

The Effect of the Electric Maze Educational Game on the Concentration of Hyperactive Children

Aminatuzzuhriah.D^{1,*} Herry Widyastono² Ravik Karsidi³

^{1,2,3}Universitas Sebelas Maret, Surakarta Indonesia

*Corresponding author. E-Mail: aminatuzzuhriahmiena@gmail.com

ABSTRACT

Hyperactive children with concentration barriers have less attention and less concentration with activities or lessons that children are doing. This study aims to determine the effect of the electric maze educational game on the concentration of hyperactive children. This study uses a quantitative research approach because the data presented are in the form of numbers and analysis using statistics. This research uses the Single Subject Research (SSR) method because it focuses on one or more subjects but has the same characteristics. The design used in this study is A-B-A. The subjects in this study were 3 hyperactive children with the same characteristics, namely concentration problems. The results showed that Baseline Phase 1 (A1) was subject to (1) 1 minute 58 seconds-1 minute 50 seconds, (2) 1 minute 50 seconds-1 minute 38 seconds, and (3) 1 minute 7 seconds-1 minute 45 seconds in the Intervention Phase (B) experienced an increase in time duration, namely the subject (1) 1 minute 48 minutes-2 minutes 53 seconds, (2) 1 minute 46 seconds-2 minutes 51 seconds, (3) 1 minute 50 seconds-3 minutes 8 seconds, then in Baseline Phase 2 (A2) after the intervention is the subject (1) 2 minutes 53 seconds-3 minutes 60 seconds, (2) 2 minutes 55 seconds-2 minutes 81 seconds, (3) 2 minutes 75 seconds-3 minute 91 seconds. Electric maze educational games can affect the concentration of hyperactive children. This research can find concepts and methods of play that can affect the concentration of hyperactive children and can also provide alternative choices in the implementation of learning about how to improve the concentration ability of hyperactive children through educational games with electric maze.

Keywords: *Educational Games, Electric Maze, Concentration, Hyperactive Children..*

1. INTRODUCTION

Children with special needs are children with special characteristics that are different from children in general without always showing mental, emotional, or physical incapacity. Children with special needs are children who have significant abnormalities/deviations (physical, mental-intellectual, social, and emotional) in the process of growth and development compared to other children of the same age so that they have specificity in terms of health service needs, special educational needs, education special services, inclusive education, and the need for social welfare and social assistance. In other words, children with special needs are children who for development require special handling related to their specificity [1].

Hyperactive Children are Children with Attention Concentration Disorders and Hyperactivity (GPPH) are children who show hyperactive, impulsive, difficult to focus behavior that occurs more often, is more persistent with a more severe level when compared to other children

of the same age [2]. Difficulty in school, either in learning or behavior is a common problem that often occurs with ADHD. The characteristics of children with this disorder are most often mentioned, in order of frequency, hyperactivity, septal motor impairment, emotional lability, general coordination deficit, attention deficit, impulsivity, memory and thinking deficits, specific thinking disabilities, hearing and speech deficits, and signs Equivocal neurologic abnormalities and EEG (Electroencephalography) irregularities [3].

Children with hyperactivity syndrome, in particular, always move continuously without being silent, are unable to concentrate for a while, their activities and speech are always carried out on impulse, are impatient, and like to be angry. At home, children often make trouble with the nature of making a fuss, making a fuss, and always disobedient. At school, children are always annoying, rarely finish school work, tend to joke and talk a lot during class, and become a child who has discipline problems [4].

The cause of hyperactivity disorder lies in the gene factor as the initial discovery of the cause of a disorder. This can be seen in most families who have family members with psychopathological disorders, generally having hyperactive children. Psychopathological disorders in this case include the presence of behavioral disorders, mood disorders, fear of uncertain causes, and abuse of sedative drug use [4].

Concentration is the concentration of the function of the soul on an object such as concentration of thoughts, attention and so on [5]. Slameto [6] revealed that concentration in learning is focusing attention on the subject by setting aside all things that are not related to the lesson. Therefore, concentration is one aspect that supports children to achieve good performance and if this concentration is reduced, attending lessons in class and in private learning will be disrupted [7].

