Development of a Long Jump Education Model through a Game Approach to Improve Basic Movement for Students with Disabilities Grahita in Inclusive Schools at SMP Negeri 28 Surabaya

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Abstract

The implementation of physical education, sports and health learning on the long jump subject has problems because the motion education model used is still the same as for regular students. The difficulties have an impact on their activities which tend to be passive, so a module is needed that is in accordance with the abilities and characteristics of students with mental disabilities. The purpose of this research is to produce a long jump module product through a game approach to improve basic motion in students with mental disabilities. The method used in this research is research and development using the Research & Development (R & D) development model from Borg and Gall. To develop a long jump educational model for mental disabilities with the aim of improving the basic locomotor, non-locomotor, and manipulative motion patterns. Prior to the implementation stage, 2 (two) people who are competent in the field of learning physical education for children with special needs are validated. Field trials consist of trial I and trial II. Limited trials were conducted at SMPN 28 Surabaya. Then, the evaluation stage is carried out by discussing with related parties in each school after the trial / implementation. The results of the analysis of the development of the long jump motion education model in the form of a long jump learning module through the game approach were carried out very well, and were feasible in the learning process with the results of two material validation experts 77% while the design validation obtained a score of 85%. The improvement of the basic long jump movement pattern is well done.

I. Introduction

Physical education is one of the subjects taught in schools to improve motor development, knowledge, and the formation of attitudes such as sportsmanship, courtesy, confidence, courage, and others. According to Husdarta (2009: 3) explains that the notion of physical education is an educational process that utilizes physical and health activities to produce holistic changes in individual quality, both physically, mentally and emotionally. In addition, physical education also provides opportunities for students to be directly involved in various learning experiences through systematic physical activities, playing and exercising.

In general secondary education units that serve students with special needs, of course, require special handling in providing the learning process. Seeing the current development

and observing the number of students with special needs who are entering public schools, it can be believed that from year to year the number of children with special needs in Indonesia is increasing. Facing situations and conditions like this as educators in the world of education, we should not despair because we have a collective obligation to continue to raise and educate them in the community and school, as mandated by the law, every citizen has the same right to get an education.

The physical education curriculum for Junior High Schools (SMP), as written in the Basic Competency and Basic Competency Standards (SKKD) of the education curriculum and observing the teaching and learning process (PBM) of physical education carried out at SMP that provides Inclusive Education today is actually not too different from The learning process carried out in schools in general, however, because the situations and conditions of students are different from normal children in general, PBM which is carried out in the SMP that provide Inclusive Education tends to be adjusted. It cannot be denied that the success and quality of education is determined by several factors, including the teaching staff. Because they are considered as one of the most influential parts of the success and quality of education, teachers are considered the people most responsible for the process and quality of education. For that we need a strong teacher who can anticipate teaching and learning situations in school. School provides a series of material to educate a student to adulthood, including his development. Good education must be able to meet the needs of a good learning process, which is learner-centered. Students must be active and feel comfortable when participating in the learning designed by the teacher. So that students are able to express their creativity in learning.

In the learning process students can carry out the material taught in accordance with the conditions of students. Educational services meet the needs of physical, mental, emotional and social conditions. These conditions will be more visible in education services for students with special needs (PDBK), especially for children with mental disabilities. In physical education, there are many sports included in it, one of which is athletics. Athletics is a physical activity consisting of walking, running, jumping and throwing. One of the basic competencies in physical education that must be given to junior high school students is practicing a specific combination of walking, running, jumping and throwing in a variety of simple and / or traditional games (Permenpan No. 37 of 2018).

Long jump is a movement of lifting the body from one point to another with one foot and landing on both feet to produce the farthest jump. The long jump movement begins with running then refuses on the pedestal using one leg then floats in the air and finally lands using two feet. According to Yoyo (2005: 12), to get a long jump can be done by starting as fast as possible in a controlled speed "maximum controllable speed", followed by strong and high repulsion, hovering and landing perfectly. When refusing, lean forward slightly to get the parabolic trajectory as it drifts further forward.

