Physical Fitness of Children with Special Needs

Nurhayati Simatupang[1], Albadi Sinulingga[2], Indra kasih3, Dicky Edwar Daulay[4]
Samsuddin Siregar[5]

{nurhayati@unimed.ac.id[1], father@unimed.ac.id[2], indrakasih@unimed.ac.id[3],
dickydaulay@unimed.ac.id[4], samsuddinsiregar@unimed.ac.id[5] }

Department of Elementary School Teacher Education, Universitas Negeri Medan, Indonesia[12345],

Abstract. This research produces innovative media products to support the physical fitness of children with special needs. The research sample used two trials with an initial trial of 35 samples and a second trial of 72 samples. The research design uses a type of development research or Research and Development (R&D). The research model used uses ADDIE which involves model development stages with five stages including: Analysis, Design, Development, Implementation and Evaluation. From data collection carried out on Media Experts (First) with a total score of 73% in the adequate category. The (second) test of data collection was carried out with a total score of 91%, so the media used was very suitable for use. Learning Expert Test (First) With an average total score of 73%. Second Learning expert test. from the data collection carried out with a total score of 91% with the category very suitable for use. Fitness Expert Test (First) 72%. Fitness Expert Test (Second) from data collection carried out with a total score of 93% with a very decent category. Linguistics Test (First) 74%. The second media expert test from data collection was carried out with a total score of 93% in the very appropriate category. Tests carried out on a small sample with a total score of 73% are suitable for use with revisions. The Large Sample Test from data collection carried out on a large sample obtained a result of 92% with a very feasible category. It can be concluded that children's physical fitness can be realized by using tools that have been created.

Keywords: Physical Fitness of Children with Special Needs.

1 Introduction

Children's motoric development is in line with their physical and cognitive growth. Many things influence a child's motoric development, both in the surrounding environment, social background, economy and gender class. Motor skills develop along with a child's growth and development. In supporting children's growth and development, the government is taking an approach by changing the education system to inclusive education as the basis for providing education. Inclusive is an education system that provides a role for all students in a shared learning climate and process without distinguishing between social background, gender, ethnicity, religion, physical or mental condition so that the school becomes a forum for the development of students from various strata. Physical and Health Education is basically part of the reconstruction of the national education system as a whole.

ICIESC 2024, September 17, Medan, Indonesia

DOI 10.4108/eai.17-9-2024.2352913

Abk have health problems or obstacles in various circumstances, such as lack of interaction in community and school activities, activity limitations, behavioral and emotional delays, and intellectual development delays. This problem can have an impact on the child's independence. This problem certainly has a solution according to the character of the students, so whatever problems the students face must of course be given the best solution in order to realize the ultimate goal of physical education that is being carried out.

1.1 Development Concept

Motor skills develop along with a child's growth and development. In supporting children's growth and development, the government is taking an approach by making improvements to the education system to become inclusive education as the basis for providing education. Inclusive learning for children with special needs is an education system that provides a role for all students in a shared learning climate and process without differentiating between social background, gender, ethnicity, religion, physical or mental condition so that the school becomes a forum for the development of students from various strata. Physical and Health Education is basically part of the reconstruction of the national education system as a whole. In this case, the level of progress in Physical and Health Education in educational units has a very important role in creating effective and well-implemented learning.

1.2 Media

In every learning process, everyone must use every media to support the activities carried out. Starting from communication carried out with students, both individuals and other groups. With the role of media, every activity that people do will be easier. Therefore, the definition of media can be said to be very broad, and an educator will certainly look for the best media to make it a tool in the process of learning and teaching interactions. The presence of media in this world certainly makes things easier for someone, so that everything they do will be more effective and efficient in achieving completion, in fact, this media can reduce misunderstandings between information givers and information recipients.

The presence of learning media makes it possible to apply a method to overcome all kinds of problems in teaching, not only solving problems, but learning media provides various comprehensive information to students [1]. According to [2]; [3] The benefits of learning media are as follows: (1) it can explain learning material more simply; (2) it increases student engagement in the learning process; (3) maximizing all senses; (4) guiding students to become more independent in increasing their insight; and (5) provide the same information to all students.

1.3 Physical Fitness

Physical fitness is a series of physical characteristics that a person has or achieves that are related to the ability to carry out physical activities. Physical fitness is a series of physical characteristics possessed or achieved by a person that are related to the ability to carry out physical activities. In its development, the term physical fitness has become the most popular translation of the term physical fitness. Literally means physical fitness is fitness. But fit can also mean healthy, so fit can mean healthy. In this text the discussion will start from the meaning of physical fitness fitness or fitness. From this definition it means that there is something that must be in it according to the body or the purpose of the physical activity, namely the type or severity of the tasks that must be carried out by the body or bodies. This understanding still requires further research explanation, especially those related to certain physical needs that are anatomical (structural) and physiological (functional).

