/real notions, i.e., that are part of their experiences. A maximum age was not defined, since phonological awareness may not be fully developed at advanced ages. For example, the target public may include children from 4 years old with a normal language development, 6 years old children with delayed speech-language development and older children with dyslexia.

The following procedures were taken into account according to Silva (2003):

a. "The sound units should be modeled by the mediator and reproduced by the child." In the game, care was taken to ensure that all words and syllables were accompanied by their respective sounds. So whenever the mouse is placed over the images, it is heard

the respective sound.

b. “Should be given explicit instructions and feedback in relation to the proposed activities.” The game starts with the explanation of the instructions given by a character who provides all the information needed to play. Feedback is provided immediately at the end of each task, the same is given through a verbal positive reinforcement by the computer program when the answer is correct.

c. “Diversified activities are required, that include the dimensions of segmentation, synthesis, suppression and detection of certain units of sound.” Based on the abovementioned themes the game works on the classification based on the initial syllable and the suppression of the initial syllable.

d. “It is important, when sequencing the training activities, to take into account the complexity of linguistic units to manipulate.” The words have been carefully selected so that the degree of complexity of the phonemes were growing and the size of the syllables were increasing. Thus, the order of presentation of the images is not random. e.

“The efficiency of these training programs increases when they are accompanied by activities that involve learning graph-phonetic correspondences.” Effectively, all images and audio support are always accompanied by the appropriate grapheme. According to Rigolet (2008), at this age, the use of the written record associated with the image is important to guarantee the notion that there is a written representation of the concept. These type of activities also promote on one hand, the identification of children with difficulties in the phonological component of language, i.e., it enables the identification of children at risk. Moreover, this material also allows the intervention with children with specific learning difficulties in reading and writing, difficulties in language, etc..

The four characters that follow the course of the game have distinct functions. Thus, the character who has the role of teacher, Professor Bento, is illustrated by a picture of a personified green book distinguished from others by having glasses, pen, hair and a higher stature. Its function is to provide the necessary instructions to perform the tasks, whenever requested. Its orientation is given automatically at the beginning of each activity, i.e., the teacher's voice is heard without the need to load on any object in the screen. As the child progresses in the application, it is assumed that understands the steps of the task and, as such, Professor Bento intervenes only if the child wants, clicking in the image of the teacher.

The other characters are also illustrated through books of various colors, Ana (yellow book), Luís (orange book) and André (blue book). In the first activity, they represent the answer possibilities and, in the second and final activity, they go with the teacher to the supermarket.

The first activity of the game consists of a visit to the animals, where the child is asked to manipulate syllables of the names of animals. This activity was built according to the procedures of a subtest of the Battery of Phonological Tests of Ana Cristina Silva (2008)- Suppression of the Initial Syllable. And involves, in a first stage, an analysis of the word represented by the image, to extract the initial syllable, and in a second stage, the work of synthesis, to reconstitute the remaining syllables. This activity is considered the most reliable to determine the syllabic manipulation skills (Gombert , 1990, as cited in Silva, 2008). The activity is divided into 3 levels of increasing difficulty. In this task, the vocabulary chosen and respective images are divided into categories of animals according to their habitat (aquatic, wildlife, and farm). The animals were selected according to the knowledge demonstrated by a group of ten children aged between 4 and 8 years old, including children with special educational needs, namely dyslexia and intellectual difficulties.

The second activity is a visit to the supermarket where the child is asked to handle the

syllables of the words of the materials that you can buy in a supermarket. This activity was built according to the procedures of a subtest of the Battery of Phonological Tests of Silva (2008) - Classification based on the initial syllable. The purpose of this activity is to evaluate the children ability to detect identical initial syllables in different words. In this task, four words are presented to the child figuratively, i.e., each word has an image that represents it and the child has to select the two pictures that begin with the same syllable, and the chosen objects are introduced into a shopping bag.

Conclusions

The development of a playful multimedia game based on an assessment instrument proved to be a very constructive work and met our goals, namely to promote phonological and vocabulary development. Thus, the implementation of the activities of this game is not only possible to be used in the early identification of children at risk, but also in intervention in phonological awareness. Also, this game can be used with children with and without special educational needs in order to recognize the importance of early language development in an efficient way.

References

- National Institute for Literacy (2008). *Developing early literacy: Report of the National Early Literacy Panel*. Washington, DC: Autor.
- Rigolet, S. A. (2008). *Para uma aquisição precoce e otimizada da linguagem*. Porto: Porto Editora.
- Silva, A.C. (2003). *Até à descoberta do princípio alfabético*. Lisboa: Fundação Calouste Gulbenkian.
- Silva, A. C. (2008). *Bateria de provas fonológicas*. (2^a ed.) Lisboa: ISPA.