The reality in the field when learning the long jump is that there are still many students who hesitate when making the start and repulsion when jumping, and there are still many students who do not understand the basic long jump skills, especially mentally retarded students, so the jump results are not optimal. Children with special needs with mental retardation disorders have limitations in understanding commands and motor movements that require coordination. This is in line with Choate's (2013: 33) opinion that students who are identified as having mental blocks need a lot of repetition to master concepts and skills.

The data held at SMPN 28 Surabaya every year shows that students with mental disabilities have increased every year. In the 2018/2019 school year there were 20 students, the 2019/2020 school year there were 28 students, and the 2020/2021 school year showed an

increase in the number of students with disabilities by 35 children. Seeing the increasing number of students with mental disabilities, it requires an educational model that is in accordance with the development and characteristics seen from the intellectual and motor limitations that each individual has. Because of these limitations, an education needs creativity and innovation to create a model of motion education through games that can improve the basic movements of students with mental disabilities. The aim of this research is to produce a long jump module product through a game approach to improve basic movements in students with mental disabilities.
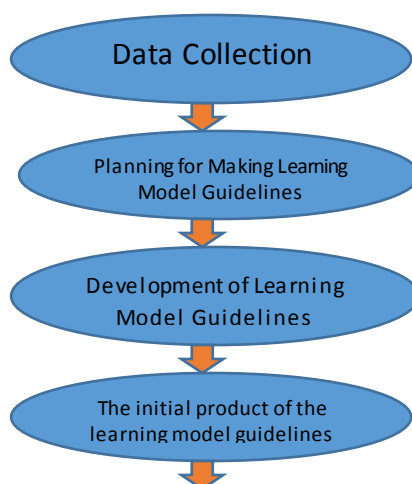
Based on the description above, the authors are interested in conducting research with the title "Development of a Long Jump Education Model Through a Game Approach to Improve Basic Movement for Students with Grahita Disabilities in Inclusive Schools at SMP Negeri 28 Surabaya."
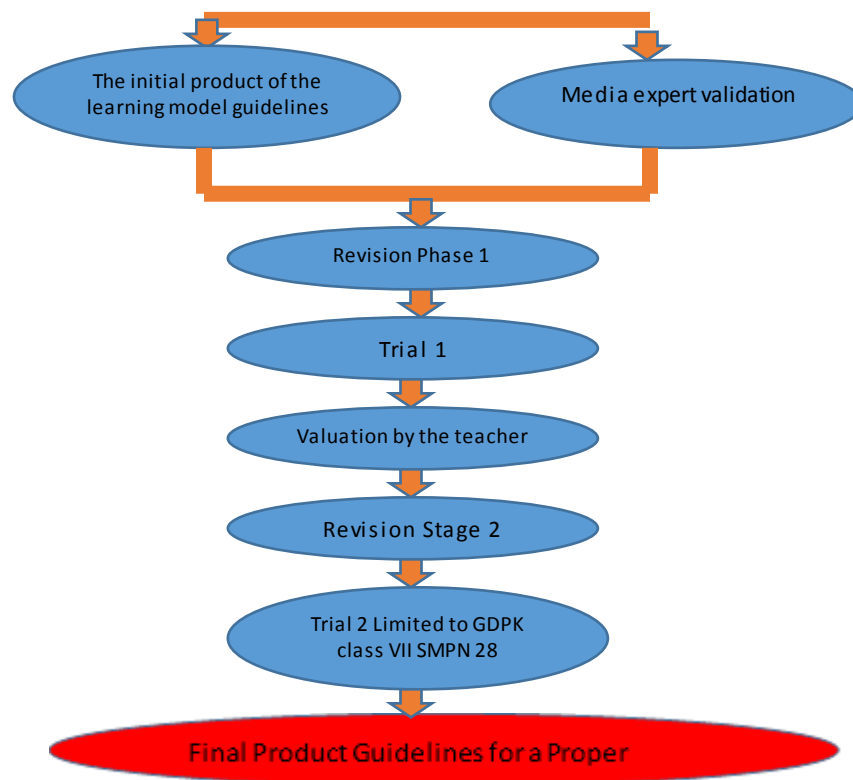
II. Research Methods

