

The Development of Kolangs Learning Model for Learning Running Material for Children's with Mental Disabilities in SMPLB

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Abstract: The purpose of this study is to produce a Kolangs learning model for learning running material for mentally retarded students in SMPLB. The approach taken in this research was research and development. The subjects of this study were the VII grade students of junior high school. Small-scale trials were conducted to six students of grade VII Sukoharjo SMPLB Public School. A large-scale trial was conducted to 20 students of grade VII SMPLB B-C YPAALB Langenharjo Sukoharjo and grade VII students of SMPLB B-C HAMONG PUTRO Jombor Sukoharjo. The effectiveness test was carried out on six students of grade VII SMPLB ABCD YSD Polokarto Sukoharjo. In collecting the data, instruments used were: (1) interview guidelines, (2) observation guidelines, and (3) GPAI. The techniques to analyze the data were carried out in quantitative descriptive analysis and qualitative descriptive analysis. The results of this study are in the form of Kolangs learning model for learning running material for mentally retarded children in the SMPLB. From the assessment results of the experts and practitioners, the Kolangs learning model had a validity of 0.988. Based on the results of the effectiveness test, the percentage value of Kolangs learning models represented that it was a very effective learning model and it could improve the skills of start, run, and finish, as well as the affective aspects, consisting of cooperation, discipline, and sportsmanship. In addition, the Kolangs learning model was also very suitable with the characteristics, growth, and development of the students and it allowed the students to easily learn the basic running techniques in the SMPLB.

1 INTRODUCTION

Learning to run as school subject is considered to be less attractive and only basic techniques are taught, making students less enthusiastic or not interested in learning the subject. The teacher provided explanations and divided some tasks and technical exercises without providing an interesting way of learning that makes students feel bored in the teaching and learning process. The results of the observations showed that 7 out of 10 teachers generally gave lecture model and directly explained the basic technical material. In delivering the learning material, 3 out of 10 teachers delivered the materials using video learning guides. In addition, from the results of observations, physical education teachers only provided warming up, lectures, and direct practice. The students could only do the basic techniques without knowing whether the techniques are right or wrong. The learning atmosphere was direct so that students could develop their potentials,

which means that the education process must be oriented to the students. Therefore, the students must be seen as developing and potential organisms. The teachers are required to not only provide materials or force the students, but also develop the students' potentials. Therefore, the students can memorize the materials and facts. In other words, they can do something beyond their abilities.

Dimiyati (2009) says that learning is all activities designed by the teacher to help someone learning a new ability or value in a systematic process through the stages of design, implementation, and evaluation in the context of learning activities. Basically, learning process must educate the students to understand the appropriate learning process and can encourage the students to develop their abilities optimally. Next, Dimiyati (2009) says, "teaching-learning process is an activity of teachers which are programmed in instructional design, to make students learn actively, which emphasizes the provision of learning resources."

From seven SMPLB being observed, Sukoharjo State SMPLB, Surakarta State Senior High School, Surakarta SMPLB YAAT, BC YPAALB Langenharjo SMPLB Sukoharjo, BC HAMONG PUTRO Jombor Sukoharjo SMPLB, YSD Polokarto ABCD SMPLB, and Abc Tawang Sari SMPLB Sukoharjo, six SMPLB still administered teacher-centered models so that the students were not actively involved in learning. The students were sometimes required to match some notions regarding the materials. The impact was on the students' low scores and there were some students whose grades were far from the minimum criteria of learning mastery (KKM). From 20 students, only five students scored above the KKM. This is still far from the expectations in running class.

Learning model is a plan or a pattern that is used as a guide in planning the learning. Every learning model has its advantages and disadvantages. The Kolangs learning model is a new breakthrough of learning model based on a combination of cooperative models, in order to cover the shortcomings of each learning model with a more complex unitary model. The Kolangs learning model contains interesting games that teach basic running techniques. This can make the students more interested in participating the learning session because the learning is not monotonous as it keeps changing but the learning goal remains.

