

# *The influence of developing basic volleyball skills as a result of using various tools*

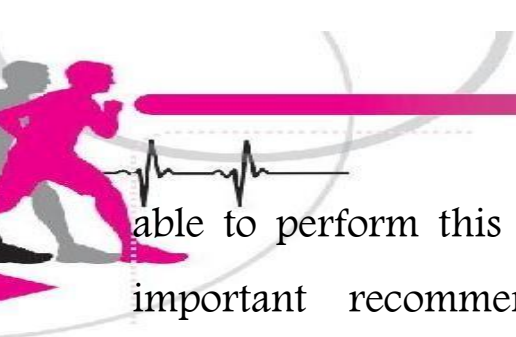
*Assist.Prof. Nagham Salih Nema*

*physical education and sports science/ Babylon University/ Iraq.*

*[phy.nagham.s@uobabylon.edu.iq](mailto:phy.nagham.s@uobabylon.edu.iq)*

## **Abstract.**

The importance of the research lies in developing the skill of setting in volleyball for young people by influencing the skill of setting by using exercises specific to an learning device that facilitates the learning process and access to a high level of mastery of the skill. Exercises for an learning device in developing the skill of preparing volleyball for juniors. The researcher used the experimental method to solve the research problem. The research sample of (40) players was determined. The sample was divided in a simple random way (the lottery) into two groups (experimental - control) equally (5) players for each group. The most important conclusions are the contribution of the exercises of the manufactured learning system to the development of technical performance and its accuracy for the skill of setting in volleyball, for the exercises of the manufactured learning system and prepared according to the correct scientific mechanical foundations to perform the skill of numbers in volleyball(Lee & Yang, 2022), which led to the players being



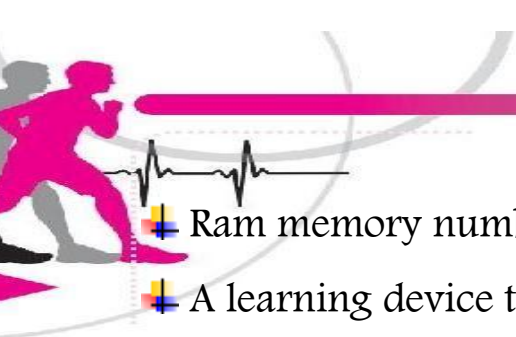
able to perform this skill smoothly and with complete ease. The most important recommendations are the necessity of adopting the manufactured device in the training of young players for the skill of setting in volleyball(Marsh, 2001), and emphasizing the introduction of special exercises prepared with the manufactured device during the training unit for the skill of setting in volleyball.

### **Introduction:**

The most important recommendations are the necessity of adopting the manufactured device in the training of young players for the skill of setting in volleyball(Schlegel et al., 2020), and emphasizing the introduction of special exercises prepared with the manufactured device during the training unit for the skill of setting in volleyball. The aim of the research: preparing exercises for an learning device to influence the development of setting in volleyball for young people(Journal et al., 2020), to identify the effect of exercises for an learning device in developing the skill of setting in volleyball for youth(Dos et al., 2019).

### **Devices, tools and means used in the research.**

- ✚ An official volleyball court.
- ✚ tape measure.
- ✚ Colorful ribbons.
- ✚ Official volleyballs (10) brand (MIKASA).
- ✚ Electronic medical scale type (MARCORY).
- ✚ Camera (SONY) type (2).
- ✚ Laptop type (ACER)



✚ Ram memory number (4) size (16G).

✚ A learning device to develop the skill of preparing volleyball.

After the data that the researcher came out with from the exploratory experiment, he distributed the tasks to the assistant work team and installed cameras in the places we reached in the reconnaissance experiment. Attempts for each player are approved.

### **Prepare of exercise on the device.**

The researcher prepared special exercises for an innovative learning device in developing the skill of preparing in volleyball for juniors. .

And he applied the special exercises to the members of the experimental research sample, and the application of the special exercises used took (8) weeks at two training sessions(Taresh, 2020) per week, bringing the total of the training units for special exercises (16) training units. The time allocated for special exercises was between (35-45) minutes for each training unit, taking into account the level of the research sample and their capabilities, with regard to the experimental group. As for the control group, it applied the vocabulary of the training curriculum followed by the trainer during the same period. The special exercise units were applied in the main section of the training unit(Hackett et al., 2016), as the training unit included exercises aimed at developing the skill of setting in volleyball. The post-test was conducted after the completion of the subject training curriculum, and the researcher followed the same procedures and steps in the test and



measurement procedures that were conducted in the pre-test. The statistic (SPSS)(Hassan et al., 2012) was used to analyze the results.