This research is a type of research and development (R&D) because it aims to develop a long jump motion education model to improve the basic movement skills of mentally retarded students. According to Sugiyono (2012: 407) research and development is a research method used to produce certain products and test the effectiveness of these products. Sukmadinata (2006: 169) defines research and development as a research approach to produce new products or improve existing products. So development research is a method for producing certain products.

The development model used as a reference is the Borg and Gall (1983) development model. Researchers conducted research and development of learning models in the form of long jump learning model guidelines for mental retardation in physical education subjects. Referring to the opinion of Mulyatiningsih (2013: 161) states that research and development aims to produce new products through the development process. Research and development products in education can be in the form of models, media, tools, books, modules, evaluation tools, and learning tools such as curriculum and school policies. As for the feasibility level of the learning model in the form of long jump learning guidelines for mental retardation in physical education subjects. This is known through validation by material experts, validation by media experts, validation by teachers and trial use by students.

The procedure for developing a long jump learning model for mentally retarded students can be seen in the following chart:

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            ┌─────────────────────┐
            │  Data Collection    │
            └─────────────────────┘
                      ↓
         ┌────────────────────────────┐
         │ Planning for Making Learning│
         │      Model Guidelines       │
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         ┌────────────────────────────┐
         │  Development of Learning    │
         │     Model Guidelines        │
         └────────────────────────────┘
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         ┌────────────────────────────┐
         │ The initial product of the  │
         │  learning model guidelines   │
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    ┌──────────────────────────────────────────────┐
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The initial product of the          Media expert validation
learning model guidelines
    │                                              │
    └──────────────────┬───────────────────────────┘
                       ▼
               Revision Phase 1
                       │
                       ▼
                   Trial 1
                       │
                       ▼
            Valuation by the teacher
                       │
                       ▼
               Revision Stage 2
                       │
                       ▼
           Trial 2 Limited to GDPK
              class VII SMPN 28
                       │
                       ▼
        Final Product Guidelines for a Proper
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III. Discussion

To develop a long jump educational model for mental disabilities with the aim of improving the basic locomotor, non-locomotor, and manipulative motion patterns. Prior to the implementation stage, 2 (two) people who are competent in the field of learning physical education for children with special needs are validated. Field trials consist of trial I and trial II. Limited trials were conducted at SMPN 28 Surabaya. Then, the evaluation stage is carried out by discussing with related parties in each school after the trial / implementation.

The subjects of this study were students of class VII of SMP Negeri 28 Surabaya in the 2019/2020 academic year who participated in physical education learning on the long jump material. There are two stages for testing the Game-based model, namely small-scale trials. Limited test with a total of 10 students. This research was conducted at SMP Negeri 28 Surabaya, which is located on Jl. Menganti Lidah wetan 29 B Surabaya. This research was conducted in the even semester of the 2019/2020 school year. The limited trial will be held from April to June 2020.

3.1 Product Trial

Product testing is very important to do to determine the quality of the resulting learning model. Therefore it is necessary to conduct trials on the target product being developed. Before being tested, the product of the physical education learning model for students with mental disabilities was validated first by material experts and media experts, then stage I revisions were made. The revised product was validated by two Physical Education Teachers at SMP Negeri 28 Surabaya, then the stage II revision was carried out. The product of the second stage of the revision was tested on 10 students with mental health disabilities of grade VII SMP.

3.2 Type of Data

In accordance with the objectives of this development research, the data collected consists of two types, namely:

1. Data regarding the process of developing a long jump motion education model through games for students with special needs class VII SMPN 28 Surabaya in accordance with predetermined procedures. This data comes from assessments and input from material experts, media experts and Physical Education teachers.