Kolangs learning is a packaged combination of learning model that is interrelated and complementary to each other in order to create an ideal learning. This is in accordance with what was stated by Muslich (2010) that there are five principles of learning activities that can develop the potential of students, namely: (1) learner-centered activities, (2) learning through doing, (3) developing intellectual, emotional, spiritual, and social intelligence, (4) lifelong learning, (5) independent learning and learning to work together.

The essence of the formal education process is teaching, while the core of the teaching process is learning. Therefore, teaching cannot be separated from learning, so the learning process in educational terms is called the teaching and learning process (PBM) (Ali, 2008). On the other hand, Rosdiani (2012) said, "teaching-learning process is the process of interaction between students and their environment, so that there are better behavior changes."

The special characteristics of the learning model are: (1) logical theoretical rationales compiled by the creators or developers. The learning model has a reasonable theory of thinking. The creator or

developer makes a theory by considering his theory with actual reality and does not fictitiously create and develop it, (2) rationale for what and how learners learn (learning objectives to be achieved). The learning model has clear goals about what will be achieved, including what and how learners learn well and how to solve the learning problems, (3) teaching behavior. It is needed so that the model can be implemented successfully. Thus, the ideal teaching can be successfully achieved in its implementation, (4) learning environment needed. Hence, the learning objectives can be achieved. The learning model must have a conducive and comfortable learning environment, so that the learning atmosphere can be one of the supporting aspects of the learning goals.

According to Rumini (1993) children aged 12/13 to 17/18 are still classified as early teens. At this time, students want to find their identities and to be valued as individuals. Viewed from the physical and psychological development of the students, the students from SMPLB are not yet mature. Furthermore, Rumini (1993) says that physical growth as well as psychological state in early adolescents has not developed maximally. By seeing the changes in adolescence, it can be concluded that adolescents want to actualize themselves and their existence as individuals want to be recognized by others. Adolescence basically also experiences biological or physiological changes in psychological. According to Agustiani (2006), changes in adolescents and interactions during adolescence are physical, emotional, cognitive, and psychosocial implications.

Learning for students is also associated with the learning model used by the teacher. The model is defined as a conceptual framework that is used as a guideline in carrying out activities. It can be defined as: (1) a type or design, (2) a description or analogy used to assist the process of visualizing something that cannot be directly observed, (3) a system of assumptions, data, inferences used to describe an object or event mathematically, (4) a simplified design, (5) a description of a real or imaginary system, and (6) a reduced representation in order to explain and show the nature of the original form (Sukmadinata, 2012).

The learning model has four aspects of development, namely: (1) steps (syntax), explaining how the implementation of a model, the form of activities to be carried out, how to start it, and what the next action gradually done, (2) the social system that supports the implementation of each model, explains how the structuring plan and the

relationship of students and teachers, as well as the norms that build the relationship, (3) the principle of interaction between students and teachers, explaining the dynamic role of teacher and students in each model. In other words, the teacher can be a guide, facilitator, motivator, and assignor, (4) explanation of the support system, this system is outside the learning model but it is one of the conditions that determine the level of success of the learning models implemented (Rosdiani, 2012).

The development of learning models would be better if it involves some aspects, like the ones determined by Bloom (1956) in Himberg, Hitchinson, & Roussell (2003), namely there are six levels of cognitive aspects as follows: (1) knowledge, (2) comprehension, (3) application, (4) analysis, (5) synthesis, and (6) evaluation. Affective aspects have five levels, namely: (1) receiving, (2) responding, (3) valuing, (4) organizing, and (5) characterizing. Psychomotor aspects have three levels, namely: (1) direct observation and assessment of students' behavior during learning, (2) giving tests to students to measure knowledge, skills, and attitudes after participating in teaching and learning process, and (3) when the learning is finished. Thus, the learning process will run better if the process involves some models in order to create positive interest from students in the teaching and learning process. Kolangs learning which is based on a combination of cooperative and direct learning models is a learning model used in this study, especially in running subject. The students have different levels of intelligence, therefore the way they learn the basic running techniques is different between one and the others. To overcome this, Kolangs learning, the newer method, is created to provide more acceptable learning to students from those who have a high level of intelligence to students who have a low level of intelligence. According to Rosdiani, (2012) the best physical education learning process is achieved when it involves three aspects of learning: cognitive, affective, and psychomotor.

