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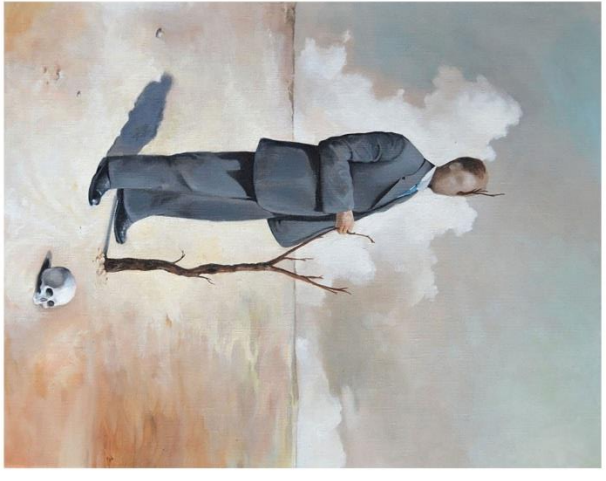

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Improve the long jump student through attitude responsibility and use two models

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Abstract

The aim of this study is to examine the effectiveness of the personalized system of instruction (PSI) learning model compared to the direct instruction learning model (DI) via an experimental method with a 2x2 factorial design. The results revealed that long jump learning with PSI was better than DI, then students with a high level of responsibility reveal that they are more suitable to do learning with PSI while students with a low responsibility attitude experience increased long jump skills through DI. In conclusion, the PSI learning model can be an effective way to improve squat style long jump skills.

Keywords: Personalized, System, Instruction, Direct, Responsibility.

Mejore al estudiante de salto largo a través de la actitud de responsabilidad y use dos modelos

Resumen

El objetivo de este estudio es examinar la efectividad del modelo de aprendizaje del sistema de instrucción personalizado (PSI)
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en comparación con el modelo de aprendizaje de instrucción directa (DI) a través de un método experimental con un diseño factorial 2x2. Los resultados revelaron que el aprendizaje de salto largo con PSI era mejor que el DI, luego los estudiantes con un alto nivel de responsabilidad revelan que son más adecuados para aprender con PSI, mientras que los estudiantes con una experiencia de baja responsabilidad aumentaron las habilidades de salto largo a través del DI. En conclusión, el modelo de aprendizaje de PSI puede ser una forma efectiva de mejorar las habilidades de salto de longitud en estilo sentadilla.

Palabras clave: Personalizado, Sistema, Instrucción, Directo, Responsabilidad.

1. INTRODUCTION

The national curriculum in Indonesia requires the teaching of many varieties of sports including track and field. One aspect of this content is the instruction of the long jump. The Long jump is an activity that uses all parts of the body to jump horizontal distances using simple movements. The movement consists of several phases, such as running, take off, flight, and landing phases (COH, ZVAN & KUGOVNIK, 2017). However, the teaching and retention of the steps and techniques of the long jump are not optimal in part due to teachers' lack of familiarity regarding different instructional models used in physical education (LAMYERS & JAZWINSKI, 1989). Therefore, it is very important to apply the correct strategies, methods, and models. Another weakness is the application of learning models that are still traditional or tend to be teacher-centered.

Currently, the majority of physical education teachers utilize the traditional or direct instruction (DI) learning model when teaching new skills. The characteristics of this model are teacher-centered, where the majority of the content and structure of the class are determined by the teacher. According to EYRE (2007), a typical DI lesson consists of review, presentation of new material, practice, teacher feedback, more practice, all followed by occasional reviews.

Coupling PSI and personal responsibility provide a unique view of the learning process of students. Both teaching models have shown to be effective in physical education, but there is little research on the combination of the two models. Therefore, the purpose of this study was to examine the teaching of the tuck-style long jump using PSI compared to DI. It is hypothesized that students in the PSI group would demonstrate increased knowledge and performance pertaining to the tuck-style long jump compared to those in the DI group. The second hypothesis was that student in the PSI group and had high responsibility rating would show better improvement compared to those students who learned through the DI learning model. The third hypothesis was that students in the DI group with low responsibility experienced better improvement than the PSI group. The fourth and final hypothesis was that there would be a positive interaction between the PSI model and personal responsibility in regards to the tuck-style long jump.

