

# BACKWARD LEARNING MODEL USING MEDIA TOOLS

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## BACKWARD LEARNING MODEL USING MEDIA TOOLS

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### Abstract

The aim of this research is to develop a model of backward salto exercise using media tools and to obtain empirical data about the effectiveness of the backward salto exercise model using media tools. This is a research and development study, consisting of ten steps. These steps are (1) Needs assessment, (2) Observation analysis, (3) Information gathering, (4) Preparation of the initial product, (5) Expert evaluation, (6) Revision, (7) Small group test using 10 subjects, (8) Revision, (9) Large group trial using 20 subjects, (10) Revision of final product, (11) Dissemination. From the research and procedures performed above, the product is a model of backward salto exercise using a media tool that consists of 13 forms of models. The backward salto exercise model using this developed media tool comes from advice or expert input and evaluation, including 2 backward and 1 from sports education. The results obtained are the model of backward salto exercise using this tool media is good and can be used by athletes. Suggestion for this research is that this product can be used as one way to improve the ability and achievement of athletes, and specially trained trainers that this product can be used to train athletes.

**Keywords:** Learning Model, Salto Backward, Media Tools.

### 1. INTRODUCTION

<sup>8</sup> Gymnastics is a physical activity carried out both as a separate sport and as an exercise for other sports. Unlike other sports in general that measure the results of their activities on a particular object, gymnastics refers to the form of motion that is done with an integrated combination and transforms into each part of the body members from the components of motor skills such as: strength, speed, balance, flexibility, agility and accuracy. With appropriate coordination and alignment of sequential movements, an interesting artistic range will be formed.

Floor gymnastics are generally called floor exercises, but there are also those who call tumbling. Floor gymnastics is a gymnastic exercise that is done on a mattress, the elements of the movement consist of rolling, jumping, spinning in the air, resting with your hands, or legs to maintain a balanced attitude or when jumping forward or backward. This type of gymnastics is also called free exercise because at the time of movement the gymnast does not use special equipment. If a gymnast carries a tool in the form of a ball, ribbon, or other device, it is only a tool to improve the function of the flexural, stretching, strength, skill and balance movements. Floor gymnastics is done over an area of 12 × 12m and is surrounded by a 1m wide mattress for the safety of gymnasts. The series of gymnastic movements must be started from the composition of light, medium, heavy, and acrobatic movements, as well as containing agility, balance, flexibility, etc. Male gymnasts are not in 70 seconds and women appear accompanied by music in 90 seconds. Movement that emphasizes energy must be done slowly and

statically for at least 2 seconds. Salto movements must be done at shoulder level. Various forms of floor gymnastics movements include: Bolting forward, Bolting backwards, Tiger jumping, Head balance, Hand balance, Handspring, Back handspring, Meroda, Stut, Round off, Kip, Neck kip, Head kip, Kayang, Candle attitude, Kayang attitude, Salto and so on.

Based on observations during the learning activities, many students found it difficult to do a backward salto. Salto is the movement of rolling in the air without touching the floor, while the backward is a rolling motion in the air but the movement is directed backwards. The thing that is often seen in students is the difficulty in doing a backward. This is due to fear, unstable movement in the air and fear of injury. Backward on land was a preparation for one of the movements before continuing on to advanced techniques. To get backward, it can usually be helped with the lecturer, this can prevent a lecturer from giving material, which is because there will be many students who will be assisted, while those who understand about the help of the back to back are only lecturers. Therefore, the backward learning model is made with a tool that aims to help all students help each other in doing backward activities with the help of ropes, creating confidence for students, and increasing the ability of backward.

## 2. RESEARCH METHODS

The research method used is research and development (R & D) which aims to develop a backward learning model. This study produced a backward learning model using media tools, improving the backward learning process using media tools, providing comfort, security during the backward learning process. The research was carried out at Sriwijaya University, Palembang City, South Sumatra. Subjects were students of Physical Education and Health, the method used in this study was the Research & Development (R & D) development model of Borg and Gall which consisted of ten steps (Borg, W.R. & Gall, M.D. Gall: 1989), namely;

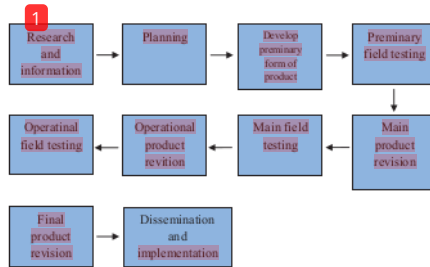


Figure 1: Instructional Design R and D

## 3. RESULTS OF MODEL DEVELOPMENT

The results of the development of the backward learning model with the help of ropes are written in the form of a script that can be presented in the forms of developing a backward learning model with the help of ropes to students.