2. Data about the responses of students with special needs to the long jump motion educational model through games for students with special needs class VII SMPN 28 Surabaya based on student use trials.

The data collection techniques used in this study were validation, observation and questionnaires. Model and the second stage of limited trial / trial I, then continued with the implementation of learning / testing II. The long jump motion education model developed is an adaptive physical education learning module through games to improve basic movements for students with mental disabilities in inclusive schools.

3.3 Initial Product Development Results
a. Expert Validation Results for the Basic Long Jump Motion Learning Module Material

The long jump learning module is used by the teacher as a guideline for the implementation of teaching and learning activities which contains learning scenarios consisting of: introduction, list of contents, core competencies, basic competencies, learning objectives, concept maps, materials, evaluation, and glossary used in this study.

In material validation, two types of data were obtained, namely qualitative data in the form of suggestions from the validator and quantitative data in the form of a questionnaire using a scale of 1 - 4 with the criteria "very less = 1", "less = 2", "Good = 3", and "very good = 4 ". The results of the validation of the learning module material experts in the basic long jump motion education model amounted to 127 for validator 1 and 172 for material experts as validator 2, while the number of indicators assessed was 48. For the average value of validator 1 was 127: 48 = 2.64 . The ideal score is 4. From the average value divided by the ideal score is 2.64: 4 = 0.66 then the percentage is 66%. While validator 2 is 172: 48 = 3.85. The highest score is 4. From the average score divided the highest score is 3.85: 4 = 0.89 then the percentage is 89%. If we look at the two mean scores of material experts combined, the total average value is 66 + 89 = 155: 2 = 77.5%. Based on product validation in the previous chapter, the percentage has very valid criteria and can be used as a learning module. The level of product validation can be seen in table 4.1 below:

Table 1. Product Validation Levels

Percentage Rate (%)	Interpretation
0 - 25	Very invalid (forbidden to use)
25 - 50	Invalid (cannot be used)
50 - 75	Fairly valid (can be used with minor revisions)
75 - 100	Very valid (can be used without revision)

Meanwhile, qualitative data in the form of material expert validator suggestions is that the cover is specially made, paying attention to the content that is adjusted to the image, providing colors, drawing as attractive as possible, and writing paying attention to vocabulary that is easy to understand.

b. The Results of Expert Validation on Basic Motion Learning Module Design

From the results of this validation, two data were obtained, namely quantitative data from filling out a questionnaire in the form of scores and qualitative data from his suggestions. Quantitative data in the form of a questionnaire using a scale of 1 - 4 with the criteria "very poor = 1", "less = 2", "Good = 3", and "very good = 4". The assessment of each indicator follows a Likert scale which consists of 4 answers, namely 1 = very poor, 2 = poor, 3 = good, and 4 = very good. The average value of all indicators is the total value of the answers to the validation of the long jump basic motion learning module design is 102. The number of indicators assessed is 30. The average score is 102: 30 = 3.4. The ideal score or the highest score is 4. From the average score divided by the ideal score is 3,4: 4 = 0.85 then the percentage is 85%. Based on the validation level table in the previous chapter, the percentage has sufficiently valid criteria and can be used.

While qualitative data in the form of design validator suggestions is to pay attention to the basic principles of design, namely CRAP (Contrast), Repetition (Repetition), Alignment (alignment) and Proximity. In addition, the number of typefaces should not exceed two types.

c. Teacher Assessment Results

The learning module researched by the author is also validated by teachers who are competent in their fields and have teaching experience. The learning module that was tried out and revised 1 was re-validated by the subject teacher in the school where the research was tested.