2. MATERIAL & METHODS

This research is a factorial 2x2 experimental design (FRAENKEL, 2012). Two physical education classes from high schools in Cianjur Regency, Indonesia, were recruited for this study (n = 60). One class (n= 30, age = 18-19 years old) implemented the PSI learning model to learn the long jump. The second class (n= 30, age = 18 - 19 years old), carried out long jump learning with a model of DI learning. This study received approval from the school administration and parent permission. The teacher of the PSI class had 10 years of teaching experience and was familiar with the PSI learning model strategy. The teacher of the DI model was a physical education teacher with 25 years of teaching experience.

The classes met twice a week for six weeks (12 sessions) for two hours a session (morning) during physical education class. Both classes met for a total of 14 classes (12 learning days, plus a day pre-test and a day post-test). During the first day, all participants practiced the tuck-style long jump and completed the responsibility questionnaire.

PSI class. For the PSI class, in each session, students were given learning modules with different tuck-style long jump training materials. Students were allowed to complete the material at their own pace (PSI Characteristic #1). Students continued to utilize the PSI material for the entire length of the study.

DI class. For the DI class, the teacher determined all learning activities covering material, evaluation, and time spent on each

topic. During class, the teacher explained the tuck-style long jump and demonstrated the movements of the running, takeoff, flight, and landing phases instructed students to practice long jump, provided guidance for training accompanied by giving feedback to students and the final stage of evaluating learning that day.

To measure Personal responsibility, participants were asked to complete the Personal Social Responsibility Questionnaire (PSRQ) (HELLISON, 2003; KIRK, 2013). PSRQ uses two dimensions. The first is related to personal responsibility, which reflects the basic responsibilities needed to build a positive learning environment that reflects effort and independence. The second dimension refers to social responsibility, which reflects the responsibilities needed to build a positive learning environment that reflects respect and attention to others.

Participants were evaluated for changes in tuck-style long jump performance using a checklist-style assessment (Table 1) developed from (DYSON & CASEY, 2012). Individuals were assessed on the four phases of the jump: (1) running, (2) takeoff, (3) flight, and (4) landing. This instrument has validity (0.74) and reliability (0.80).

Table 1: Long Jump Rubric

Scoring Components	1	2	3	4	5	Total
1. Running						
2. Take off						
3. Flight						
4. Landing						

Total Score

3. RESULTS

Descriptive statistics (mean and standard deviation) for variables, learning models, responsibilities and long jumps (Table 2), and the results of hypothesis testing with ANCOVA are presented in Tables 3.

Table 2: Means and Standard Deviations

Variables	PSI (n=30)		DI (n=30)		Total (n=60)	
	M	SD	M	SD	M	SD
Responsibility High	8.20	2.624	4.40	1.805	6.30	2.938
Responsibility Low	5.00	2.563	4.47	2.800	4.73	2.651

Note: M= mean; SD= standard deviation; n= sampel; PSI= personalized system for instruction; DI = Direct Instruction

Based on Table 2, it can be seen that the gain of groups of PSI and DI shows different results. The results of the mean gain of the PSI learning model group is greater (high responsibility M = 8.20, low responsibility M = 5.00) than the group of DI learning model

(high responsibility M = 4.40, low responsibility M = 4.47).

Table 3: Analysis of Covariance

Variables		df	F	p-value α alfa
Learning Models	PSI And DI	1	12.242	0.001 < 0.05
Responsibility	High and Low	1	7.612	0.008 < 0.05
Interaction	PSI, DI, R	1	9.665	0.003 < 0.05

Note: PSI= Personalized system for instruction; DI = Direct Instruction; R = Responsibility; p = Significance; α = alfa

The results of the ANCOVA Univariate analysis revealed F (12. 242) = p 0.001 < α 0.05, indicating that there is a significant difference between PSI and DI on long jumps. Further revealing F (7,612) = p 0.008 <α 0.05, this indicates that there is a significant difference between high and low responsibility for long jumps. Then revealed F (9,665) = p 0.003 <α 0.05, this indicates that there is an interaction between the learning model and the responsibility for success in learning long jumps.

4. DISCUSSION

The purpose of this study was to examine the effectiveness of the application of PSI and DI to improve tuck-style long jumps. Between the PSI learning model and the DI, the learning model has different influences on students' ability to do tuck long jumps. The PSI learning model emphasizes on teaching individualization than other learning models. Instructions used follow the skills and needs of students (KALAIVANI, 2014). In the learning process, the PSI model focuses on the use of modules. The module serves as a learning tool to facilitate students in analyzing and learning all the motion tasks given by the teacher.