Therapy is an important way to support the developmental needs of children with special needs. Therapy can be done in two stages. The first stage is carried out at the intervention stage of early childhood development or preschool and the second stage is educational therapy for school-age children starting from the age of 5 or 6 years. The application of therapy is viewed from three aspects, namely medical aspects, psychological aspects, and educational aspects which can be given simultaneously or not based on an intensive and integrated examination from the therapist. For example, Psychotherapy: a way to improve basic psychological and development, for example floortime therapy, play therapy, behavior therapy, self-control and emotional management, family therapy [8].

Play therapy or play therapy has been shown to have significant results on individuals and lives children who have been diagnosed with ADHD, children who have been given play therapy will show that their stress level is reduced, especially regarding anxiety, emotional distress and withdrawal [9]. Play therapy has positive impact on overall behavioral disorders, problems internalization, problem behavior, self-concept, self-efficacy, depression, anxiety and treatment regarding compliance [10]. Through play activities, children are more receptive to learning so that children's concentration will be more focused on the commands given because playing is an activity that makes children feel happy without feeling forced or forced [11].

Based on the results of research observations in July 2021 at the home of a hyperactive child in the city of Banjarmasin, South Kalimantan Province, it is known that the child has impaired concentration/hyperactivity disorder. This can be seen after observing and identifying. That the child cannot be silent for a long time, finds it difficult to concentrate when studying or

doing activities, and when called or ordered the child is slow to respond. Based on the results of these observations, it is necessary to have concentration therapy to be able to influence their concentration as well as stimulate the child's response to be able to focus his attention. One of the concentration therapies applied to hyperactive children is play activities or Play Therapy for concentration of attention.

2. METHOD

The research approach used in this study is a quantitative approach. This type of research is Subject Single Research (SSR) or behavior modification. The design used in this study is the A1-B-A2 design, namely the baseline phase 1 (A1), the intervention phase (B), and the baseline phase 2 (A2) [12].

This study was conducted every 2 days a week at 16.00-16.10 WITA at the house of 3 hyperactive children. Jl. Belitung, Jl. Mantuil, Jl. Melati Km.6, Banjarmasin City, South Kalimantan.

The subjects in this study were 3 people, namely hyperactive children who had concentration problems. Children with the initials MLM, AD, and MM, with the same characteristics, namely lack of concentration, lack of attention and lack of focus in carrying out activities or studying, also cannot be silent for a long time [13].

3. RESULT AND DISCUSSION

Hyperactive children in this study had problems with their concentration skills, which had an impact on their cognitive abilities. Hyperactivity is a behavior that shows a persistent pattern of behavior in a child. This behavior is characterized by an attitude of not wanting to be silent, unable to concentrate and acting impulsively [14]. The target behavior that is changed is the concentration of hyperactive children, which is difficult to concentrate so that they are able to concentrate better.

Research on the effect of educational games electrical labyrinth to the concentration of children hyperactive was premises using SSR research with ABA design for 16 days. The research subjects had the initials MLM, AD, and MM who had problems with concentration abilities. The child seems unable to complete the tasks or orders given by the therapist and the child always wants to run to and fro (doesn't want to stay still).

Previous research has shown that the play therapy method using the electric maze educational game media as a treatment to increase the concentration of hyperactive children that can be done at home, the results of this study show that the play therapy method can affect children's concentration and attention to activities that children do, and children now already able to complete the given task is also able to complete orders well [15].

