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THE INFLUENCE OF TEACHING STYLE AND MOTIVATION LEVEL ON INCREASING LEARNING OUTCOMES TABLE TENNIS SKILLS

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Abstract
The purpose of this study was to determine the teaching style of the individual program and guided discovery of the learning outcomes of table tennis skills with the level of sports motivation. This study used a 2x2 factorial design with a sample of 32 students who were divided into four groups so that each group consisted of 8 samples. The sampling technique used in this study was purposive sampling and matching paired techniques. The results showed that there was an influence of individual program teaching style and guided discovery on table tennis skills learning outcomes, then there was an interaction between individual program teaching styles and guided discovery with the level of sports motivation on table tennis skills learning outcomes. The individual program teaching style is better used than the guided discovery teaching style to improve table tennis skills learning outcomes in the high motivation group, while the guided discovery teaching style is better used than the individual program teaching style to improve table tennis skills learning outcomes in the low motivation group.

Keywords: *table tennis; individual programs; guided discovery; teaching styles; sports motivation*

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INTRODUCTION

Teaching style is the teaching performance of the teacher/teacher/lecturer according to their own abilities to encourage students/students to work hard to apply skills in the game of table tennis. This way of teaching affects the learning atmosphere which in turn can affect student learning outcomes. Teaching style refers to learning that is often done in physical education. According to (Mosston & Ashworth, 2008) there are eleven teaching styles that are often used in physical education learning, as follows: (1). Command Style (command style), (2). The

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practice style; (3). Reciprocal style (Reciprocal style); (4). The self-check style; (5). The inclusion style; (6) Guided discovery; (7). Confergent style styles; (8). The divergent production style, (9). Individual program style (the individual program-linear design style). (10). The learner initiated style, and (11). Self-teaching styles.

(Chatoupis, 2018) states that teachers and students need to familiarize themselves with the process to ensure the successful application of the LDIP style (Individual Program). Teachers must trust that students will develop programs for themselves based on their cognitive and physical capacities in relation to the topics they choose to work on. Students must become familiar with the discovery process in order to investigate a topic. This process must be carefully planned by both teachers and students. The following tips should be considered when teaching in the LDIP (Individual Program) style. The LDIP (Individual Program) style requires students to take maximum responsibility for conducting teaching-learning episodes. Very young children may not be able to perform the demanding tasks of developing action plans, identifying problems and questions, seeking information, building knowledge, and organizing all of these elements into a meaningful framework. Making independent decisions during teaching episodes requires a level of preparedness that very young children may not have. For example, many children in kindergarten through 6th grade are unable to solve problems or think critically at the level required for the LDIP (Individual Program) style. However, this style may be found at the secondary school level (Digelidis, 2007). Therefore, little is known about the effect of this style on learning outcomes. The reason for the lack of knowledge is that this style is rarely observed in Physical Education settings, especially in kindergarten through 6th grade (Garn & Byra, 2002).

While the guided discovery teaching style has the following objectives: (1) To find the interconnection of steps in a given task, (2) To find the “target”—concepts, principles, ideas, (3) To experience the discovery process step by step—

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develop sequential discovery skills that logically lead to broader concepts, (4) To cross the discovery threshold, (5) To engage the learner in the discovery of concepts and principles that represent convergent thinking, (6) To engage the learner in appropriate cognitive relationships between stimulus (provided by the teacher or substitute) and the response found, (7) To teach teachers and students about cognitive economics—that is, use minimal, accurate, and logical steps to achieve targets, (8) To develop an effective climate and conducive to engagement in the act of discovery, (9) To give the learner a "Eureka" moment (Mosston & Ashworth, 2008).

In addition to the teaching style carried out by lecturers/teachers/lecturers, the motivation of students can also affect learning outcomes. The results of the study (Granero-gallegosa et al., 2014) indicate the importance of intrinsic motivation for boys and girls as a predictive variable for the greater importance and usefulness ascribed to physical education. Intrinsic motivation occurs when students participate in class because they enjoy learning and experiencing different practices, which is the most self-determined form of motivation (González-Cutre et al., 2011). While extrinsic motivation depends on the degree of internalization that can come from internal or external sources (Deci & Ryan, 1985, 2000), for example practicing because students know the benefits of active exercise for health, or feel guilty or even follow the rules of education, thus avoiding the possibility of punishment. González-Cutre et al., 2011). The enthusiasm of students in participating in games in sports learning will have a positive impact on students, students will be more active, learn well, and understand the learning objectives. Children will complete the games prepared and planned in advance by the teacher.

