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The effect of learning with direct playing style on the accuracy of table tennis serve in 8-10-year-old players

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ABSTRACT

The aim of this study was to identify the effect of learning with direct playing style in developing the accuracy of table tennis serve in 8-10-year-old players. The researchers used the experimental method in the style of two equal groups for its suitability to the nature of the research. The research sample was determined by 18 table tennis players (aged 8-10 years old), from the specialized school in the Ministry of Youth and Sports, Baghdad, for the academic year 2021. We randomly divided the sample into two equal groups (experimental and control), each group comprising 6 players. The experimental group used the direct playing method, while the control group used the traditional method. In order to determine the skill test for the accuracy of the table tennis serve skill in the sample, the researchers used the test of the accuracy of the table tennis serve. The results of our study showed that there were statistically significant differences between the pre- and post-test results for the experimental group on the study variable, in favor of the post-test ($t = 6.27$, $p < 0.05$). We also found statistically significant differences in the results of the pre- and post-test results for the control group, in favor of the post-test ($t = 5.16$, $p < 0.05$). We also had statistically significant differences between the experimental and control group in the post-test results, in favor of the experimental group ($t = 5.34$, $p < 0.05$). In conclusion, the utilization of direct playing method had a constructive outcome in acquiring fundamental abilities. The specialists are recommended to embrace this instructive technique for fledglings to gain proficiency with the essential abilities of table tennis.

KEYWORDS

Direct Play; Kick Serve; Table Tennis

1. INTRODUCTION

The improvement occurring in various areas of daily life, including various sports, and achieving success in various games is not a happenstance. Rather, it is through an extraordinary and uninterrupted logical exertion and exploration through these efforts that we see today with a recognized specialized level in various games, including table tennis. The instructive techniques for obtaining the coordinated movements that researchers and experts looked to foster the capacities of students, became fundamental for the coaches to follow the strategies and logical instructive techniques for amateurs, particularly youngsters, attempting to observe a simple learning strategy that makes progress in execution, which expands the inspiration of fledglings by incessantly corresponding with the game. It is essential not to rely on the strategies for traditional training utilizing the normal strategies that require time spans for every expertise after the ability is separated into a few sections and afterward interface the pieces of those abilities, so these strategies have an unfortunate return in mastering the exactness of the expertise of serving table tennis and serving is the way to playing table tennis. This was affirmed by the specialists of the Worldwide League. There is an incredible scattering in the arrangement of those wishing to become familiar with the abilities of table tennis as students take extremely significant stretches of time until they arrive at the phase of playing (Azeez & Majeed, 2022; Jihad Al-Rubaye & Hussein, 2022).

First, we start with the use of the appropriate tools for table tennis for beginners, such as rackets and educational balls. Then, the process of different correction of the beginners' mistakes begins, as the direct method has a positive impact on the learner's motivation to achieve the desired goal. This is a serious scientific attempt that seeks to achieve its goals by acquiring basic skills of this game through the use of learning according to the method of direct play, and thus we have developed a sound scientific step to reach the goals of direct education.

Through the field researchers' experience as coaches and administrators for a very long period of time and their observation and direct contact with most of the Iraqi and Arab teams, they noticed that there is a great dispersion in the preparation of table tennis practitioners, especially the transmission, which is the key to playing table tennis. Hence the problem of the research consist by giving an opportunity for beginners to play the game directly through the skill of the serve kick, motivated by fun, self-discovery and competition, leading to an increase in motivation to practice the game of table tennis with the skill of serving and refine their various skills towards the optimal performance of the different skills such as self-confidence, leadership and decision-making (Zighair

& Hussein, 2020). Thus, this study aims to identify the effect of learning with direct playing style in developing the accuracy of table tennis serve in 8-10-year-old players.

The hypotheses of the study were: 1) There are statistically significant differences between the pre- and post-test of the experimental group on the accuracy of table tennis serve. 2) There are statistically significant differences between the pre- and post-test of the control group on the accuracy of table tennis serve. 3) There are statistically significant differences between the experimental and control groups in the post-test on the accuracy of table tennis serve.

