The Effects of Learning Model and Motor Educability to Improve Learning Outcomes of Hockey Game

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Keywords: Learning Model, Motor Educability, Hockey Learning Outcomes.

Abstract: The purpose of this study is to determine the effect of tactical and technical models of learning in students who have high and low motor educability in increasing the learning outcomes of hockey games. The outcomes studied are the playing skill and basic skill of hockey game. Research method to reveal the problem is through experimental method with 2x2 factorial design. The sample of this research were 20 male students by saturation sampling at the students who participated in hockey extracurricular activity in SMA Negeri 26 Bandung. The study was conducted three times a week for 14 meetings including initial and final tests. Instruments used to measure educational motors using the IOWA Brace Test, to measure learning outcomes of hockey playing skills used in the Game Performance Assessment Instrument (GPAI) and to measure learning outcomes of hockey skills used basic hockey skills test that have validity and reliability. The writer uses push, stopping, dribble, and shooting tests. The data obtained is processed with Statistical Product and Service Solution (SPSS) version 16 using Analysis of Variance (ANOVA). The hypothesis of this research is that there is a significant effects of Tactical Games Model (Tactical Games Model) and technic to increase the learning outcomes of hockey game. Researcher are in the process of research so that has not obtained results from this study.

1 INTRODUCTION

Hockey is a competitive and dynamic sport that requires players to move from one place to another by applying a strategy to play and use the proper basic techniques. To play hockey requires mastery of basic techniques and advanced techniques. In this case it takes a person's ability to learn a new movement or motor educability. Motor Educability is the ability to learn new and different skills of motion quickly and easily (Sandhu, 2017).

The obstacles encountered by the physical education teachers are the teacher-centered way of thinking and teaching, not the students, thus it closes the space for students to develop the ability to apply tactics in play. Most of learning models used by physical education teachers are still using direct learning models or more emphasize on drill practice techniques, where teachers commonly instruct their students to perform the same movements repeatedly. Teachers' thought by giving a live demonstration to the students, the material will be effectively delivered and their students will more quickly understand the material.

Meanwhile the obstacles which faced by students are they have not been able to apply appropriate tactics and strategies to play and have not been able to use the proper basic techniques. These because students cannot survive and attack well, also less support when their friends dominate the ball. Learning activities become less conducive and effective. Students tend to come from play and become not creative in solving a problem in the game.

There are various learning models that can be applied in learning of Physical Education. One of them is Tactical Games Model (TGM). The characteristics of the Tactical Games Model (Tactical Games Model) is a learning approach based on a sequence of games according to the stage of development and learning activities such as the actual game focusing on the tactical problem for students to solve (Metzler, 2000). Griffin et al. (1997) also argued that the tactical approach model is a plan that proceeded to improve the performance of games which the combination of tactical awareness elements and the exercise of motion skills are exist in it. Tactical Games Model (TGM) is an evolution of Teaching game for Understanding (TGFU) initiated

Widjayanti, W., Hendrayana, Y., Mulyana, B. and Yusuf, U.
The Effects of Learning Model and Motor Educability to Improve Learning Outcomes of Hockey Game.
In *Proceedings of the 2nd International Conference on Sports Science, Health and Physical Education (ICSSHPE 2017) - Volume 2*, pages 486-488
ISBN: 978-989-758-317-9

by Thorpe and Bunker (1986). This Tactical Games model was conceived by Griffin et al. (1997) with more formal instructional model.

Based on the above opinion it can be concluded that the characteristics of the Tactical learning model is that the students can solve the problem of playing tactics through learning activities as in the actual game.

The Tactical Game Learning Model has appropriate characteristics and suitable for improving the learning outcomes of students' playing skills so it can be as a solution in solving problems in applying play tactics.

Writer willing to know how the results obtained by students with high educability motor if they were given the Tactical and Technical Game model to improve the outcomes of learning to play hockey, and vice versa to students who have low Motor Educability. Is it effective to improve the learning outcomes by hockey if given to both groups of students, whether high or low Motor Educability, or is it more effective if given to groups with only high or low Motor Educability, as well as technical learning models. Therefore, the writer wanted to do research on "The Effect of Learning Model and Motor Educability to Hockey Learning Outcomes".

2 METHODS

The research was conducted in the category of experimental study using Factorial Design 2 x 2.

Table 1: 2x2 Factorial Design for Tactical and Technical Learning Model and Motor Educability Hockey Game Learning Outcomes.

		Learning Model (X)	
		Tactical Games (X_1)	*Technical Games* (X_2)
Motor Educability (Y)	(Y_1)	$X_1 Y_1$	$X_2 Y_1$
	(Y_2)	$X_1 Y_2$	$X_2 Y_2$
Hockey Learning Outcomes (C)			

A total of 20 students were divided into 2 groups, 10 students for the Tactical Model group, and 10 students for the Technical Model group. Each group consists of 5 students with high Motor educability and 5 students with low educability motor. The Iowa Brace test is used to measure motor educability. GPAI is used to measure playing skills and to measure the outcomes of learning hockey skills used push tests, stopping, dribbling and shooting.

3 RESULTS AND DISCUSSION

The research is still on process so that there is no significant discovery. Broadly speaking, based on the theory of experts and previous research found the discovery as follows:

3.1 The Influence of Tactical Game Models with High Educational Motor to the Hockey Game Learning Outcomes

Gray and Sproule (2009) researched that the application of tactical learning can improve decision making of students in playing compared with conventional model.

Balakrishnan et al. (2011) in his research stated that tactical learning approaches can improve understanding of play and decision making in hand-ball learning, compared to control groups using traditional approaches. Research results from Gray et al (2008) stated that tactical learning can improve the perception of competence and excitement in learning.

The results of his research mentioned that Mc Cloy and Young (1954) Sandhu (2017) stated that Motor Educability is the ability to learn motion skills quickly and easily so there is a relationship between students' ability to learn new motion with the motor educability level of the students.

Based on all the theoretical research and reviews above, it can be assumed that a tactical game model with high educational motor can improve the learning outcomes of playing skills.

3.2 Interaction of Learning Model with Motor Educability to Hockey Game Learning Outcomes

Harrison et al (2004) researched the Effects of Tactical and Technical Model on improving students' playing ability, self efficacy and student perception in volleyball. The results of his research mentioned that neither the models is superior. Memmert and Roth (2008) researched the effects of several approaches in practice on team games to improve tactical creativity. 135 seventh graders involved in sports handball, soccer and hockey as sample.

Based on all of the above expert opinions, writer assumes that both the Tactical and Technical Game Learning Model both can improve the learning outcomes of hockey games.

4 CONCLUSIONS

The conclusion of the research is the research hypothesis because the research is still on process.

Hypothesis in this research answer four problem formulation, as follows:

4.1 First Hypothesis

There is a difference in the effect of Tactical and Technical Learning Model on Hockey game learning outcomes significantly.

4.2 Second Hypothesis

There is a difference in the effect of Tactical and Technical Learning Models to students with high Motor Educability on Hockey game learning results significantly.

4.3 The Third Hypothesis

There is a difference in the effect of Tactical Learning Model with the Technical Approach to students with low Motor Educability to Hockey game learning outcomes significantly.

4.4 Fourth Hypothesis

There is an interaction of Learning Model with Motor Educability ability level to hockey game learning outcomes significantly.

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