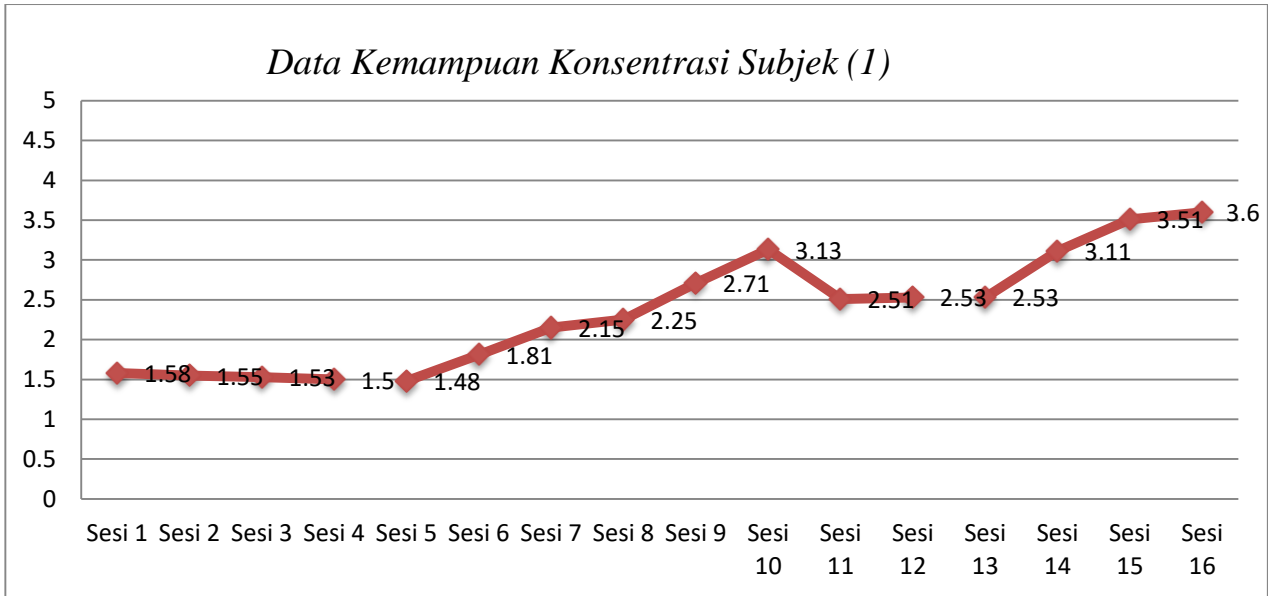


Figure 1 Concentration Data Ability of Hyperactive Children Subject (1) Baseline 1 (A1), Intervention (B), Baseline 2 (A2)

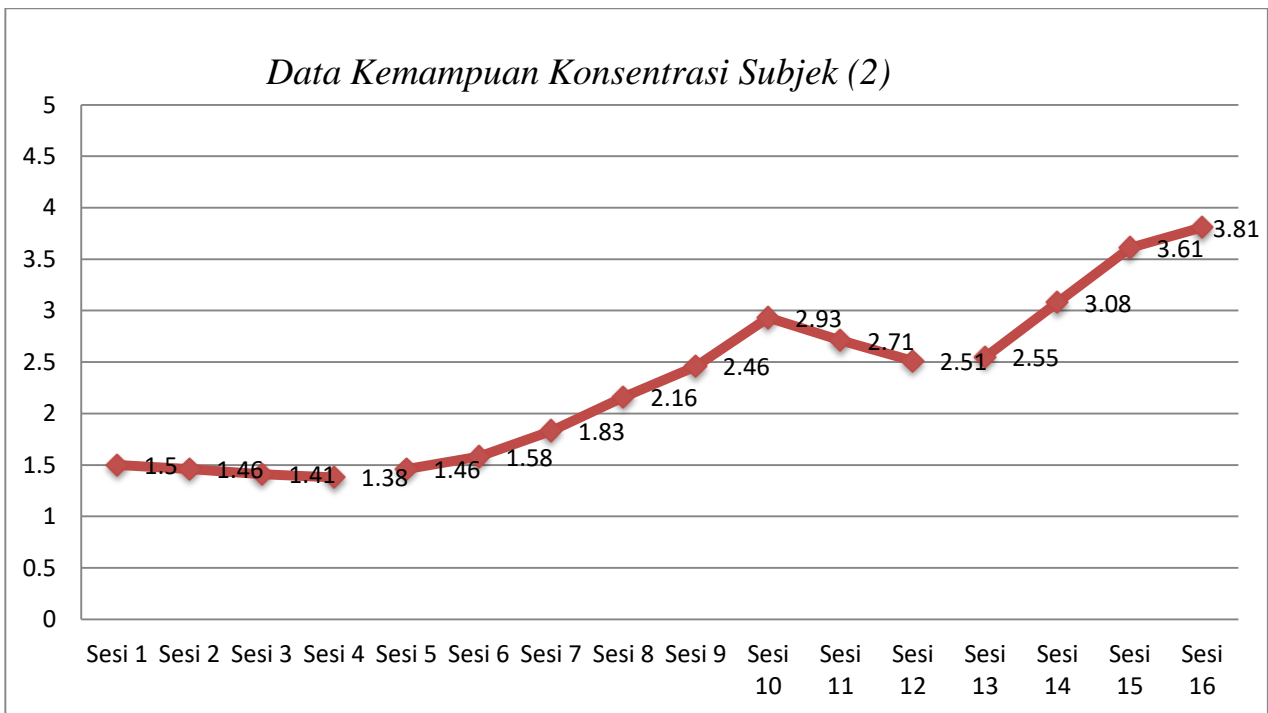


Figure 2 Concentration Data Ability of Hyperactive Children Subject (2) Baseline 1 (A1), Intervention (B), Baseline 2 (A2)

