

Board Game for Children with Special Needs to Improving Student Interactions

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Abstract

Children with special needs, especially children with mental and intellectual disabilities, have limitations in various ways including social interaction and communication. Especially in classes that have various kinds of children with different disorders, it makes children only focus on their own world. Therefore, alternative learning media is needed to help children focus on learning and engaging with their teachers and classmates. This study aims to elaborate the prompts in the board games to improve student's interactions. This research using ADDIE method (Analysis, Design, Development, Implementation, and Evaluation) to design and develop the board game. This study held in Rumah Autis Bandung, West Java, Indonesia with 8 students aged 8 – 12 years old as respondents. Research using live size board game with 15 prompts and with other various daily objects. The content used is simple instructions regarding daily activities in the form of prompts for interaction, communication and prompts for practicing daily activities. Research analysis describe in qualitative data that gained using interview and observation sheets by researcher and teacher. Based on the research findings, this study can be concluded that the use of board games in teaching classes was able to enhance student's interactions. It helped students to communicated with their classmate. From this research we can also conclude that boardgame media can be an activity option for children with special needs in improving various skills. Use of board games also facilitated students to practice their motor skill for daily activities in various topics. In the future research, the design board game could be personalized according children's disabilities and needs so it could be more effective for children's learning.

Keywords: Board game, Children with Special Need, Student interactions

1. Introduction

Children with Intellectual disabilities experience growth and developmental abnormalities in mental and intelligence which causes them to have below average IQ and various other disorders [1]. According to the DSM-5, children with intellectual disabilities are impaired in the development of learning, cognitive skills, social and life skills in children. This is slightly different from the definition of children with autism spectrum disorders (ASD) in the DSM-5. Children with ASD experience abnormalities in the brain's nervous system so that they have pervasive developmental disorders, social interaction, communication and behavior [2]. Furthermore, in the DSM-5 also explained that the category of mentally retarded children is divided into three categories: mild, moderate and severe. This was concluded from the results of the IQ test, the condition and behavior of the child [2]. Meanwhile, according to

Mumpuniarti, the classification of children with intellectual disabilities can be divided into 5 based on clinical / physical types, namely Down Syndrome (Mongolism), Cretin, Hydrocephalus, Microcephaly and Macrocephaly [1]. Some literature states that some children with autism show below average intellectual functioning [3], [4]. With the limited abilities of children with disabilities, as well as the many variations of the type of intelligent disabilities, it is necessary to have a special approach in the education and learning of children with special needs. So that in special education in Indonesia, children with intellectual and mental disabilities are included in the category of students who can take part in SLB-C or Intelligent disabilities special schools [5]. Apart from SLB-C, there are also many private schools that have the same learning concept. In this special school, the curriculum used refers to the basic level curriculum which is adapted to the specific needs of students.

Rumah Autis Bandung is one of the special schools established by the Cahaya Keluarga Fitrah Foundation (CAGAR) which aims to accommodate therapy centers and schools for children with intellectual and mental disabilities. The learning and curriculum implemented at the Rumah Autis Bandung uses a modified curriculum according to the child limitations. During the observation of the learning process and the results of interviews with the teacher, several problems were found during learning. According the teacher the most difficult thing to build during learning is the interaction between students. This is not only caused by the characteristics of children who experience difficulties in interaction and communication, but also the lack of stimulants that can make children interested in interacting. Especially if there are several children with different disorders in the class. Interaction between students in class was very low, only when they saw audio-visual media, when they danced together, they were holding hands. For other learning activities, children tend to be busy with their own world. Moreover, at this school there is a special hour program for them to play freely (free play time) but from the results of observations it was found that activities during these hours were not well managed. This causes children to tend to do less productive activities such as just daydreaming and increasing repetitive behavior.

Board game is a game that is widely used as a learning media in the classroom. Many studies state that board-games can improve various kinds of children's abilities, including children's ability to interact and communicate [6], [7]. Research data shows that board games are a media that allows multiple players to participate in learning and demonstrate understanding of complex concepts [8]. Utilization of board games allows teachers to easily adapt context and instructions to games. In addition, this game can be used together so that it can provide stimulation for children to interact with their friends. Therefore, the aim of this research is to develop a board game for mentally retarded and mentally retarded children to improve interaction skills.

2. Method & Procedure

This research was conducted at the Rumah Autis Bandug, Yayasan Cahaya Keluarga Fitrah which is located at Jl. Cibeunying Kolot V No. 18 RT. 01 RW. 20, Bandung, Indonesia. The school is a special school provide for children with mental and intellectual disabilities. There were 8 participants, aged 8-12 years in SKF 2 class (School of Functional Independence). Participants were diagnosed as children with ASD and some were also children with intellectual disabilities such as downsyndrome, kretin, mild and moderate intelectuall disabilities. The da childrens according to schoold documents, records of screening that conducted by psychologists and hospital.

The method of development the boardgame using ADDIE model. According to Steven J McGriff [9], ADDIE Model is an instructional design framework which consist of five phase: (1) analyze; (2) design; (3) development; (4) implementation; and (5) evaluation.

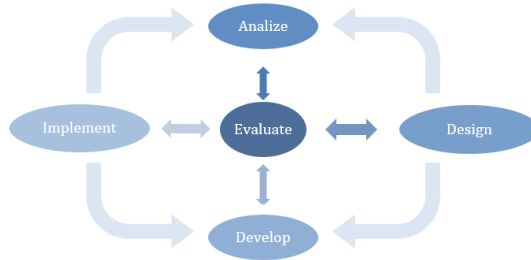


Figure 1. ADDIE MODEL by Steven J MCGriff (Siregar & Ananda, 2023)

This research is developing boardgame with 15 prompts and with other various daily objects. Research analysis describe in qualitative data that gained using interview and observation sheets by researcher and teacher. This study uses a qualitative methodology, the qualitative data were gained using interview and observation sheets by researcher and teacher.