At the beginning of the intervention, the students look very happy and enthusiastic when the teacher presents the training material videos to be studied. However, when students are given a learning module, many of them feel confused to use it. After they are given an understanding of the use of the learning module, they began to understand how to use it. Giving feedback to each individual in the long jump learning process is very helpful for students in learning all the techniques available, from the running, takeoff, flight, to landing. The application of the PSI learning model during the fourteen meetings shows a positive development towards the results of truck-style long jumps. This development can be seen in several phases.

The first phase is the movement of the prefix. In the prefix movement phase, students do a sprint very quickly and they viewed

straight. After the treatment, the students performed very slow running. The second phase is the takeoff. The takeoff is a movement that looks easy but it is difficult to do because students must be able to put one leg in balance and make repulsion as strong as possible. In the long jump, someone is required to have the ability to jump forward as far as possible with one repulsion. This means that strong repulsion will push the body to drift forward as far as possible.

If we analyze the facts in the field, at the beginning of treatment, many students faced difficulty in taking off. For instance, when a foot is piled on a track, sometimes the body is not balanced. There are also cases of less-strong repulsion resulting in a jump that is not too far. However, after four interventions of the PSI learning model, students experienced gradual changes, from stacking their feet on the trajectory to starting to balance and the results of the tolls getting stronger. Success in carrying out long jumps depends not only on the speed at running but also on the takeoff techniques (KINOMURA, FUJIBAYASHI & ZUSHI, 2013).

The third and fourth phases, flight and landing, are relatively easy techniques and almost all students can do them well. It can be concluded that in the long jump, the most important factor that determines the jump is the combination of running and takeoff (KOYAMA, MURAKI & AE, 2011). On the other hand, the application of the DI learning model, based on the facts in the field, produces a learning process that is monotonous and boring. Therefore, students made long jump movements carelessly. Regarding the explanation above, it can be concluded that the PSI

learning model is better than the DI learning model in improving the tuck-style long jump ability of students.

Groups of students who learn through the DI learning model and have low responsibility experience better improvement than the group of students who learn through the PSI learning model. This happens because groups of low-responsibility students feel learning that is more comfortable with the DI learning model because students only need to follow what the teacher instructs. When referring to motion theory, which is the automation stage, the increase in the students' long jump capability occurs because students are required to carry out long or repeated long jump movements, which will trigger the emergence of the automation stage.

At this stage, the motor program is well developed and it can control motion in a short time. Students have become skilled and every movement carried out is more effective and efficient. Even for a particular sports skill, it seems to be done with a relaxed but steady movement. Then for students with low responsibility who learn through the PSI learning model, the average score is smaller than the group of students who learn through the DI learning model. This happens because the motion tasks contained in the PSI learning model are more and more difficult, so students with low responsibility are reluctant to carry out them well and optimally.

When the PSI and DI learning models are applied for the tuck-style long jump learning process, many changes occur related to the abilities possessed by students, both with high and low

responsibilities. Based on the facts in the field as well as the results of the average score, students with high responsibility are more suitable to learn by using the PSI learning model because in long jump, the learning process through the PSI learning model, the motion assignments are given have a wide variety of exercises and have good standards. This means that in the PSI learning process, students are required to be able to complete the first motion assignment before continuing the second task of motion and so on, with the characteristics of the learning process that makes students feel happy, enthusiastic, motivated, have a greater responsibility to be able to complete all motion tasks contained in the module. On the other hand, students with low responsibility are more suitable to learn with the DI learning model. This is because in the long jump learning process, through the DI learning model, students with low responsibility are continuously stimulated in the form of exercises. Therefore, students experience the automation stage. The implication of the PSI learning model can increase the ability of the tuck-style long jump of students to be highly responsible. The DI learning model can increase the ability of tuck-style long jump for low responsible students.

5. CONCLUSIONS

The results of this study indicate that the PSI learning model can be effective ways compared to DI to improve tuck-style long

jump skills for Indonesian high school students. The increase in the tuck-style long jump capability is not only due to the application of the PSI. there are contributions from the high responsibilities of the students. COLQUIT (2011) reveals that PSI is a versatile learning model that can be implemented in various ways in the current educational context. In short, PSI offers an alternative approach to physical education teaching at secondary school. The use of an effective PSI learning model requires careful planning from teacher. Although it is time-consuming in making modules and managing its activity units, PSI offers teachers and students learning experiences that are valuable, interesting, and unique in physical education learning process (HANNON, 2008).

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