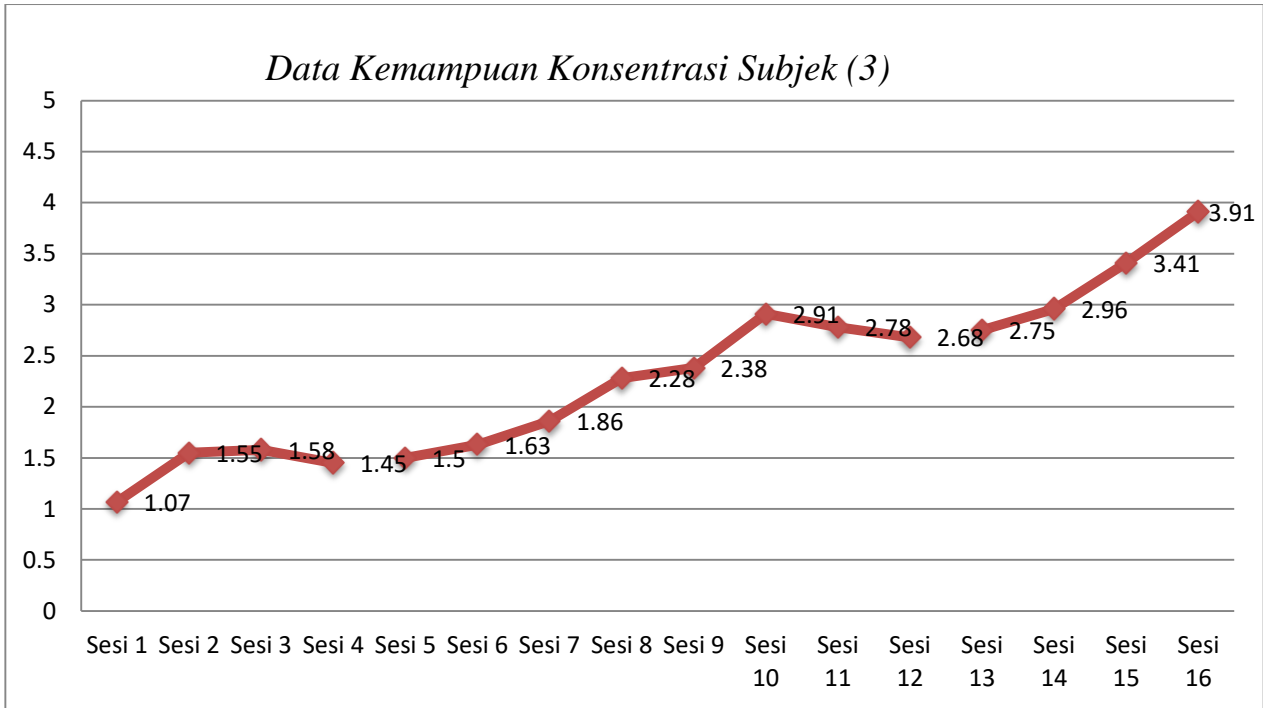


Figure 3 Concentration Data Ability of Hyperactive Children Subject (3) Baseline 1 (A1), Intervention (B), Baseline 2 (A2)

