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Personalized System of Instruction (PSI) Model:

Using audio visual on basket ball learning

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***Abstract*—Basketball training, especially lay-up shoot, is a basic movement skill that is difficult for students to acquire. This is because the complexity of the move is far more difficult than other basic basketball movements. In addition, the learning model applied during the learning process tends to be ineffective. However, from several available learning models in physical education, there is one learning model that is considered effective and able to improve movements, namely the Personalized System of Instruction (PSI) model. This study aims to determine the effect of the application of audiovisual media based PSI (Personal System of Instruction) models on basic lay-up shoot movement training. The method used in this study is an experimental research involving a total sample of 24 people. The average values obtained from the results of the pretest and post-test were 13.6 and 18.4, respectively. The study concluded that the PSI learning model using audio visual media had a significant influence on improving the basic motion of lay-up shoot skill.**

Keywords—learning model; Personalized System of Instruction (PSI); lay up shoot; basketball

I. INTRODUCTION

Education is essential and necessary for every human being. There are two types of education; formal and non-formal. Formal education is the education provided at school. One of the education provided at school is physical education. According to Agus Mahendra, "physical education is a process of education through physical activity, games or sports that are chosen to achieve educational goals" [1]. One of the physical education learning materials contained in the standard content of the 2013 revised curriculum No. 24 of 2016 concerning Core Competencies (KI) and Basic Competencies (KD). In the basic competencies of high school level, big ball games are detailed as basic competencies for psychomotor aspects it is noted down in basic competencies 4.1. The big ball games in question are soccer, volleyball and basketball. Every teacher has the right to choose the sports that will be taught to their students. However, of the three sports, basketball is still preferred by students compared to others [2].

One of the materials given in physical education at school is lay-up shoot. Lay-up shoot is frequently taught in schools and used as a test. However, many students find it difficult so that many of them fail to achieve minimum completeness criteria during the test. To improve the learning outcomes in this case is an increase in the results of learning lay ups in basketball games. To this end, the implementation of appropriate learning strategies, learning models, learning methods and learning approaches is inevitable. From existing learning models, personalized system of instruction (PSI) is considered as one of the applicable learning models

PSI enables students to become independent learners and at the same time allow teachers to use high levels of interaction with students. "This PSI learning model is one model that is an alternative to be applied at the high school level. Hannon "PSI offers an alternative approach to teaching physical education and learning at the senior secondary level". In the PSI learning model, students are always provided with modules as sources of learning material. However, modules are not the only media applicable in the PSI model, other media can also be applied [3]. As in the 2007 study conducted by Heidi L. Eyre entitled "Personalized Keller's System of Instruction: Was it a Fleeting Fancy or is there a Revival on the Horizon?" In his research using a Computer-based PSI learning model. In addition to computer-based media, the PSI learning model web-based media can also be applied. This is where the research conducted by Andrew Rae b, 1, Peter Samuels a, in 2011 entitled "Web-based Personalized System of Instruction: An effective approach to diverse cohorts with virtual learning environments" [4].

The research that the author is doing lies in the use of media as a tool in the application of the Personalized System of Instruction model. From some studies, the PSI learning model was accompanied by computer-based and web-based media, but the Personalized System of Instruction (PSI) learning model in the research that the author did was the Personalized System of Instruction (PSI) learning model with the application of audio visual media. According to Djamarah et al in Luluk Indah Nurwahyuni, states that "audio visual media is a medium that has sound and images elements " [5]. Audio visual media is one of the learning media that is widely used in teaching and learning and can improve students' ability in learning motion. Prima Dewi Kusumawardani from the analysis results obtained a significant increase from cycle I and cycle II. In the first cycle the results of learning lay-up shot basketball are in the Very Good category at 7.50%, both at 27.50% and enough at 17.50%, the total number of students participated was 21 students. In cycle II the learning outcomes of lay-up shot in the excellent category were 32.50%, both at 32.50% and enough at 12.50% [6]; M Kamal Fauzi, Priyanto and Suratman from their

research obtained the average student score is 70.07. In the first cycle the average test scores of students reached an average of 71.15. In cycle II it reached an average of 87.5. Classical completeness in cycle I was 61.5% and in cycle II it was 92.30% [7]; Orihan Ady Nugroho obtained learning outcomes in the first cycle that can meet the KKM as much as 31.4% of the total number of students and in the second cycle increased to 82.9% of the total number of students. Based on the results, it can be concluded that the application of audiovisual media and consistency of body attitudes can improve handstand learning outcomes in class XI science students of SMA Negeri 1 Sukorejo [8].

