

Braille's Vowel Game

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ABSTRACT

The Braille's Vowel Game offers participants an opportunity to engage with a game based learning environment looking to develop our understanding of the barriers for unsighted children in learning to read and write. Using maker technologies like Makey Makey and Scratch programming, the authors offer lessons learned while gathering information on the opportunities afforded different children in their learning.

Tools, Skills and Materials

• **Tools**→Scratch • **Tools**→Makey Makey • **Skills**→Basics skill Scratch programming • **Materials**→Cardboard

Keywords

“ Braille's Vowel Game; unsighted children; interactive game; visually impaired kids; literacy learning process.”.

Table 1. Creating the interactive game



1. The game board



2. Programming in Scratch and Makey Makey

Table 2. The Cultural Exhibit about Children's Rights

 <p data-bbox="272 642 792 695">3. Parents tested and enjoyed the game during the exhibition.</p>	 <p data-bbox="867 642 1422 695">4. Other children were able to discover how unsighted children learn to read and write.</p>
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2. DEMO DESCRIPTION

2.1 Description of the Product/Project

The Braille's Vowels Game is an interactive board game made with simple tools and materials like cardboard, Scratch and Makey Makey, that links the sound of the Braille vowels to the corresponding images, in order to help unsighted kids in their literacy learning process. First the students discovered how to write the Braille Vowels, then they made the game board: they drew, cut and pasted the vowels and images (vowels above and corresponding images below) into the board, then they recorded the sounds of the vowels and images and finally did all the programming using Scratch and Makey Makey.

The inspiration for creating the game came through the school project: "Children's rights". The students were very curious about children with visual impairment learn how to read and write. The children went to research more about this with the 2nd grade students who had just visited an institution that helps in the inclusion of visually impaired children and adults. They told our students that these children learn to read with the Braille Alphabet and "their eyes are on their fingertips". We decided, the classroom teacher, the technology teacher and the preschool children, to create an interactive game in order to help visually impaired kids in their literacy learning process.

During the Demo time we blindfold the players so they can have the same experience of an unsighted person. As they feel an specific high-relief vowel in braille with their fingers they will listen to its sound and then look for the image that starts with that same vowel. As they touch it, they can assure it is right by listening to the word.

2.2 Target Audience

The product requires basic skill with Scratch programming and Makey Makey Kits. For teachers interested in Creative Learning and about conducting educational research.

3. CONCLUSION

3.1 Results and Benefits

The Braille's Vowel Games was created for unsighted kids in early literacy learning, so that, all children can learn more meaningfully.

3.2 Lessons Learned

For the second time around, would be better work in small groups of students, ensuring a better division of tasks; systematic documentation of the project, at least once a week (which we did not).

3.3 Broader Value

Our students have learned much more than basic programming skills. They had the opportunity to work in groups, solve (or not) problems, create and share ideas for the benefit of the other children.

Learning is made of listening, possibilities and exchanges: “The students asked because they knew there was a possibility of... The teacher listened to her students and asked help for another teacher, because she knew there was a possibility of... They listened to each other, created and exchanged learnings, played together and shared ideas.”

4. REQUIREMENTS

1 Makey Makey Kit; 1 laptop, 1 table about 28 x 28 inches

5. BIOS

Silvana Regina Silveira Scavone (Presenter)

Teacher of Innovation and Technology for kids from 4 up to 10 years old. Through Creative Learning and Maker Culture I aim to form a generation of innovators who believe that technology can create a new path full of possibilities for teachers and students.

Tatiana Feldman Costa

Preschool teacher since 2004. Curious and creative, I got very interested in Maker Culture and Creative Learning exactly due to their spirit of collaboration, working in groups and experimentation, which are so similar to kindergarden education.