Table tennis is the fastest sport, because the frequency of receiving the ball is categorized as fast, this is in line with the opinion (Faber et al., 2014) that table tennis uses a lot of movements such as hand, foot and body movements. To some extent all sports require high perceptual abilities to perform motor skills

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proficiently (Mori et al., 2002). Table tennis is one of the elective courses at universities in the Physical Education study program, in practice there are some students who are used to playing table tennis before, some have never played table tennis before so they must be taught starting from how to hold a racket. However, the students showed high motivation and enthusiasm for learning to master and understand this table tennis learning. In the implementation of table tennis course learning at the university level, it cannot be separated from various problems, as stated by (Wang, 2016) Currently, there is a teacher in Hunan, the problems are: (1) the proportion of degrees is not fair, there are fewer teachers with senior degrees . (2) the lower the level of education, the lower the proportion of teachers with higher education. (3) the low proportion of professional tennis teachers. 67.9 percent of the Ping Pong Elective Course teachers were transferred from other specialized classes to teach table tennis, as well as 48.6% of teachers to work because table tennis was not always involved in teaching work. (4) irrational teacher-student ratio, excessive number of students in classroom teaching. Opportunities (5) for teachers to participate in education and training are too small, seriously affecting the quality of teaching in Hunan Province Pingpong ordinary university elective classes, limiting their better development.

The teaching style of the individual program and guided discovery that will be investigated in this study certainly has shortcomings, the teaching style of the individual program has the disadvantage that it only guides students through the delivery of material in general while the guided discovery teaching style has a weakness that the teacher only directs students through questions that has been pre-arranged. Table tennis skills cannot be mastered easily by students using the two teaching styles because table tennis skills must be trained continuously and more specifically to the techniques being studied while individual teaching styles have a weakness, namely the provision of material that is done too general and not specific. also with a guided discovery style that only leads students to master table tennis skills with questions given by the teacher/lecturer to students. However, in

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the use of individual program teaching styles, students will be more active in seeking and trying independently to solve the problems given by the teacher in the delivery of the previous material. Meanwhile, the use of guided discovery teaching style in table tennis lessons will provide opportunities for students to discuss and solve problems and try to practice in groups based on the directions of the teacher/lecturer's questions given to students/students. Therefore, the researcher wants to know how the level of student motivation in table tennis lessons by using individual program teaching styles and guided discovery.

METHOD

The research method used in this study is an experimental approach with a 2 x 2 factorial design. The factorial design expands the number of relationships that can be examined in experimental studies. The 2x2 factor is basically a modification of the posttest-only control group or the pretest-posttest control group design. A variant of this design uses two or more different treatment groups, without a control group (Fraenkel et al., 2013). The factorial research design in this study modifies the design of the pretest - posttest control group to be carried out as follows:

Table 1. Design Factorial 2x2

Teaching Style Motivation	Individual Program *(A1)*	Individual Program *(A2)*
High Motivation (B1)	A1B1	A2B1
Low Motivation (B2)	A1B2	A2B2

The population in this study amounted to 44 consisting of 40 student members of table tennis UKM UPI Sumedang Campus, 1 documentation person, 1 researcher and 2 authors of research data. The sampling technique used in this research is using purposive sampling technique, namely taking samples based on

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the criteria that have been determined previously by the researcher. The criteria determined by the researchers were that at least the students had mastered the table tennis forehand drive technique. After using the purposive sampling technique, the sample will be 32 samples and then the samples are distributed into groups using the matching paired technique.

RESULT AND DISCUSSION

Hypothesis testing in this study was carried out using a two-way ANOVA variance test assisted by SPSS v.20 software. This two way analysis of variance ANOVA aims to determine the effect of teaching style (individual program and guided discovery) with the level of sports motivation on table tennis skills. The following results of hypothesis testing data can be seen in table 2.

Table 2. Table Tennis Skill Hypothesis Test

Tests of Between-Subjects Effects
Dependent Variable: Skill Table Tennis

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	423,000[a]	3	141,000	18,890	,000
TeachingStyle * Sports Motivation Level	180,500	1	180,500	24,182	,000

a. R Squared = ,669 (Adjusted R Squared = ,634)

Based on the results of the two way ANOVA test in table 2 regarding the difference in the effect of teaching styles (individual programs and guided discovery) on table tennis skills, it shows that the value of F_{count} is 18.890 > F_{table} 6.59 at the level of 0.05. This means that H_0 is rejected and H_1 is accepted, so it can be concluded that there is a difference in the effect of teaching styles (individual programs and guided discovery) on the learning outcomes of table tennis skills. Thus the research question and the first hypothesis in this study are in accordance with the results of the study.

Based on the results of the calculation of the two way ANOVA analysis in table 2 regarding the interaction between teaching styles (individual programs and guided discovery) and the level of motivation for table tennis skills, it shows that the value of F_{count} is 24,182 > F_{table} 4.60 at the level of 0.05. This means that H_0 is

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rejected and H_1 is accepted, so it can be stated that there is an interaction between teaching styles (individual programs and guided discovery) with the level of motivation on learning outcomes of table tennis skills. The results of this study are in accordance with the second question and hypothesis in this study.