### 3.1 Results of Needs Analysis

Overall there are three general objectives to be revealed in preliminary studies or needs analysis, namely;

How intense in the backward learning process especially for students;

How important is the development of the backward learning model with the help of ropes;

What obstacles and support were found in the development of the backward learning model with the help of ropes.

Based on these general objectives, researchers conducted a preliminary study using in-depth interviews with gymnastics lecturers who teach on campus and conduct surveys, because the main purpose is to conduct technical preparations by exploring the characteristics of research subjects and the place where model development research will be conducted. This is to find out how important the backward practice model for students will be developed by researchers.

The results of the preliminary study or field findings are then described and analyzed so that a formulation of the results of the data has been collected. The formulation of these results is descriptive and analytical, and refers to the purpose of the preliminary study. The following will be explained about the results of the needs analysis and the field findings obtained by the researchers.

Table 1: Results of Needs Analysis and Field Findings.

Question Item	Findings
What is given in backward learning?	Lecturers teach salto exercises with the old method.
Are there backward learning models for students?	There are no learning models or variations for students.
Are there facilities and infrastructure for backward learning?	There is no infrastructure that supports to do backward, so far only with the help of lecturers.
Are students excited during their learning backwards?	Students are very enthusiastic in taking up backward learning with the help of rope.

What are the efforts of the lecturer in learning backwards?	During this time, the lecturers have tried to make students able to do backwards, it's just that the lecturer has not been able to provide a variety of learning that can improve the ability of a student's backward movement.
Is it needed a backward learning model for students?	In general, lecturers and students need backward learning models for students that are more interesting and can be used by all people and the most important of these learning models prioritize comfort and safety in their implementation.

#### 4. Model feasibility

Model feasibility testers are carried out with the following steps: After carrying out the data collection and drafting the backward learning model, the next step is to do an expert test, where the goal is to get the model feasibility or validation that is made by an expert evaluation.

Researchers present three experts in assessing the feasibility of this exercise model, in which two experts work as experts in gymnastics sports and, one more expert is a sports lecturer. The conclusions of the expert tests conducted are summarized in the following table;

Table 2: Expert Test Conclusion to Backward Exercise Model Using Rope

Name	Receiver Model		Desc
	Yes	No	
Backward Exercise Model using tools 1	Yes		Valid
Backward Exercise Model using tools 2	Yes		Valid

Backward Exercise Model using tools 3	Yes		Valid
Backward Exercise Model using tools 4	Yes		Valid
Backward Exercise Model using tools 5	Yes		Valid
Backward Exercise Model using tools 6	Yes		Valid
Backward Exercise Model using tools 7	Yes		Valid
Backward Exercise Model using tools 8	Yes		Valid

Based on the expert test carried out, it can be concluded that the variation of the backward exercise model using rope, is feasible and can be used in backward learning.

## 5. model EFFECTIVENESS

### 5.1 First Stage / Small Group Test Results

The exercise model that has been made is evaluated by experts, and undergoes a revision of phase I. After that the product design is revised, then the model is tested in a small group trial with 10 research subjects. The following is a summary of the results of small group trials:

Table 3: Revised Results from Experts to Salto Models.

Salto Exercise Model	Suggestions and Feedback
Model 1	Can be applied, because it can be done
Model 2	Can be applied, because it can be done
Model 3	Can be applied, because it can be done
Model 4	Can be applied, because it can be done
Model 5	Can be applied, because it can be done
Model 6	Can be applied, because it can be done
Model 7	Can be applied, because it can be done
Model 8	Can be applied, because it can be done

Based on the small group trial evaluation conducted by the researcher, that there are 8 feasible from the 10 forms of training models that have been developed, based on expert tests conducted on the backward learning model using rope help can be deduced as follows: (1) Based on expert tests conducted, it can be concluded that there are 3

additional model items from experts. (2) For all variations of the learning model has a moderate level of difficulty so that it can facilitate students in making movements. However, to be more convincing, this variation will be seen for its effectiveness and feasibility after small group trials. (3) Based on expert tests conducted, of the 5 learning variations added to 8 variations of learning that will be tested in the next stage. (4) Implementation instructions must be made clear so that they are easy to understand.