Therefore, it is expected that students can be interested in following the learning process because learning will be more varied and tend to be not monotonous as in the conventional methods. Learners at the upper middle level will tend to like and try new things. By using this developed learning model, students are expected to master the skills, cognitive, and affective easily. It is because this learning model provides character education so that the students are expected to not only prioritize

individual egos, but be able to socialize with their classmates.

There are some basic running game techniques that must be mastered by students, namely start, run, and finish. These three basic techniques are inseparable in running games. Each movement has its own purpose. The start movement aims to start the run properly. The aim of the run is to move properly and quickly towards the finish. The finish movement aims to level the time.

According to Hergenhahn & Olson (2008) the most basic form of learning is repetition. Learning is gradual rather than direct, in other words learning is done with systematic small steps. In developing learning models in Physical Education, the applicable curriculum must be considered, so that the products are in accordance with the characteristics of the students (Rosdiani, 2012). Curriculum is the experiences and activities planned by the school which aims at modifying student behavior towards expected behavior (Suherman, 2001). The physical education curriculum is part of the overall school curriculum which contributes to the philosophy, goals and objectives of education.

In physical education, it is expected that the students are given the freedom to explore and develop their talents and potential to maximally support their growth and development. In accordance with the demands of the 2013 curriculum, the students must be more active meaning that they are given more space to find out their talents and potential. From a number of opinions expressed by experts, it can be concluded that the learning model in physical education is a learning model which is created to deliver materials about motion activities to support the body's development of students through interesting game models and media.

The implementation of running learning with the Kolangs learning model is easy and can attract the attention and interest of students because learners do not only learn one basic technique movement but learn some basic techniques in different games. The Kolangs learning model for this running game consists of six games, namely: (1) Regional Marking Games, (2) Taking Wild Ball, (3) Happy Games, (4) Zigzag Running, (5) Relay Run, (6) Fun Run.

Each game has characteristics to improve running skills. These skills will be elaborated as follows: (1) Kolangs learning model can improve the skills of start through Regional Marking Games, Happy Games, Zigzag Running, Relay Run, Fun Run, (2) Kolangs learning model can improve running skills in the SMPLB through Regional

Marker Games, Taking Wild Ball, Happy Game, Relay Run, Fun Run, (3) Kolangs learning model can improve Finish skills in SMPLB through game Regional Marking, Taking Wild Ball, Happy Game, Zigzag Run, Relay Run, Fun Run, (4) Kolangs learning model can improve student cooperation which is characterized by having cooperative attitude with their group mates and disciplined attitude towards running learning, (5) Kolangs learning models improve the students' sportsmanship which is characterized by competitiveness attitudes between groups in each game performed, (6) Kolangs teaching model is able to make students easier to learn basic techniques of running which is characterized by being more active and happier. It was because the learning of Kolangs can facilitate and explore learners on improving basic techniques with activities in running games with physical activity on the basic running technique of start, run and finish.

From the description above it can be concluded that Kolangs learning model is interpreted as a series of learning activities carried out by students to analyze and find a basic concept in small and heterogeneous groups with the teacher guidance. Hence, the learning process is structured and feedbacks can be obtained by the students. This learning model can be used to develop cognitive aspects in the form of appropriate decision making in each game, affective aspects in the form of cooperation, sportsmanship, as well as discipline, and psychomotor aspects in the form of mastering basic running skills, namely start, run, and finish.