In this text, the discussion will start from the definition of fitness as physical fitness or fitness. From this definition, it means that there is something that must be in accordance with the body or the purpose of physical activity, namely the type or severity of the task that must be carried out by the body or body. This understanding still requires further elaboration, especially in relation to certain physical needs that are anatomical (structural) and physiological (functional).

1.4 Children with Special Needs

Learning difficulties are disorders in one or more of a person's psychological abilities which include understanding, using language, speaking, writing which can affect thinking abilities. Individuals with learning difficulties have an IQ below average and therefore experience motor-perceptual motor disorders, motor coordination disorders, directional and spatial orientation disorders and delays in concept development. Children who have below average abilities are called mentally retarded children or children with special needs who have special characteristics that are different from children in general without always showing mental, emotional or physical disabilities.

2 Method

This research was carried out at Medan State University, Faculty of Sports Science in the Sports Science study program. This research was carried out from February to June 2024. The population in this research was sports science students consisting of three classes and the sample was made into one class, totaling 30 people. The expert samples used were training media experts, physical fitness experts, adapted physical education lecturers. The research method used in this research is research and development (R&D) with ADDIE. Research and development is research that has several paths that must be carried out to produce certain products and test the effectiveness of these products.

3 Result and Discussion

The output of this research is the creation of a physical fitness media product for children with special needs in the form of roller media which has been modified according to the child's needs. This model has also passed several tests to make it a good and safe medium.

3.1 Analyze

At the analysis stage, to obtain more valid data, an observation was carried out on the learning activities of children with special needs by conducting interviews with subject teachers. Observations and interviews were carried out to find out the supporting media for physical fitness in physical education learning.

At the analysis stage, the method that researchers used was observation of the learning activities of children with special needs by conducting interviews with subject teachers. Observations and interviews were carried out to find out the supporting media for physical fitness in physical education learning.

a. Physical education learning activities.
    - In physical education activities, teaching staff still pay little attention to students' physical fitness needs, so that physical fitness attainment is still relatively low.

- Most physical education learning activities use media that does not reflect the actual needs of students.
- Teachers must design media according to learning needs
- Create requirement parameters according to the level of students' abilities.

b. Use of Teaching Materials

The teaching materials used both outside and inside the classroom during the learning process are textbooks.

c. Measuring the Feasibility of Teaching Materials

The teaching media for children with special needs that are developed must pass feasibility testing so that the teaching media can be used according to the characteristics of the students. The feasibility measurement tool in this research has several stages, namely feasibility testing from material experts and feasibility testing from teaching media experts, feasibility testing for language experts and implementing it for students.

3.2 Design

The design process is the stage of designing teaching media for training. At this stage, research instruments are also designed to measure the feasibility of the teaching media being developed.

a. Gather draft materials

The first step is to collect material sources that will be presented in teaching media for children with special needs from various sources such as books, apart from that there are also photos and videos downloaded from YouTube.

b. Create validation research instruments for material experts, teaching media experts, language experts and student samples. This second step is to prepare teaching media assessment instruments for experts and student response questionnaires to teaching media. The assessment instruments by experts and student response questionnaires are in the form of questionnaires with a Likert scale

c. Develop a framework for teaching media for children with special needs In general, the preparation of a teaching media framework for children with special needs must adapt to the characteristics of students who have special needs, so that the media created must refer to the character of the students.

d. Arrange the media devices that will be created The material that was first presented in the media discussed physical fitness training learning activities. Each material has its uses, safety, comfort and physical education goals for children with special needs. At this design stage, the product produced is draft material that will be used as teaching material towards physical fitness for children with special needs.

3.3 Development

The development stage consists of 2 steps, namely (1) developing/creating physical fitness teaching media for children with special needs (2) product validation.

3.3.1 Media Expert Validation

From the data collection carried out by media experts with indicators, operational ease of tools is 76% feasible, safety in using tools is 75% feasible, equipment efficiency is 71% feasible, tool effectiveness is 71% feasible. So the media used is appropriate with a total score of 73%.

3.3.2 By Learning Media Expert Media Test Table (Second)

From the data collection carried out by media experts with indicators, the operational ease of the tool is 93% very feasible, the safety in using the tool is 91% very feasible, the efficiency of the tool is 91% feasible, the effectiveness of the tool is 89% feasible. So the media used is very feasible with a total score of 91%.

3.4 Learning Expert Test (first)

From data collection carried out by learning experts with indicators, learning steps are 71% feasible, learning objectives are 71% feasible, learning evaluation is 73% feasible, final learning outcomes are 76% feasible. So the media used has a total score of 73% in the appropriate category with revision.

3.5 Learning Expert Test Table (Second)

From the data collection carried out by learning experts with indicators, 93% of learning steps are very feasible, 91% of learning objectives are very feasible, 91% of learning evaluations are very feasible, and final learning outcomes are 89% very feasible. So the media used has a total score of 91% in the very feasible category.