II. METHOD

The method used in this study is the pre-test post-test experimental design. The sample was 24 vocational high school students from a total population of 73 students. Experimental research can use a sample of 15-30 subjects [9]. The instrument used to measure the lay-up basic motion skills is a lay-up basic motion observation sheet consisting of initial, implementation and final stances. The stages in implementing the PSI model are composed of several phases. What follows are the applications of the PSI model [10].

a. First Phase : *Starting Class,*
b. Second Phase : *Bringing equipment to Class,*
c. Third Phase : *Dispersing and returning equipment,*
d. Fourth Phase : *roll Call (If needed),*
e. Fifth Phase : *task Presentation,*
f. Sixth Phase : *task Structure,*
g. Seventh Phase : *Assessment, dan*
h. Eighth Phase : *Monitoring learning progress*

III. RESULTS AND DISCUSSION

The average score of the pretest was 13.6 with 2.94 standard deviation and 8.5 variance. In addition, the highest score in the pretest was 19 and the lowest score is 10. On the other hand, the average score of the posttest was 18.4 with 5.27 standard deviation and 28.9 variance. The highest and the lowest scores in the posttest were 26 and 10 respectively.

TABLE I. NORMAL DISTRIBUTION TEST

	t-observed	t-critical	Description
Pre test	0.6331	0.173	not normally
Post test	0.8707	0.173	not normally

The pretest has figured out that the t observed (L_0) is 0.6331 and the t critical (L_a) is 0.173. It led to a conclusion that the data are not normally distributed. Similarly, the result of the posttest has found that t observed (L_0) is 0.8707 and the t critical (L_a) is 0.173 which also means that the data are not normally distributed. Therefore, considering that the data were not normally distributed, non-parametric statistic in forms of Wilcoxon Signed Rank Test was used. The result of the Wilcoxon Signed Rank Test is presented in the following table.

TABLE II. HYPOTHESIS TESTING RESULT

No	Subjects	X	Y	Aggregate	Rank	Signed Rank	
				Y-X		+	-
1	Fikri Herlambang	12	15	3	7.5	7.5	
2	Nur M Abdurosid	18	26	8	18,5	18.5	
3	Widiyani	11	10	-1	3		-3
4	Toni Kurniawan	13	23	10	24	24	
5	Nurazizah	13	19	6	12	12	
6	Diar Maulana	18	26	8	18,5	18.5	
7	Astri Purwanti	15	21	6	12	12	
8	Asshabah Kindi	10	19	9	2	2	
9	Mia Putri M	11	16	5	9.5	9.5	
10	Gustiawan	16	19	3	7.5	7.5	
11	Andreas A W P	13	19	6	12	12	
12	Winterbee	12	11	-1	3		-3
13	Suci Rosullia	11	10	-1	3		-3
14	Dara P	13	22	9	2	2	
15	Mila D S	19	21	2	6	6	
16	Yuli Dian	14	14	0	-	-	-
17	Lia M	11	16	5	9.5	9.5	
18	Annisa N H	11	10	1	3		-3
19	M Rizqi G	17	25	8	18.5	18.5	
20	Tommy G	17	25	8	18.5	18.5	
21	Ilham S N	19	26	7	15	15	
22	Wina Elma	12	19	7	15	15	
23	Ezra Dito	10	17	7	15	15	
24	M Rizky Yunizar	11	20	9	22	22	
25	Tobi Putra	13	12	-1	3		-3
T total =						245	-15

From the table, the number of positive rank (+) is 245 and negative (-) is 15. It means that T = 15 is the smaller value, regardless the + and - sign. From the critical table T for the Wilcoxon Signed Rank Test for n = 24 (because there is one person who has a difference value = 0, so N-1 = 23), α = 0.05 with a two-way test of the value T_a = 81. Because T (15) <T_0.05 (81) then H_0 is rejected. This means that there is a significant difference or the PSI learning model using visual media has a significant influence on improving the basic motion skills of the right-hand basketball lay-up shoot.