2 RESEARCH METHODS

2.1 Type of Research

The type of research is research and development. Sukmadinata (2010) said that research development or often referred to as research and development (R&D) is a process or step to develop a new product or improve existing products.

2.2 Time and Place of Research

The research was carried out in March until July. Small-scale trials were carried out at Sukoharjo SMPLB Public School. A large-scale trial was conducted in YPAALB Langenharjo B-C SMPLB Sukoharjo and VII grade students of BPL-B-C HAMONG PUTRO Jombor Sukoharjo.

Effectiveness test was carried out in YSD Polokarto Sukoharjo ABCD SMPLB.

2.3 Research Subject

This research classified the subject test into two, namely: the subject of a small group trial, administering six students at VII grade of Sukoharjo State Senior High School. The subjects of the large group trial in the development research were 20 students at VII grade of SMPLB B-C YPAALB Langenharjo Sukoharjo and VII grade students of SMPLB B-C HAMONG PUTRO Jombor Sukoharjo. In addition, six students of grade VII of SMPLB ABCD YSD Polokarto Sukoharjo tested the effectiveness of the final product.

The technique of determining the trial subjects in this research was simple random sampling method. According to Sugiyono (2011), simple random sampling is a sampling technique that provides equal opportunities for each element (member) of the population to be selected as a sample member or subject.

2.4 Procedure

The procedure in this study was adapted from the development model of Sugiyono (2010), covering 10 steps that must be implemented, namely: (1) information gathering, (2) planning, (3) initial product development, (4) initial trials, (5) revisions to compile main products, (6) main field trials, (7) revisions to compile operational products, (8) trials of operational products, (9) revisions of final products, and (10) dissemination and implementation of development products. The results of the dissemination products can later be widely implemented by educators, SMPLB teachers and education activists according to the age and characters of the students.

Dwiyoga (2004) states that each researcher can choose and determine the most appropriate step for the research based on the conditions and obstacles encountered. Based on this opinion, in this research the simplification procedure was carried out in accordance with the constraints and conditions in the study.

These steps were adapted into eight development research procedure designs, namely: (1) collecting information in the field, (2) analyzing the products to be developed, (3) developing initial products, (4) conducting expert validation, (5) conducting small-scale trials and revisions, (6) conducting trials large-

scale and revised, (7) making final products, and (8) conducting effectiveness tests.

The effectiveness test was carried out to find out the effectiveness of the learning material in the running subject. The final product testing was done in order to find out whether the product that had been produced is feasible and has advantages in the level of model implementation in the field. The effectiveness test used was in the form of experiment. The steps to implementing the experiment were carried out through 3 stages, namely: (1) pretest (2) implementation of the treatment (3) posttest.

2.5 Data, Instruments, and Data Collection Techniques

The data obtained in this study were qualitative and quantitative data. The qualitative data were the data obtained from the results of expert judgements of the material and practitioners' validation in the form of comments, input, or suggestions to determine the feasibility level of Kolangs learning products. The quantitative data were based on the data obtained from the response scores from experts and students to measure the product feasibility, as well as from assessment scores in the experimental data to determine the effectiveness of the developed Kolangs learning model.

The data collection instruments in this study were the instruments to collect empirical data in the effort to draft a model. The instruments needed to draft a model consist of: (1) interview guidelines, (2) scale of values, (3) observation guidelines, and (4) documentation.

Interview was the technique used in collecting the data, by conducting direct communication using interview guidelines as a data collection tool. The questions prepared were adjusted to the purpose of conducting the interviews, to explore the learning process in the SMPLB especially about physical education learning for students and the obstacles faced by teachers regarding physical education learning in running games to support the background of research problems. Value scale was used to assess the feasibility of game models developed before the implementation of small-scale trials. After the experts considered that the learning model was in line with the elements in the value scale, a new game model could be tested in a small-scale trial.