2. METHODS

2.1. Study Design and Participants

The researchers used the experimental method in the style of two equal groups for its suitability to the nature of the research. The research sample was determined by 18 table tennis players from the specialized school in the Ministry of Youth and Sports, Baghdad for the academic year 2021, aged 8-10 years old. The sample was randomly divided into two groups (experimental and control), each group comprising 6 players. The experimental group used the direct playing method while the control group used the traditional method. The percentage of the research sample was 66.66%, which is an appropriate percentage to truly and honestly represent the research community.

2.1.1. Equivalence Test

Before starting the implementation of the educational curriculum, the researchers resorted to verifying the equivalence of the two research groups in the skill test variable for the accuracy of the serve in table tennis (Table 1).

Table 1. Equivalence of the two groups with the search variables

Variable	Experimental group		Control group		T value	p value
	Mean	SD	Mean	SD		
Table Tennis Service Kick Skill Accuracy / Score	13.86	1.18	12.57	1.24	1.686	p > 0.05

**Tabular score {t} = (2.23) at the significance level (0.05) and below the degree of freedom (10)*

There are no statistically significant differences in the skill test for the accuracy of the table tennis serve between the two research groups (t = 1.686, p > 0.05). So, the two groups are equivalent.

2.2. Tools and Devices

The tools and devices used in this study were: Personal interviews, tests, a form to record the accuracy of the serve kick skill in table tennis, a legal table with its attachments, 50 legal balls, table tennis rackets, colored tape, measuring tape (cm), dyes and chalk, whistle, two manual stopwatches, a medical scale (kg) to measure weight, an electronic calculator (Casio - Scientific), a laptop type HP, camera + video type (SONY-16 mega pixels) and various stationery items (papers, pens, etc.).

2.3. Determination of the Skill Test

In order to determine the skill test for the accuracy of the table tennis serve skill in the subject of the research, the researchers used the following test (Al-Roumi, 2001).

2.3.1. The test of the accuracy of the table tennis serve

After giving the tester 10 minutes to warm up, the player to be tested stands on the other side of the table to perform the sending play, after which 5 trial attempts are given after the warm-up is performed to learn how to perform the test and provide instructions and instructions for the test from the researcher to the laboratory. Each player is assigned 10 serving attempts and the ball must fall within the bounds of the specified serving area and with specific calendar marks of 1-5) degrees, as shown in Figure 1.

***Note:** The ball must cross the net. If the attempt is successful, the result of the evaluation score specified in the place of its fall is given. If the ball goes outside the limits of the table, it is given a zero.

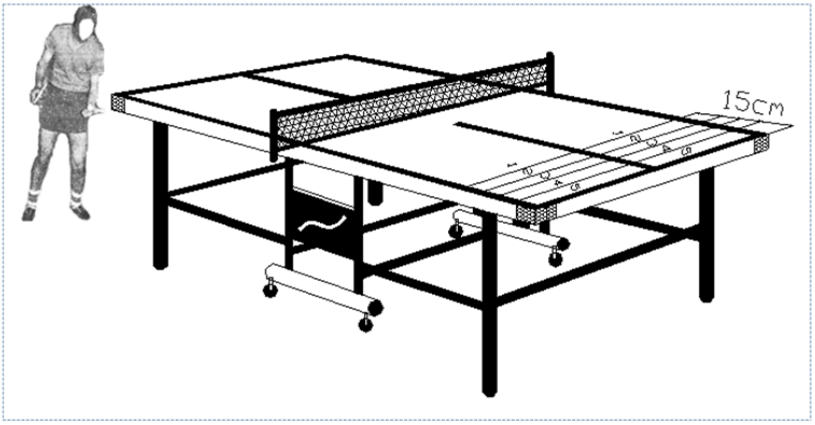

Figure 1. The accuracy test of the table tennis serve. The number 1 refers to the rectangle (77x152.5cm), the numbers 2, 3, 4, 5 refer to the rectangle (15x152.5cm)

2.4. Field Research Procedures

2.4.1. Pre-tests

The pre-tests for the accuracy of the table tennis serve were conducted on 2/10/2021 using the serve punch skill test for both study groups (experimental and control).