There is an interaction between teaching styles (individual programs and guided discovery) and the level of sports motivation on table tennis skills, so further tests must be carried out, further tests are carried out aiming to determine the difference in the mean score of the dependent variable between the two data/sample groups. Further tests can be carried out using the Tukey test, the test results data can be seen in Table 3.

Table 3. Advanced Test of Table Tennis Skills

Multiple Comparisons
Dependent Variable: Skill Table Tennis
Tukey HSD

(I) Post Hoc	(J) Post Hoc	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
A1B1	A1B2	10,2500*	1,36604	,000	6,5203	13,9797
	A2B1	5,0000*	1,36604	,005	1,2703	8,7297
	A2B2	5,7500*	1,36604	,001	2,0203	9,4797
A1B2	A1B1	-10,2500*	1,36604	,000	-13,9797	-6,5203
	A2B1	-5,2500*	1,36604	,003	-8,9797	-1,5203
	A2B2	-4,5000*	1,36604	,013	-8,2297	-,7703

Based on Table 3 it can be seen that the value of sig (A1B1*A2B1) from the further test result is 0.005 < 0.05. it can be concluded that H_0 is rejected and H_1 is accepted. Thus, it can be concluded that there is a significant difference between the Individual Program Teaching Style (A1) and Guided Discovery (A2) on the learning outcomes of table tennis skills in the High Motivation group (B1). When viewed from the group average value, the Individual Program Teaching Style (A1) with an average value of 29.25 is better used than the Guided Discovery Teaching Style (A2) with an average value of 24.25 to improve skills learning outcomes table tennis in the high sports motivation group.

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Based on Table 3, it can be seen that the sig value (A1B2*A2B2) from the further test results is 0.013 <0.05. it can be concluded that H_0 is rejected and H_1 is accepted. Thus, it can be concluded that there is a significant difference between the Individual Program Teaching Style (A1) and Guided Discovery (A2) on the learning outcomes of table tennis skills in the Low Motivation group (B2). When viewed from the group average value, the Guided Discovery Teaching Style (A2) with an average value of 23.5 is better used than the Individual Program Teaching Style (A1) with an average value of 19 to improve table tennis skills learning outcomes in the low sports motivation group.

Discussion

The use of teaching styles has an impact on students, especially on improving table tennis skills as the study proposed by (Athanasia Chatzipanteli, Nikolaos Digelidis, Athanasios G. Papaioannou: 2015) The study revealed that beyond the command and/or practical teaching style, sports teachers can improve skills student metacognition, lesson satisfaction, and intrinsic motivation. Furthermore (Struyven, Dochy, & Janssens, 2010) said that teaching styles can be categorized into two main groups (reproduction or production). Productive teaching style, has been characterized as a style that is activated by students because students use an active role in their own learning process. So from the opinions of these experts it can be said that the use of teaching styles can affect the table tennis ability of students, with the use of individual program teaching styles and guided discovery students must learn independently so that learning can be centered on students. Student-centered learning is very good for improving students' ability to do table tennis, this is in line with the opinion of Student-centered learning supports student cognitive learning (Byra, 2006), helping students develop positive attitudes towards physical activity (Stylianou, Kulinna , Cothran, & Kwon, 2013), and influence students' interest, helping them to engage in the same or similar activities in the future (Himberg, Hutchinson, & Roussell, 2003).

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Based on the theory of self-determination theory (SDT) states that a motivating teaching style involves teachers' efforts to nurture the psychological needs of students by interacting in ways that support autonomy, create a well-structured environment, and engage and warm to their students. In contrast, a controlling, chaotic, and uninvolved teaching style is assumed to frustrate students' psychological needs, which in turn tends to hinder or even weaken their motivation and learning (Deci & Ryan, 2000).

Based on the opinions of the experts above, it can be concluded that the use of teaching styles can have a positive effect on lesson satisfaction, student involvement in assignments and increase motivation so that it can improve learning outcomes in this study is the ability of table tennis skills. This opinion is in line with the results of this study, the teaching style of individual programs is better used than the guided discovery teaching style in groups of students who have high motivation. while the use of the guided discovery teaching style is better than the individual program teaching style to improve the table tennis skills of students who have low motivation.

CONCLUSION

Based on the results of data analysis and data processing, conclusions can be drawn from this research as follows. 1) Teaching style (individual programs and guided discovery) can affect the learning outcomes of students' table tennis skills. 2) There is an interaction between teaching style (individual programs and guided invention) and the level of sports motivation so that it can affect the learning outcomes of students' table tennis skills. 3) The teaching style of individual programs is better used to improve the learning outcomes of students' table tennis skills compared to the teaching style of guided discovery in high motivation groups. 4) Guided discovery teaching style is better used to improve student table tennis skills learning outcomes compared to individual program teaching style in low motivation groups.

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