Observation was one of the data collection techniques that not only measures the attitudes of respondents (interviews and questionnaires) but can also be used to record various phenomena that occur

(situations and conditions). Documentation was done to search and collect the data in the form of notes, transcripts, books, newspapers, magazines, minutes, report cards, agendas, and so forth. Documentation method was intended to obtain the data based on the existing data sources in schools, namely in the form of school profiles, organizational structure, and results of the assessment. Other instruments used in this study were lesson plan and syllabus. The four instruments were used to obtain the data related to the ability of the teacher, the learning process and the facilities and infrastructure used.

To obtain the feasibility of the instruments used, the steps taken were: (1) compiling the instructional guidelines, (2) consulting the instrument guidelines to the experts or validators, (3) arranging the items of the instrument, (4) consulting the instruments to the experts or validators to get a valid instrument. The test given to students was the GPAI (Game Performance Assessment Instrument) test that has been validated by experts consisting of cognitive, affective, and psychomotor tests.

2.6 Data Analysis Technique

The results were analyzed using qualitative and quantitative descriptive analysis techniques. The contents or material data which were in the form of comments, suggestions from the experts and the students, and the results of researchers' observations during the trial process were analyzed descriptively by using qualitative method, and concluded as input to improve or revise the developed products. While in the form of data scores of responses of material experts and students obtained through questionnaires were analyzed descriptively quantitatively with percentage techniques and categorization.

The steps used to determine the product eligibility criteria were developed by changing the data obtained from the questionnaires in the form of responses to interval data. In the questionnaire, five choices were provided using a Likert scale to provide feedback about the developed product. The categories in the scale were 4, 3, 2, 1 classified as very good, good, good enough, and not good respectively.

The instruments made must be examined by the teacher to find out the readability, the substance being asked, and the language used. The results of the study were used to improve the instrument, and then the instrument was tested in the field. The categorization of assessments can be seen in Table 1.

Table 1: Categorization of kolangs learning model of running for mentally retarded children in the SMPLB.

Game Model Score	Rating Category
≥ 96	Very good / very effective
72 – 95	Good / effective
48 – 71	Good enough / quite effective
≤ 47	Not good / ineffective

Information:

1. The lower limit of the highly effective category is $0.80 \times 120 = 96$, and the upper limit is 96.
2. The lower limit score in good or effective category is $0.60 \times 120 = 72$, and the upper limit score is 72.
3. The lower limit score in good enough or quite effective category is $0.40 \times 120 = 48$, and the upper limit is 48.
4. The scores classified as not good or ineffective when they are less than or equal to 47.

2.6 Research Results and Discussion

The product produced through research and development was Kolangs learning model for administering game of running in SMPLB which contains learning steps of eight games. Each game contains cognitive, affective, and psychomotor elements that are integrated in the game. In this case, the overall criteria in learning was very effective to be applied to the VII grade students of SMPLB. Validity test and reliability test were conducted to find out which instruments were valid and reliable. Kolangs learning model was declared valid because the values of r count were 0.881, 0.898, 0.881, and 0.879, which were more than r table, 0.801. Furthermore, Kolangs learning model was reliable because the value of r count was $0.988 >$ than 0.6. Further explanation can be seen in Appendix 14 on page 165. Generally, there were five models in very good categories and one model in good category. The detailed explanation of each game model is discussed as follows.

The Regional Marking Game was included in the very good category with an average score of 108.75, having percentage of 90.63%. The things causing the Regional Marking Game was in very good category are explained as follows. a) The game developed the ability of students to find their own right foot position on the basic technique of running in groups and the students are required to think and work together when performing the games. b) The

students looked happy and active when playing the Marking Game. d) The Marking Game equipped the students to have the ability to carry out basic techniques in playing a ball-free running game and it was encouraged game for students. d. the game was oriented to the needs of the learners and it could explore basic techniques of learning activities, including start, run, and finish correctly. e. the game developed the students' ability to work together and motivated them to interact with other students. f. the game encouraged the students to solve problems and it also encouraged them to comply with regulations.

