

Development of a Target Games Based Learning Model to Enhance Concentration, Motor Reaction, and Self Confidence of Students with Mild Intellectual Disabilities

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ABSTRACT: This study aims to develop a Target Games-based learning model designed to improve concentration, motor reactions, and self-confidence in students with mild intellectual disabilities. The background of this study stems from the physical education learning conditions in special schools, which tend to be monotonous and less adaptive to the motor and psychosocial development needs of students with special needs. The Research and Development approach was used by adapting the Borg & Gall model, which includes preliminary studies, model design, expert validation, small-scale trials, revisions, and operational testing. The research subjects consisted of 15 students with mild intellectual disabilities at SDLB N Pembina Yogyakarta. The research instruments included performance observation sheets, expert validation questionnaires, and PJOK teacher assessments. The expert validation results showed that the developed game model was feasible and applicable. The operational test results showed an increase in concentration skills in the Pin Jitu game, an increase in reaction speed through the GERAK game, and an increase in self-confidence through the BerBola Warna game. Overall, the effectiveness of the model showed that 46.67% of students were in the very effective category, 40% were effective, and 13.33% were quite effective. Thus, the Target Games-based learning model proved to be valid, practical, and effective in improving the cognitive, psychomotor, and affective aspects of students with mild intellectual disabilities.

KEYWORDS: Target Games, Concentration, Motor Reaction, Self-Confidence, Mild Intellectual Disability, Adaptive Physical Education Learning

I. INTRODUCTION

Physical education plays an important role in supporting the overall development of students, including physical, cognitive, and affective aspects. Through physical activities, students have the opportunity to develop motor skills, concentration, emotional control, and social skills (Wicaksono et al., 2020). However, in the context of students with special needs, especially those with mild intellectual disabilities, physical education requires special adjustments to suit their limited learning abilities. Students with mild intellectual disabilities generally experience obstacles in abstract thinking, information processing, motor coordination, and self-confidence in physical activities (Puspita, 2016; Taufan et al., 2018). This condition requires educators to apply a more adaptive, structured, and enjoyable learning approach.

PJOK learning in special schools is often not optimal in meeting the needs of students with mild intellectual disabilities. The learning process is still dominated by direct instructional methods that tend to be monotonous, resulting in low student engagement and meaningless physical activities (Hidayat et al., 2020). Initial observations at SDLB N Pembina Yogyakarta showed problems in three main aspects, namely low concentration, slow motor reactions, and a lack of confidence among students in participating in learning activities. Students appeared to be easily distracted, had difficulty responding to instructions quickly, and showed hesitation to actively participate in group games.

One approach that can address these problems is the Target Games-based game model. According to Griffin & Butler (p. 38), Target Games are a type of game that emphasizes accuracy, calmness, and movement control to achieve specific goals. This type of game is considered effective in developing concentration, motor coordination, and confidence because it provides a gradual experience of success (Yafdas, 2018). However, research on Target Games specifically designed for students with mild intellectual disabilities, as well as those that integrate cognitive, psychomotor, and affective aspects into a single learning model, is still limited.

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This study developed three new Target Games-based games, namely Pin Jitu, GERAK, and BerBola Warna, which were designed according to the characteristics of students with mild intellectual disabilities. These three games integrate simple visual processing, step-by-step instructions, the use of contrasting colors, and positive reinforcement mechanisms to build engagement and motivation to learn. The model was developed through a Research and Development approach by adapting the Borg & Gall model, which includes the stages of needs analysis, design, expert validation, field testing, and revision.

Thus, this study aims to develop and test the feasibility and effectiveness of the Target Games-based learning model in improving the concentration, motor reactions, and confidence of students with mild intellectual disabilities. It is hoped that this model can become an alternative to adaptive PJOK learning strategies that are innovative, enjoyable, and capable of optimizing the potential of students as a whole.

II. RESEARCH METHODS

A. TYPE OF RESEARCH

This research uses a research and development (R&D) approach that aims to produce a Target Games-based game model for students with mild intellectual disabilities. The model development process adapts the steps outlined by Borg & Gall, which include needs analysis, initial product design, expert validation, small-scale testing, product revision, and field operational testing. Through these stages, this study focuses on assessing the feasibility, practicality, and effectiveness of the developed learning model in improving students' concentration, motor reactions, and self-confidence.

B. TIME AND PLACE OF RESEARCH

This research was conducted in the even semester of the 2024/2025 academic year at SDLB N Pembina Yogyakarta. This school was chosen because it has students with mild intellectual disabilities as the main subjects of the research and has implemented adaptive physical education, which is in line with the needs of developing a Target Games-based game model.

C. DATA SOURCES

The research data sources consisted of primary and secondary data. Primary data were obtained through direct observation of the implementation of the Pin Jitu, GERAK, and BerBola Warna games, as well as assessments of the concentration, motor reaction, and confidence of students with mild intellectual disabilities. Secondary data were obtained through questionnaires validated by subject matter experts and media experts, as well as the results of PJOK teacher assessments regarding the practicality of the model applied. The research subjects consisted of 15 elementary school students with mild intellectual disabilities who were selected based on their ability to follow simple instructions.