2.4.2. Post-test

The post-tests for the accuracy of the table tennis serve were conducted on 30/10/2021 after a training period of 4 weeks and with a number of 4 weekly educational units for the direct play group and the traditional method prepared by the specialized school and in a fragmentation method for the skill.

3. RESULTS AND DISCUSSION

First of all, we analysed the differences between the pre- and post-tests results for the experimental group on the study variable. Table 2 shows the presence of statistically significant differences between the pre- and post-test results, in favor of the post-test ($t = 6.27$, $p < 0.05$).

Table 2. The differences between the pre- and post-tests for the experimental group on the study variable

Variable	Pretest		Posttest		T value	p value
	Mean	SD	Mean	SD		
Table Tennis Service Kick Skill Accuracy / Score	13.86	1.18	33.79	1.37	6.27	$p < 0.05$

** Tabular score {t} = (2.57) at the significance level (0.05) and below the degree of freedom (5)*

The researchers attribute this difference to the method (direct playing method) used in the process of acquiring and learning motor skill by creating an atmosphere of fun and direct competition between learners. This method, also gives the learners a full opportunity to discover themselves and enjoy the motivation to practice by creating a state of success in performance in a direct way of playing without fragmenting the skill and taking a long time to learn the joints and then linking those joints at another stage, which leads to a state of boredom. "You learn best when you are personally immersed in the learning experience, so that you have to discover the knowledge for yourself if it is to have meaning for you" (Al-Roumi, 2001).

Then, we analyzed the differences between the pre- and post-tests results for the control group on the study variable. By reading the results from Table 3, we see that there are statistically

significant differences in the results of the pre- and post-test for the study variable, in favor of the post-test ($t = 5.16$, $p < 0.05$).

Table 3. The differences between the pre- and post-tests for the control group on the study variable

Variable	Pretest		Posttest		T value	p value
	Mean	SD	Mean	SD		
Table Tennis Service Kick Skill Accuracy / Score	12.57	1.24	29.53	1.14	5.16	$p < 0.05$

**Tabular score (T) = (2.57) at the significance level (0.05) and below the degree of freedom (5)*

The researchers attribute this to the fact that the control group used the table tennis curriculum. The educational units, have helped the learners to learn the accuracy of the skill of serving table tennis through the learning method prepared by the specialized school (Zighair, 2002).

Table 4 shows the differences between the post-tests of the two experimental and control groups on the study variable.

Table 4. The differences between the post-tests results of the experimental and control groups on the study variable

Variable	Experimental group		Control group		T value	p value
	Mean	SD	Mean	SD		
Table Tennis Service Kick Skill Accuracy / Score	33.79	1.37	29.53	1.14	5.345	$p < 0.05$

**Tabular score {t} = (2.23) at the significance level (0.05) and below the degree of freedom (10)*

Based on the results in Table 4, there are statistically significant differences between the experimental and control group in the post-test results, in favor of the experimental group ($t = 5.34$, $p < 0.05$). There is a clear development in the accuracy of the skill of table tennis serve in the experimental and control group, in favor of the experimental group (direct playing style). Transmission is the key to this game, which generated the greatest motivation for this group and diversification in performance without being bound by the boring performance sequence, and the fragmentation of skill, which generates greater motivation as well as creating an opportunity for success in performance (Karl, 1999). It was confirmed by the International Table Tennis Federation that transmission generates motivation for the learner and the lack of distraction for beginners. The modern scientific method, upon which the experts of kinesthetic learning and teaching methods have built, is the call for diversification in educational and training methods (Abdulhadi & Abdulhamza, 2022; González et al, 2020; Johsonset, 1988; Sánchez et al, 2019).

4. CONCLUSIONS

In conclusion, the utilization of direct playing method had a constructive outcome in acquiring fundamental abilities in table tennis. The specialists are recommended to embrace this instructive technique for fledglings to gain proficiency with the essential abilities of table tennis.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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