Happy Game was also included in the very good category with an average score of 113.00, having percentage of 94.17%. Things that cause the Happy Game model was in the very good category is explained as follows: a. it developed the students' ability in the right footsteps and steps when running in the game and the students were required to think. b. the students looked happy and active when playing the Happy Game. c. the game equipped the students to have the ability to use the right foot to step up and it delighted the students. d. the game was oriented to the needs of students and it could explore learning activities regarding the basic techniques, including start, run and finish in short distance running. e. the game developed the ability of students to work together and it motivated them to interact with other students. f. the game encouraged the students to solve problems and it encouraged them to comply with regulations.

Zigzag Running Game was included in the very good category with an average score of 102.75, having percentage of 85.63%. The things causing the Zigzag Running game model was in very good category are explained as follows. a) It developed the ability of students to carry out the correct running technique in the space provided and the students were required to think when they were playing. b) The students looked happy and active when doing the Zigzag Running game. c) The game equipped the students to have the ability to make basic moves of short-distance and fun running games. d) The game was oriented to the needs of the students and it could explore the learning activities of basic technical movements, including start, run and finish in short distance running. e) The Zigzag Running Game developed the ability of students to work together and it motivated them to interact with other students. f) The game encouraged the students to solve problems and encouraged the students to comply with regulations.

The Taking Wild Ball game was included in the very good category with an average score of 113.75,

having a percentage of 94.79%. The things causing the game model was in a very good category are explained as follows. a) It developed the ability of students to run and take the ball and students are required to think when they were playing the game. b) The students looked happy and active when playing the game. c) The game equipped the students to have the ability to run and take the ball while running and it was in accordance with the characteristics of the students. d) The Taking Wild Ball game was oriented to the needs of the students and it could explore activities in learning basic start and short distance running techniques. e) Playing the game developed the ability of the students to work together and it motivated them to interact with other students. f) The game encouraged the students to solve problems and it encouraged them to comply with regulations.

Relay Run game model for basic running learning technique was included in the good category with an average score of 95.75, having percentage of 79.79%. The things causing the Relay run game model was in the good category are explained as follows. a) It developed the ability of students to pass the hoops and when playing the Relay Run, the students were required to think. b) The students looked happy and active when doing the Relay Run game. c) The game equipped the students to have the ability to run and it was in accordance with the characteristics of students. d) The Relay run game was oriented to the needs of learners and it could explore basic learning activities, including start, run and finish in short distance running. e) The game developed the ability of students to work together and motivated them to interact with other students. f) The game encouraged the students to solve problems and encouraged them to comply with regulations.

Fun Run game model was included in the very good category with an average score of 103.50, having percentage of 86.25%. The things causing the Fun Run game model was in good categories are explained as follows. a) It developed the ability of students in running and when playing Fun Run game, the students were required to think. b) The Fun Run game equipped the students to have the ability to run regularly when running and it encouraged the students. c) The Fun Run game was oriented to the needs of the students and it could explore the basic learning techniques, including start, run and finish in short distance running. d) The game encouraged the students to solve problems and encouraged them to comply with regulations.

Another game that was included in the good category was Run Relay game. The Run Relay game was in the good category because the Relay Run game rules did not make the students move dynamically like the the other games and only required the students to stay in a place. The Kolangs learning model for overall running games in the category was very good with the average score of 108.53, having percentage of 90.44%. Thus, it can be concluded that the Kolangs learning model for running games in the SMPLB was feasible to be used and it can serve as a guidance for running learning in the SMPLB.

From the experts and the physical education teacher as the model testers, revision processes were carried out on the draft of the Kolangs learning model so that finally the Kolangs learning model of the running game in the SMPLB was produced. The learning model is contained in a practical guidebook for Kolangs learning model for running games and it is suitable for use. The practical guidebook of the Kolangs learning model for running games consists of six games, namely: (1) Regional Marking Game, (2) Taking Wild Balls, (3) Happy Game, (4) Running Zigzag, (5) Relay Run, and (6) Fun Run.

