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An Android Mobile Learning Game for Children with Down syndrome

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I. Abstract – 6 sentences (1/4 paper area)

There are techniques that have been developed to help children with Down syndrome learn. But most of these techniques failed to educate them. Even teachers find it hard to teach them. Teaching this children require lots of analysis learning techniques vary from one children to another. With this, creating a game is a better way to teach them rather than just merely teaching them through books. The game is truly a very useful tool in learning because children could learn at them same time could have fun while playing the game. This game will help these children know the basics in Mathematics and English alphabet.

II. Introduction – 3 paragraphs (1/2 paper area)

Children with Down syndrome experienced learning difficulties and or mental retardation. They usually learn more slowly than normal kids. This study will be dealing with how to teach this young with basic math and English alphabet through presenting images combined with a game. According to some studies, they learn better when they can see things that are being animated.

It is not simple to educate these children with this kind of chromosomal disorder. They learn new information with the use of other techniques such as presenting images or objects. But this technique may not apply to others. Other children may not learn with those kinds of techniques.

With the use of Mayer's cognitive theory of multimedia learning, children with Down syndrome will experience learning through a game presented with words and images.This theory explains that people will learn more from words and images rather than words alone.

III. Related Work – 2 set of research areas (1/2 paper area)

According to one study in Malaysia, visual approach is an easy way to teach users good behavior through a 2D animation. This is a courseware based program that aims to teach Down syndrome children and even teachers and parents can used this to teach their children. This program hasimages, graphics and characters that are design for children to easily adapt the lessons to be taught.

Another study in Egypt is an intelligent tutoring system wherein software contains intelligent components. This is a computer based system that can help the children learn without the help of the teachers. With the use of multimedia learning has been beneficial for the both the teachers and the children with Down syndrome and Intellectual disabilities.

This study will further develop the studies mentioned above. This will use the Mayer's cognitive theory of multimedia learning that will create a game that would help children with Down syndrome learn basic math and the alphabet through a game with images

and words. This will further improve the existing studies that aim on helping children with Down syndrome. Many of the studies focused on how these children recognize good behavior and on how to act nicely and in proper way.

IV. Methodology – 3/4 paper area

Mayer's Cognitive Theory of Multimedia Learning will be used in this study. This is the combination of text and images. This theory believes that people will learn better in words and images rather than words alone. Since children who have this kind of disorder experiences difficulty in learning, this will help them improve their mathematical skills and help them recognize the English alphabet compared to the traditional way of teaching them. Some studies have proved that traditional teaching is not that effective. And children even those who have chromosomal disorder are technologically inclined which is another factor why teaching them through a game is better.

1+1=

| 1 | 2 | 3 | 4 |

1   +   1

Two apples

= 2
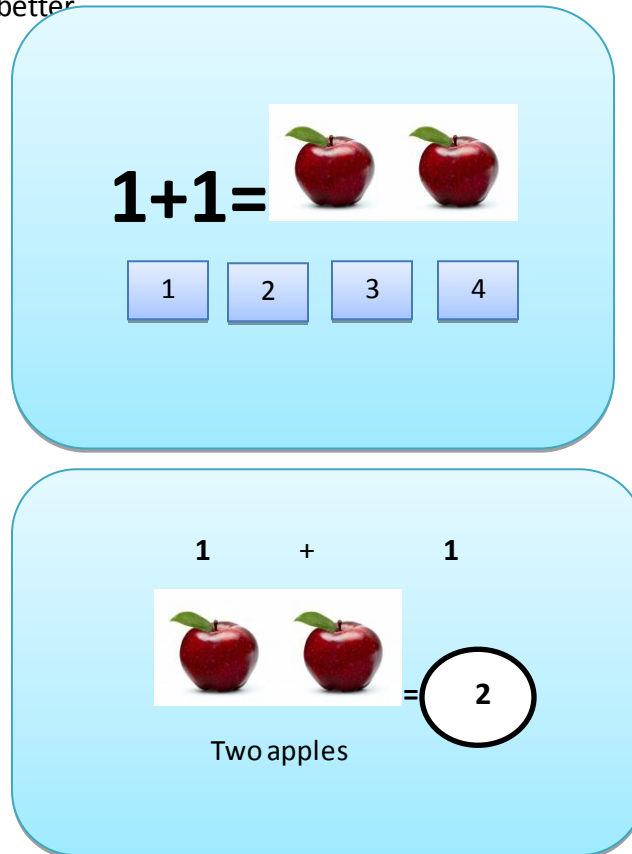
V. Evaluation – ½ paper area

This game will be tested to 5-7 children with Down syndrome. If at least 60% of them will learn from this game then the game succeeds if not then better improvements must be done in order to meet the necessary things that will help these children improve their mathematical skills and that they will be able to identify the alphabets. They will play the game and then a manual test will be done in order to see if these children learn from the game.

VI. Timeline

        Within 3 months the game should already be working so that there would be 1 month for the testing period. This one month will be the time for the selected children with Down syndrome to play the game and evaluate if they learn something from the game.

VII. References

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