Baseline phase 1 (A1) was carried out in the observation phase where the researcher observed the concentration of hyperactive children. This stage measures concentration in the learning process before the intervention is given, namely how long the child sings and does not run for 10 minutes. This is done repeatedly for 4 sessions, recording the time using a stopwatch. This phase shows that the ability to concentrate on singing in MLM hyperactive children subject (1) baseline 1 (A1) in the first session of 1 minute 58 seconds, in the second session the duration of the hyperactive child's ability to be hyperactive with a duration of 1 minute 55 seconds decreased. The third and fourth sessions experienced a decrease in the duration of the hyperactive children's concentration ability with a duration of 1 minute 53 seconds and the fourth session with a duration of 1 minute 50 seconds. AD subject (2) baseline 1 (A1) in the first session of 1 minute 50 seconds, in the second session there was a decrease in the ability of hyperactive children with a duration of 1 minute 46 seconds. The third session experienced a decrease in duration again to a duration of 1 minute 41 seconds and the fourth session with a decrease in duration of 1 minute 38 seconds. MM subject (3) baseline 1 (A1) in the first session 1 minute 7 seconds, in the second session the duration decreased to 1 minute 55 seconds. The third session experienced a decrease in duration of 1 minute 58 seconds and the fourth session with a decrease in duration of 1 minute 45 seconds. The results of the first to fourth sessions of the 3 hyperactive child subjects used were stable. Baseline stage 1 (A1) hyperactive children have not been able to concentrate for a long time, hyperactive children run around more and

always look away. Hyperactive children also have not been able to complete the tasks given by the therapist.

The intervention phase (B) was carried out in the stage of providing treatment using an electric maze educational game for approximately 10 minutes each session. This stage shows the concentration ability of hyperactive children. In the first session, the hyperactive child (1) was able to concentrate on singing with a time of 1 minute 48 seconds. The second session with a time of 1 minute 81 seconds, the third session with a time of 2 minutes 15 seconds, the fourth session with a time of 2 minutes 25 seconds, the fifth session with a time of 2 minutes 71 seconds, in the sixth session there was progress with a time of 3 minutes 13 seconds, the seventh session with a time of 2 minutes 51 seconds and the eighth session with a time of 2 minutes 53 seconds, the seventh and eighth sessions experienced a slight decrease in the duration of the concentration ability of hyperactive children. Subject (2) was able to concentrate on singing with a time of 1 minute 46 seconds. The second session with a time of 1 minute 58 seconds, the third session with a time of 1 minute 83 seconds, the fourth session with a time of 2 minutes 16 seconds, the fifth session with a time of 2 minutes 46 seconds, in the sixth session there was progress with a time of 2 minutes 93 seconds, the seventh session with a time of 2 minutes 71 seconds and the eighth session with a time of 2 minutes 51 seconds, the seventh and eighth sessions experienced a slight decrease in the duration of the concentration ability of the 2nd subject hyperactive child. Subject (3) was able to concentrate on singing with a time of 1 minute 50 seconds. The second session with a time of 1 minute 63

seconds, the third session with a time of 1 minute 86 seconds, the fourth session with a time of 2 minutes 28 seconds, the fifth session with a time of 2 minutes 38 seconds, in the sixth session there was progress with a time of 2 minutes 91 seconds, the seventh session with a time of 2 minutes 78 seconds and the eighth session with a time of 2 minutes 68 seconds, the seventh and eighth sessions experienced a slight decrease in the duration of the concentration ability of hyperactive children. So, the concentration ability of 3 hyperactive child subjects got better when an intervention was carried out using an electric maze educational game which was then tested again by singing.

Furthermore, the baseline phase 2 (A2) which is used as a measurement at baseline 1 (A1) as a control for the intervention phase (B) so that it is possible to draw conclusions about the existence of a functional relationship between the independent and dependent variables. This stage shows the concentration ability of hyperactive children (1) in the first session with a time of 2 minutes 53 seconds, the second session with a time of 3 minutes 11 seconds, the third session with a time of 3 minutes 51 seconds and the fourth session with a time of 3 minutes 60 seconds. Subjects (2) in the first session with a time of 2 minutes 55 seconds, the second session with a time of 3 minutes 08 seconds, the third session with a time of 3 minutes 61 seconds and the fourth session with a time of 3 minutes 81 seconds. subject (3) in the first session with a time of 2 minutes 75 seconds, the second session with a time of 2 minutes 96 seconds, the third session with a time of 3 minutes 41 seconds and the fourth session with a time of 3 minutes 91 seconds. There was progress in the concentration ability of 3 hyperactive child subjects as seen from the better duration during the learning process. So the concentration ability of hyperactive children is getting better after the intervention using the electric maze educational game.

Based on the description above, a total of sixteen sessions that were carried out in three conditions A1-B-A2 underwent changes and showed that the use of the electric maze educational game was able to affect the ability to concentrate in hyperactive children.

4. CONCLUSION

Electric maze educational games can affect the concentration of hyperactive children

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