In testing the effectiveness of the product, the research subjects used was the Polokarto SMPLB students, involving six students. This effectiveness test was carried out four times with the pretest and followed by posttest. The pretest and posttest results of the product effectiveness test are shown in the pretest and posttest tables. The assessments were also taken, namely the assessment of cognitive, affective and psychomotor which were incorporated into the assessment instrument.

Result summary of the pretest and posttest t-test analysis of the games is as follows.

Table 2: T-test results of the pre-test and post-test in regional marking game.

Group	Pretest	Posttest
Min	5	12
Max	9	13
Mean	8	12.33
Std. Deviation	1.549	0.516
t-test for Equality of means	t _{ob}	7.05
	Sig.	0.001
	Difference	4.33
	%	35.12%

From Table 2 above, it can be seen that the Regional Marking game has a significance value of p of 0.001. Because of the significance value of 0.001 < 0.05, this result indicates that there were

significant differences. The increased percentage value in Regional Marking game was 35.12%. Therefore, it can be concluded that the modification of the Regional Marking game was developed effectively to improve running learning in mentally retarded children in the SMPLB.

Table 3: T-test result of the pre-test and post-test in happy game.

Group	Pretest	Posttest
Min	7	12
Max	11	14
Mean	8.5	12.67
Std. Deviation	1.643	0.816
t-test for Equality of means	t _{ob}	5
	Sig,	0.004
	Difference	4.17
	%	32,91%

From Table 3 above, it can be seen that the Happy Game has a significance value of p of 0.004. Because of the significance value of 0.004 <0.05, this result shows that there were significant differences. The increased percentage value in Happy Game was 32.91%. Thus, it can be concluded that the modification of the Happy Game was developed effectively to improve running learning in mentally retarded children in the SMPLB.

Table 4: T-test result of the pre-test and post-test in zigzag run game.

Group	Pretest	Posttest
Min	6	12
Max	9	13
Mean	8	12.33
Std. Deviation	8.33	12.33
t-test for Equality of means	t _{ob}	7.746
	Sig,	0.001
	Difference	4.33
	%	35.12%

From Table 4 above, it can be seen that the Zigzag Running game has a significance value of p of 0.001. Because of the significance value of 0.001 <0.05, this result indicates that there were significant differences. The increased percentage value in the Running Zigzag game was 35.12%. Thus, it can be concluded that the modification of the Zigzag Running game that was developed was effective for improving running learning in mentally retarded children in the SMPLB.

Table 5: T-test result of the pre-test and post-test in taking wild ball game.

Group	Pretest	Posttest
Min	6	12
Max	11	13
Mean	8.17	12.33
Std. Deviation	1.549	0.516
t-test for Equality of means	t _{ob}	5
	Sig,	0.004
	Difference	4.16
	%	37.78%

From Table 5 above, it can be seen that the game of Taking Wild Ball has a significance value of p of 0.004. Because of the significance value of 0.004 <0.05, this result shows there were significant differences. The increase percentage value in the game was 37.78%. Hence, it can be concluded that the modification of the Wild Ball Taking game was developed effectively to improve running learning in mentally retarded children in the SMPLB.

Table 6: T-test result of the pre-test and post-test in relay run game.

Group	Pretest	Posttest
Min	7	12
Max	11	13
Mean	9.5	12.5
Std. Deviation	1.378	0.548
t-test for Equality of means	t _{ob}	5.196
	Sig,	0.003
	Difference	4.33
	%	26.93%

From Table 6 above, it can be seen that the Relay Run game has a significance value of p of 0.003. Because of the significance value of 0.003 <0.05, this result indicates that there were significant differences. The increased percentage value in Run Relay game was 26.93%. Therefore, it can be concluded that the modified Run Relay game was developed effectively to improve running learning in mentally retarded children in the SMPLB.