So from the small group trial can be concluded as follows:

All variations of the exercise can be done and applied, but must be adjusted from an easy level to a difficult one so that the ability of backward can increase;

When doing salto models, students take part in the training activities thoroughly and understanding the direction that given.

### 5.2 Second Stage Results / Large Group Test

After the results of product development are tested on a small scale and have been revised, the next stage is to conduct a large group trial. Based on the results of limited trials (small group trials) that have been evaluated, then the researchers revise the initial product and obtain 8 backward learning models using the help of a rope that will be used in large group trials.

The next step after the model undergoes phase II revision is continued by testing the product to the large group using 20 research subjects. The assessment data of participants on the effectiveness of the backward learning model using rope assistance is shown in the following table:

Table 4: Backward results, Treatment (Pre Test), After Treatment (Post Test).

	Pre-Test	Post-Test
	0	6.5
	0	6
	0	6.5
	0	7
	3	6
	0	5.5
	0	5
	0	6.5
	0	6
	0	6.5

	3	6
	2	6
	0	6.5
	0	6
	0	6.5
	0	7.5
	0	7.5
	0	7
	0	6.5
	0	7
Total	8	128
Mean	0.4	6.4
Stdev	0.994723	0.619847

### 5.2.1 Mean

Based on the results of the output using SPSS 16, the average value of the backward learning before being given is .40 and after being given is 6.40 and it means that there is an increase in the average value of backward.

Table 5: Mean

Paired Samples Statistics		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	.40	20	.995	.222
	posttest	6.40	20	.620	.139

### 5.2.2 Correlation Coefficient

Based on the results of the table 10 the correlation coefficient before and after being given the learning model is -.273 with p-value 0.00 < 0.05, so the conclusion is significant.



Table 6: Correlation Coefficient

Paired Samples Correlations				
		N	Correlation	Sig.
Pair 1	pretest & posttest	20	-2.73	.244

### 5.2.3 Significance Difference

In the significance test, the difference with SPSS 16 obtained the results of t-count = -20.516, df = 19 and p-value = 0.00 < 0.05, meaning that there were significant differences before and after the treatment of the backward learning model.

Table 7: Significance Difference

Paired Samples Test									
		Paired Differences							
Pair	Pretest-posttest	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		T	df	Sig. (2-tailed)
					Lower	Upper			
1		-6.000	1.308	.292	-6.612	-5.388	-20.516	19	.000

Based on this information it can be said that the backward learning model using rope that developed is very effective because it can increase backwards for students. The following is a comparison of the average test level before and after giving the learning model and implemented into the bar diagram as follows:

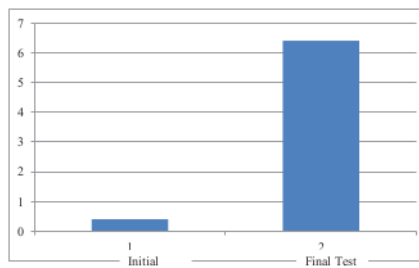


Figure 1: Product Feasibility Trial

The results of the large group trial can be concluded that the backward model uses rope that can be used in the backward learning process for students, and is feasible and effective to improve the ability of backward.

## 6. DISCUSSION

Based on the acquisition of the figures in the table above it can be concluded that the backward learning model using media tools can and is feasible to be used in the learning process as well as effective to improve the student's ability to move. There is a number comparison that shows that the results of the initial test and the final test are developing, from the initial test and then given treatment in the form of backward learning models that have been developed, then a final test or post test is held to determine the effectiveness of the model developed. Data obtained amounted to 128. So the backward learning model was effective to improve the ability of the salto movement of Physical and Health Education students in Sriwijaya University.

## 7 CONCLUSION

Based on the data obtained from the trial results of small scale, large scale trials and discussion of research results, it can be concluded that;

With the development of a backward learning model using tools can improve the ability of the movement and ability to practice effectively and efficiently;

The development of the backward learning model using this media can help out and young lecturers / trainers to teach their students accordingly and can increase learning interest.

The implication in the research on the development of the backward learning model using this aids media can minimize the occurrence of injury to students, making students more active in making movements and becoming more effective and efficient. The use of this backward learning model will also increase motivation, enthusiasm, and the main thing is courage towards students.

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