In validation by the teacher, two types of data were obtained, namely qualitative data in the form of suggestions from the validator and quantitative data in the form of a questionnaire using a scale of 1-4 with the criteria "very less = 1", "less = 2", "Good = 3", and "very good = 4 ". The results of the validation of the learning module in the basic long jump motion education model amounted to 257 for validator 1 and 259 for material experts as validator 2, while the number of indicators assessed was 78. For the average value of validator 1 was 257: 78 = 3.29. The ideal score is 4. From the average value divided by the ideal score is 3.29: 4 = 0.82 then the percentage is 82%. Meanwhile, validator 2 is 159: 78 = 3.32. The highest score is 4. From the average value divided, the highest score is 3.32: 4 = 0.83, then the percentage is 83%. If we look at the two mean scores of material experts combined, the total average value is 82 + 83 = 165: 2 = 82.5%. Based on product validation in the previous chapter, the percentage has very valid criteria and can be used as a learning module.

3.4 Product Trial Results What Exercise Group Control
a. Trial I

After the implementation of the first trial, there were several suggestions from the parties involved, including: the physical education subject teacher which is very well arranged for the children's movement patterns, the companion teacher is very enthusiastic about learning, which is new for them, because the knowledge of physical health education.

b. Trial II

In the second trial study, researchers only had one meeting at SMP Negeri 28 being studied, because this is adjusted to the lesson schedule. Data retrieval is specific to mental disabilities at SMP Negeri 28 Surabaya.

c. Student Response

Student response questionnaires are used to collect data information about student responses who implement health physical education learning through games for children with mental disabilities to teach basic locomotor, non-locomotor, and manipulative motion patterns in long jump. The assessment of each indicator follows a Likert scale which consists of 4 answers, namely 1 = very poor, 2 = poor, 3 = good, and 4 = very good. The average value of all indicators is the total value of the validation answers for the long jump basic motion learning module design is 68.8. The number of indicators assessed was 20. The average score was 68.8: 20 = 3.44. The ideal score or the highest score is 4. From the average score divided by the ideal score is 3.44: 4 = 0.86 then the percentage is 86%. Based on the table of validation levels in the previous chapter, the percentage has very valid criteria and can be used in learning.

3.5 Product Revisions

This learning module has been validated by validators and teachers who have expertise in their fields, then improvements can be made according to the input given. The results of device validation consist of revision notes and the validation value of each learning device which will later be used as a research tool.

3.6 Final Product Assessment

The product in this study is a basic long jump motion module through a game approach with the formulation of learning objectives from concept analysis and curriculum analysis. Then the researcher starts planning by making product design designs.

IV. Conclusion

From the results of this content validation, the rating scale of all the components being validated was obtained. According to Ratumaian and Laoretes (2016: 230) the criteria for the module used are good and slightly revised if it gets an average score of 2.6 - 3.5 and is said to be very good without revision with an average score between 3.6 - 4, 0. From the calculation of the previous chapter, it was found that the average score of each component was 2.64 for validator 1 and 3.85 for validator 2, so this module is included in the good category without revision and according to the validator it is feasible to use by adding various inputs that have been expressed. From the calculation, it can be concluded that the basic motion module long jump through the game approach is suitable for use in classroom learning. From the results of the validation, the average score of all the items tested on the validator will be obtained. From the calculation results obtained an average score of 3.4 and a percentage of 85%. After going through the validation test by three experts, namely content experts and design experts, the next step is to conduct limited trials in small groups where this limited trial is conducted on 10 students and two teachers who teach subjects in the class. In this trial, there was a questionnaire which stated whether the design of teaching materials was able to attract readers' interest or not and also about how to write the content according to the characteristics of students or not.From the calculation results obtained if the average rating scale given by the

first teacher is 3.29 and the percentage is 82%. Meanwhile, the second teacher was 3.32 in the percentage of 83%. From the previous chapter with a percentage value of 85%, the teaching materials are very valid and can be used. The results of the analysis of the development of the long jump motion education model in the form of a long jump learning module through this game approach were carried out very well, and were feasible in the learning process with the results of two material validation experts 77% while the design validation obtained a score of 85%. Improving the basic long jump movement pattern is well done.

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