The improvement occurs because the application of personalized system of instruction (PSI) learning models provides opportunities for students to learn independently. This is as expressed by Matzler, translated by Shela Ginanjar et al. that ". . . PSI enables students to become independent learners and at the same time allow teachers to use high levels of interaction with students who need them [10]. " In addition to

the application of personalized system of instruction (PSI) learning models in this study, other things that affect the increase in mastery of the basic motion of lay up are the application of learning media in the form of audio visual media as the media used to convey material to students. Audio visual media is a medium used to convey an information in which consists of sound and images elements. This is as expressed by Bahri and Aswan in Sarwiji Suwandi, et al., stating that "audiovisual media is a medium that has sound and image elements" [11]. With the inclusion of these two elements, it will be easier for the students to understand or accept the material presented. Audio visual media consists of sound and image elementss; these will affect the level of motivation of students to participate in learning activities. In this connection, Rinanto in Sarwiji Suwandi, et al., argues about the benefits of audio visual media as follows [11]:

- Learning becomes more attractive so that the motivation of learners increases and is able to eliminate boredom;
- Learners do more learning activities such as observing, listening and demonstrating;
- Able to train students' level of thinking from the concrete to the abstract, from simple thinking to complex thinking;
- Learners are able to connect visual messages with their experiences.

In addition to the several benefits of audio visual media that have been described above, audio visual media also has a very large role to store and summon up the material being taught. According to the Sovocom Company of America in Bambang Warsita. The ability to store messages using audio visual media is as big as ". . . 50% ". Then the ability to remember messages using audio visual media ". . . less than 3 days 85%, while more than 3 days becomes 65% " [12].

From some of the statements above, we can discern that audio visual media is a medium that contains images and sound elements that aim to make the material or information delivered easier to understand. By including audio visual media in a learning or in conveying this learning material will provide benefits to students including increasing student motivation in learning, making it easier for students to understand the material and students can see the material contents more clearly. Then by using audio visual media, students can remember the material longer so that the effect is enormous on increasing their abilities.

IV. Conclusion

Based on the results of testing hypotheses and discussion of the results of the study it can be concluded that lay up shoot basic motion learning can be improved through the Implementation of audio-visual-based PSI (Personalized System Instruction) Learning Model.

References

[1] A. Mahendra, Asas dan Falsafah Pendidikan Jasmani. Universitas Pendidikan Indonesia, 2008.

[2] M. Dušan, S. Stanimir, P. Saša and Č. Nebojša, “The Students’ Interest In Introducing Physical Education Classes At Faculties”. Doaj Directory Of Open Acces Journals: Ovidius University Annals, Series Physical Education And Sport/ SCIENCE, MOVEMENT AND HEALTH, Vol. XII, ISSUE 2, 2012

[3] J.C. Hannon, B.J. Holt and J.D. Hatten, “Personalized systems of instruction model: Teaching health-related fitness content in high school physical education,” Journal of Curriculum and Instruction, vol. 2, no. 2, pp. 20-33, 2008.

[4] H.L. Eyre, “Keller's Personalized System of Instruction: Was it a Fleeting Fancy or is there a Revival on the Horizon?.” The Behavior Analyst Today, vol. 8, no. 3, pp. 317, 2007.

[5] L.I. Nurwahyuni, “Penerapan Media Audiovisual Dalam Gerak Senam Lantai (Meroda, Forward Roll, Hand Stand) Terhadap Hasil Belajar Siswa”. jurnal Pendidikan Jasmani, 2015.

[6] P.D. Kusumawardani, “Penerapan Media Bantu Pembelajaran Audio Visual Untuk Meningkatkan Hasil Belajar Lay Up Shot Bola Basket Pada Siswa Kelas X A SMA Negeri 1 Karanganom Kabupaten Klaten Tahun Pelajaran 2011/2012”.

[7] M.K. Fauzi and S. Priyanto, “Upaya Meningkatkan Hasil Belajart Chest Pass Bola Basket Melalui Media Audio Visual”. Unnes Journal of Sport Sciencs, 2015.

[8] O.A. Nugroho, “Upaya Meningkatkan Hasil Belajar Handstand Melalui Media Audio Visual dan Konsistensi Sikap Tubuh Pada Kelas XI IPA SMA N 1 Sukorejo Kabupaten Kendal Tahun Pelajaran 2012/2013”. Journal of Physical Education, Sport, Health and Recreations, 2018.

[9] A. Maksum, Metodologi Penelitian dalam Olahraga. Universitas Negeri Surabaya, 2012.

[10] Matzler, Instractional Models For Physical Education, 2005.

[11] Sarwiji Suwandi, “Penggunaan Media Audio Visual Video Pembacaan Cerpen Bermuatan Budaya Nasional Indonesia Untuk Kompetensi Menelaah Karya Sastra Bagi Pemelajar Bipa”, jurnal, 2017.

[12] B. Warsita, Teknologi Pembelajaran Landasan Aplikasi. Jakarta: Rineka, 2008.