D. DATA COLLECTION AND ANALYSIS TECHNIQUES

Data collection was carried out through observation of student performance, expert validation questionnaires, and PJOK teacher assessments. The content validity of the instruments was assessed through expert assessment, while empirical validity was tested using the Pearson Product Moment technique. The reliability of the instruments was analyzed using Cronbach's Alpha formula to ensure measurement consistency. The analysis of the model's effectiveness was conducted using quantitative descriptive analysis by calculating the percentage of achievement in concentration, motor reaction, and self-confidence scores, then classifying them using the effectiveness categories according to Arikunto (2010).

III. RESEARCH RESULTS AND DISCUSSION

A. RESULTS

The results of the operational testing of the Target Games-based game model were conducted on 15 students with mild intellectual disabilities at SDLB N Pembina Yogyakarta. The game model applied consisted of three types, namely Pin Jitu to improve concentration, GERAK to improve motor reactions, and BerBola Warna to improve self-confidence. Each game was applied in several meetings and assessed through performance observation sheets by PJOK teachers.

The implementation of the Pin Jitu game showed an increase in the students' concentration abilities. At the beginning of the implementation, some students still often lost focus, but after playing the game repeatedly, the students began to be able to maintain their attention on the target, adjust the direction of their throws, and coordinate their movements more steadily.

In the GERAK game, there was an increase in the students' motor reaction skills. At the initial stage of the activity, the students needed quite a long time to respond to the movement commands, but after repeated practice with gradual movement patterns, the students were able to show faster, more accurate, and more synchronized responses to the stimuli given.

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The results of the Color Ball game showed an increase in self-confidence. Students who previously appeared hesitant and unsure in participating in activities began to dare to initiate movements, perform in front of their friends, and show an active attitude during the game. Positive reinforcement from teachers and a fun game atmosphere contributed to this increase in self-confidence.

Overall, the results of the effectiveness analysis show that 46.67% of students were in the very effective category, 40% in the effective category, and 13.33% in the fairly effective category. This indicates that the Target Games-based game model was able to have a significant positive influence on the development of concentration, motor reactions, and self-confidence in students with mild intellectual disabilities.

B. DISCUSSION

The application of Pin Jitu games has been proven effective in improving students' concentration. Activities that focus on target accuracy and repetitive movements help students focus their visual attention and regulate their motor coordination sequentially. This is in line with the concept that targeted motor activities can strengthen attention and motor control in students with special needs.

The GERAK game provides a learning experience that stimulates the connection between sensory perception and motor response. Exercises designed with simple and gradual instruction patterns can increase the speed at which students process information. This improvement shows that rhythmic and repetitive movement activities can improve the neuromotor coordination of students with mild intellectual disabilities.

The increase in confidence in the Color Ball game shows that a fun learning atmosphere and the opportunity for gradual success are very important in adaptive physical education. Praise, positive reinforcement, and simple achievable successes make students feel capable, so they are more confident to engage in subsequent activities.

Overall, the Target Games-based model developed in this study is able to meet the learning needs of students with mild intellectual disabilities because it integrates visual, motor, and emotional elements. Learning that is structured in a simple, gradual manner and based on successful experiences has a real impact on concentration, motor reactions, and self-confidence.

IV. CONCLUSION AND SUGGESTION

A. CONCLUSION

This study produced a Target Games-based game model consisting of Pin Jitu, GERAK, and BerBola Warna games as a form of adaptive PJOK learning development for students with mild intellectual disabilities. The game model developed through the research and development stages was proven to be feasible based on expert validation results, practical based on PJOK teacher assessments, and effective based on improvements in student performance. Improved concentration was evident in the students' ability to direct their focus and coordinate their movements while playing Pin Jitu. Improved motor reactions were seen in the students' ability to respond to stimuli more quickly and accurately in the GERAK game. Meanwhile, increased self-confidence was evident in the students' willingness to perform, take on roles in groups, and show courage in the BerBola Warna game. Thus, this Target Games-based game model not only provides a fun movement experience but also contributes to the integrated development of the cognitive, motor, and affective aspects of students with mild intellectual disabilities.

B. SUGGESTION

This Target Games-based game model is suggestion for implementation by physical education teachers in special schools as a more adaptive, varied, and enjoyable learning alternative for students with mild intellectual disabilities. Teachers need to consider providing instructions in stages, using interesting game media, and consistently applying positive reinforcement to maintain student motivation throughout the activity. The use of games should be carried out regularly and in a structured manner so that improvements in concentration, motor reactions, and self-confidence can develop continuously.

In addition, schools can support the implementation of this model by providing simple but safe game facilities and infrastructure for students with special needs. Further research can be conducted by expanding the number of participants, testing the application of the model at different age levels, or comparing it with other learning models to determine the relative effectiveness of each approach. Further research can also examine the long-term impact of using these games on the social development and independence of students outside the formal learning environment.

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