3. Finding and Discussion

3.1 Visual Strategy

From the results of observations, the media that is often used is audio-visual for joint activities and uses visual support media for individual learning. Because from various sources the use of visual support for children with special needs is very helpful in the learning process. The theme of the content taken for the board game is content related to everyday life, according to the curriculum and goals taught at school. The content used is also in the form of prompts that stimulate children to start interacting with their classmates.

The use of live-size boardgames is to make it easier for children to play, board game huge enough to fill the classroom and the children as the game pieces [10]. The size of each box is about 50x50 cm. The concept of the board game is made like a simple snake and ladder. The game will only go forward without the need to go backwards like snakes and ladders in general. The content used is simple instructions regarding daily activities in the form of prompts for interaction, communication and prompts for practicing daily activities.



Figure 2. Boardgame Design and Concept

The type of illustration used is a cartoon illustration. This is because children are familiar with simple cartoons, the media they often use in class uses cartoon illustrations. The colors used are colors that tend to be warm color combinations because children with special needs tend to be attracted to these combinations. The use of colors that children like can show a significant effect on children's attention, especially in the aspects of motivation, maintaining attention, and the child's speed in responding [11].

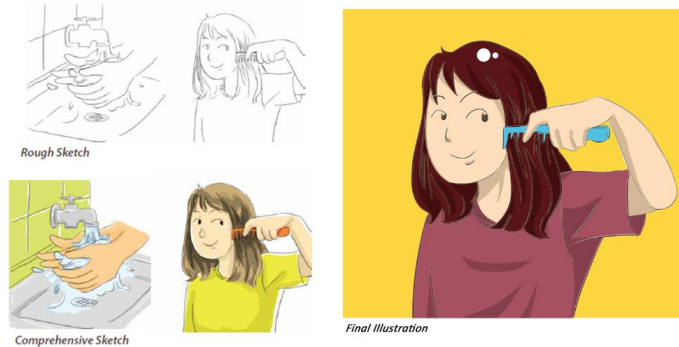


Figure 3. Design Steps for The Illustration

3.3 User Testing & Responds

To attain the research aims, this study employed classroom action research, which in 1 class there are 8 students who are divided into 2 groups of 4 people with experiments alternately. Besides board games, this game is also equipped with a game manual for the teacher, dice and a set of objects to be used in the game. In playing this game, the teacher's role is very important in directing students, especially students with special needs who have many limitations.

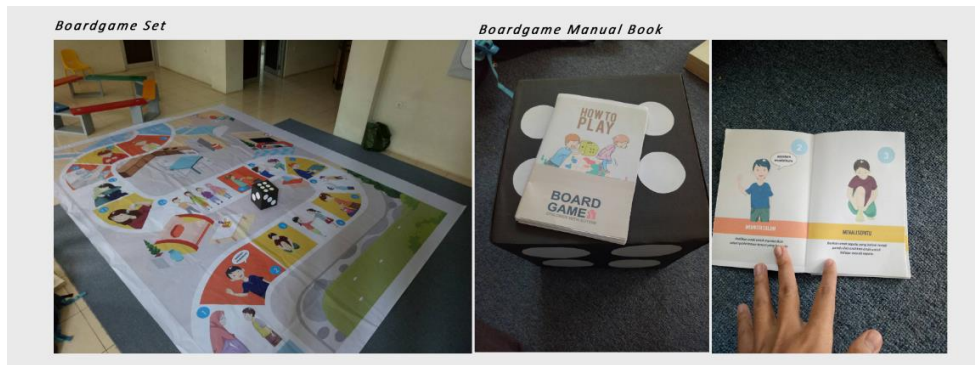


Figure 4. Boardgame Set

From the results of media testing, children show interest in playing and interacting with other players. In the first experiment the children were still unfamiliar and still awkward in playing, but the children showed interest by jumping on the boxes and observing the board game carefully. In the 5th experiment, the children began to show positive behavior, especially in students with mild intellectual disability. They are even able to complete some prompts without the help of the teacher, they also show initiative in interacting with other students.



Figure 5. Student Playing The Boardgame

Some children with low intellectual abilities have difficulty in carrying out prompts which contain simulations or demonstrations of daily activities and prompts which contain verbal communication. However, children have no problem with non-verbal interactions such as eye-catching, high-fives, etc. Meanwhile, children with autistic disorders are more skilled at simulating and demonstrating daily activities, but are quite awkward at prompts containing verbal interactions and communications. Some children with autistic disorders in this class are not yet able to communicate verbally smoothly. However, they did not refuse when their classmates interacted in the form of handshakes and high-fives. Children with autistic disorders show interest in objects and activities that involve fine and gross motor skills, this is because the theme chosen is daily activities so that children with autistic disorders feel familiar with the objects provided. Autistic children have a tendency to like familiar objects and excessive interest in an object [11]. This difference in response is of course very much related to the characteristics of the disabilities they have, differences in ability and level of intelligence are also one of the reasons for these differences in response [1]. From this board game, children can also train their motor skills by simulating social interactions or simulating daily activities.

4. Conclusion

From the board game that was developed, students with mental and intellectual disabilities showed positive behavior when playing. In some experiments they were able to perform some simple interactions like shaking hands, greeting etc. In this study, besides increasing children's interaction skills, students also showed an increase in their ability to carry out daily activities and train their fine and gross motor skills with various prompts. From this research we can also conclude that boardgame media can be an activity option for children with special needs in improving various skills. In further development and research regarding board games for children with special needs, it would be better to involve individual characteristics because each child with special needs has different characteristics and needs.

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