Table 7: T-test result of the pre-test and post-test in fun run game.

Group		Pretest	Posttest
Min		5	12
Max		9	13
Mean		8	12.33
Std. Deviation		1.549	0.516
t-test for Equality of means	t _{ob}	5.701	
	Sig.	0.002	
	Difference	4.33	
	%	35.12%	

From Table 7 above, it can be seen that the Fun Run game has a significance value of p of 0.002. Because the significance value was $0.002 < 0.05$, then this result shows there were significant differences. The increased percentage of Fun Run game was 35.12%. Hence, it can be concluded that the modification of the Fun Run game was developed effectively to improve running learning in mentally retarded children in the SMPLB.

Table 8: Percentage of the pre-test end post-test.

No.	Aspects	Pre-test	Post-test	Enhancement
1.	Cognitive	64,06 %	85,94 %	21,88 %
2.	Affective	61,98 %	90,10 %	28,13 %
3.	Psychomotor	53,13 %	90,63 %	37,50 %

The following is a comparison histogram of the product effectiveness test results of the Kolangs teaching model, which comprises each domain. The histogram can be seen in Figure 1.

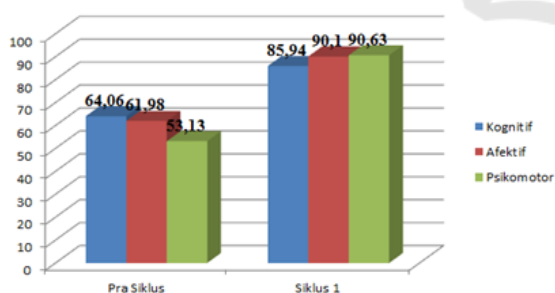


Figure 1: Histogram of pre-test and post-test average value in product effectiveness test.

The percentage value obtained at pre-cycle was 59.94% and in the first cycle the percentage obtained was 89.45% so that there was an increase of 29.55%. Based on this, the effectiveness of the Kolangs learning model for running material in the SMPLB was included in the very effective category because the percentage value obtained as a whole was 89.45%.

3 CONCLUSIONS

The product of Kolangs learning model for running games was produced in the SMPLB. It is in the form of a learning model containing learning steps of eight games. Each game contains elements of cognitive, affective, and psychomotor integrated in the game with the overall criteria in learning which was very effective to be applied to class VII students of SMPLB. The results of this study answered the problems in the research questions, namely: 1) Kolangs learning model could improve the start skill in short-distance running in the SMPLB. 2) The Kolangs learning model could improve the short-distance running skills in the SMPLB. 3) The Kolangs learning model could improve the finish skill in short distance running in the SMPLB. 4) The Kolangs learning model enhanced the students' cooperation which is characterized by their cooperative attitudes with their group mates and disciplined attitudes in running learning. 5) Kolangs learning model increases students' sportsmanship which is characterized by the competitive attitudes between groups in each game performed. 6) The Kolangs learning model for running games was in accordance with the developmental characteristics of SMPLB mentally retarded students. In addition, it was easier for the students to make the right decisions as indicated by the types of activities that contain elements of psychomotor, cognitive, and affective development. 7) The Kolangs learning model allowed the students to easily learn the basic short-distance running techniques which were characterized by more active and happy students. It was because the Kolangs learning could facilitate and explore the students' ability to improve the basic techniques with activities in the running games by showing the physical activities regarding basic techniques of running, namely start, running, and finish.

Kolangs learning model was very effective to improve the running skills of the SMPLB students. The research product of this development was the Kolangs learning model which was packaged in DVD and practical guidebook for Kolangs learning models for running games entitled "Kolangs Learning: A Learning Model for Learning Materials Running Mentally Retarded Children in the SMPLB." six games, namely: (1) Regional Marking Game, (2) Happy Game, (3) Zigzag Running Game, (4) Wild Ball Taking Game, (5) Relay Run Game, and (6) Fun Run Game.

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