3.5.1 Test fitness expert

a. Fitness Expert Test (First)

   From data collection carried out by fitness experts, the indicators for equipment usability are 76% appropriate, equipment safety is 72% appropriate, fitness achievements are 68% appropriate, equipment attractiveness is 72% appropriate. From the conclusions that have been carried out, the media data processing used is suitable for use with a total score of 72% in the appropriate category.

b. Fitness Expert Test Second)

   From the data collection carried out by fitness experts with indicators, the usability of the equipment is 96% very feasible, the safety of the equipment is 92% very feasible, the fitness achievement is 92% very feasible, the attractiveness of the equipment is 92% very feasible. So the media used is feasible with a total score of 93% in the very appropriate category.

3.6 Linguist Test

3.6.1 Language Expert Test First

From the data collection carried out by media experts with indicators: Writing the cover of the pocket book 77% feasible, Instructions for implementation 71% appropriate, Spelling in each instruction 74% appropriate, Preparation of evaluation 71% appropriate. So the media used is feasible with a total score of 74% in the appropriate category.

3.6.2 Language Expert Test(Second)

From the data collection carried out by media experts with the indicators for writing the cover of the pocket book, the percentage was 89% very feasible, the implementation instructions were 91% feasible, the spelling in each instruction was 91% very feasible, and the preparation of the

evaluation was 94% very feasible. So the media used is feasible with a total score of 91% in the very feasible category.

3.7 Small Sample Test

From the data collection carried out on a small sample with the renewable media indicator for ABK, the percentage was 70% feasible, the achievement of learning objectives was 74% feasible, the impact of the model provided was 72% feasible, the meaningfulness of the media was 74% feasible. So the media developed is feasible with a total score of 73% with revisions.

3.7.1 .implementation

After the physical fitness teaching media for children with special needs went through a small-scale trial stage, the physical fitness teaching media for children with special needs was used in the learning process with a total of 30 students. Students as respondents provide assessment responses to physical fitness media based on aspects of media development objectives, media safety for children with special needs, meaningfulness of tools and ease of use. to see students' responses to the use of teaching media.

3.8 Large Sample Test

From the data collection carried out on a large sample with the indicator Renewable media for ABK 90% very feasible, Achievement of learning objectives 94% very feasible, Impact of the model provided 90% very feasible, Media meaningfulness 94% very feasible. So the media developed is feasible with a total score of 90%.

4 Conclusion

After going through several testing stages, both for students and physical fitness experts, for included children, they certainly experienced several changes from all sides. This change is of course an improvement in accordance with the needs of the results of the data processing that has been carried out, so that perfection as needed can be achieved.

References

[1] Angga1, P. D., Hariyanto1, E., & Tomi1, A. (2020). Development of Interactive Pencak Silat Multimedia Teaching Materials Based on CourseLab 2.4. Indonesian Journal of Physical Education, 16, 9–17.

[2] Avi Yanni, Kamala, I., Shaleh Assingkily, M., & Rahmawati, R. (2020). Analysis of the Intellectual Abilities of Mildly Intellectually Impaired Children at Demakijo State Elementary School 2. Journal of Education, 21(1), 64–75. https://doi.org/10.33830/jp.v21i1.843.2020

[3] Eka Sari Setianingsih, I. L. (2019). Implementation of Inclusion Education Implementation at Bina Harapan Primary School Semarang. Park Cendekia Journal, 03.

[4] Elyas, A. H. (2018). Using e-learning learning models to improve the quality of learning.News Journal, 56(04),11.ttp://jurnal.dharmawangsa.ac.id/index.php/juwarta/article/view/4

[5] Endang Mulyaningsih. (2011). Applied Research Methods in the Field of Education. Alphabet. Endang Rini Sukamti, M. I. Z. R. B. (2016). Physical Fitness Profile and Health Status Aerobics Instructor in Yogyakarta. Journal of Sports Performance, 12(2), 116313.

[6] Fifi Nofiaturrahmah. (2018). Problems with Deaf Children and How to Overcome Them. Quality, 6, 1–15.

[7] Garnida, D. (2015). Introduction to inclusive education. Refika Aditama.

[8] Giriwijoyo, H. Y. S. S., & Sidik, D. Z. (2010). Concepts and Methods of Physical Fitness Assessment from the Viewpoint of Sports Physiology. Journal of Sports Coaching, 2(1), 9. https://ejournal.upi.edu/index.php/JKO/article/view/16223.

[9] Junaedi, A. (2016). Survey of the Level of Progress in Physical Education, Sports and Health in Senior High Schools, Vocational Schools and State Colleges in Gresik Regency. Journal of Sports and Health Education, 3(3), 834–842.

[10] Nana Syaodih Sukmadinata. (2008). Educational Research Methods. PT Teen Rosdakarya. Omega, S. A., Restu, A., & Salsabila, R. (2021).: Journal of Basic Education Volume V, Number 1, May 2021. V.

[11] Altius,10(1),4052.http://dx.doi.org/10.36706/altius.v10i1.13990

[12] Sari, L., Pratama, R. A., & Permatasari, B. I. (2020). Learning Media for Number Puzzles and

[13] Sugiono. (2006). Educational Research Methods; Quantitative and Qualitative Approaches and R&D. Alphabet.