**Table 1 Clarifying the results of the pre and post tests for the control group for the variables**

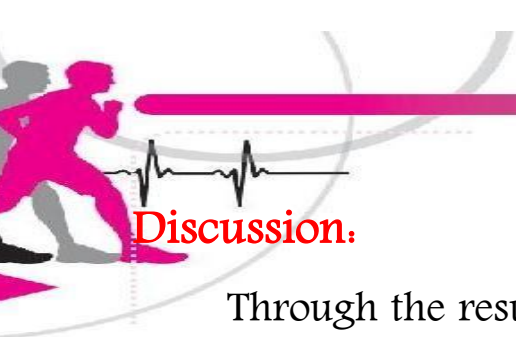
Var.	Pre-test		Post-test		T value	Sig.
	mean	Std.	mean	Std.		
Technical performance of set skill	4.50	0.84	5.70	1.25	3.67	0.000
Accuracy of performing the set skill	10.80	1.93	13.10	1.72	6.27	0.000

**Table 2 Clarifying the results of the pre and post tests for the experimental group for the variables**

Var.	Pre-test		Post-test		T value	Sig.
	mean	Std.	mean	Std.		
Technical performance of set skill	4.40	0.69	7	0.81	11.27	0.000
Accuracy of performing the set skill	10.50	1.35	15.10	0.99	8.34	0.000

**Table 3 Clarification of the results of the (post-test) for the control and experimental groups**

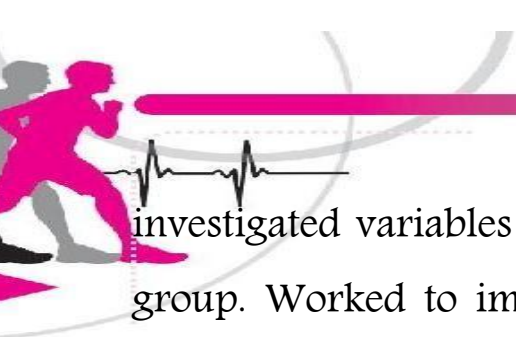
	t-test for Equality of Means							Levene's Test for Equality of Variances	
	95% Confidence Interval of the Difference		Std. Error Difference	Mean Difference	Sig. (2-tailed)	df	t	Sig.	F
	Upper	Lower							
Technical performance of set skill	7.51	4.98	0.624	4.250	.000	38	6.807	.122	2.507
			0.624	4.250	.000	36.072	6.807		
Accuracy of performing the set skill	14.27	12.52	0.55	-2.40	.000	38	-4.336	.071	3.459
			0.55	-2.40	.000	33.623	-4.336		



## Discussion:

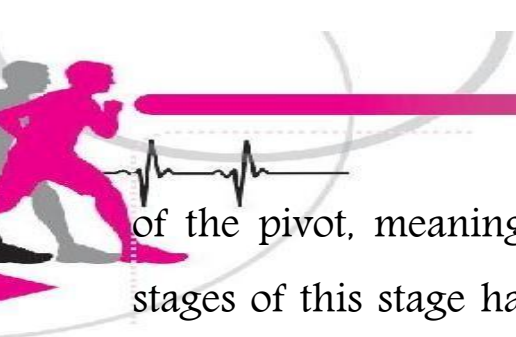
Through the results presented in Tables (1 and 2), which show that there are significant differences between the tribal and remote tests for some setting skill (technical performance and accuracy) in volleyball for juniors and in favor of the post tests, and for both experimental and control groups, and the researcher attributes the reason for these differences to the group The control group led the members of this group to practice the followed exercises related to the skill of setting in volleyball(Ahmed, 2020), and to use equal repetitions for the members of this group in implementing what was required of them in the training sessions. They are equal chances of getting a good amount of skillful enemies to prepare in volleyball, as repetition is "a semi-typical process of repetition without a noticeable change in the motor responses"(Exercise & Journal, 2021). And this is what they may be familiar with in the training units followed, which led to an increase in their regularity in implementing the sessions of this skill and its parts, and clearly applying the usual and specific exercises(Ammar et al., 2018), as well as their individual performance of this skill and its repetition, and this is consistent with what was indicated in that " Repetition leads us to learn according to the theory that a successful response is the most frequent and up-to-date response.

And through the results presented in Tables (3) for some technical performance and accuracy of the skill of setting in volleyball for the post-tests between the experimental and control groups, all the values of the



investigated variables were significant and in favor of the experimental group. Worked to improve the values of the angles of the body joints investigated (shoulder, wrist, knee, trunk) through the diversity of exercises (International Journal of Psychosocial, 2020) and their repetitions on the manufactured device, the repetitions have a great role in improving the player's performance. This is consistent with what was indicated in that (Martelli et al., 2017) "the coaches emphasize the repetition of the basic skills of each game so that its implementation is automatic." In addition, repetition plays an important role in the player reaching a high level in technical performance and accuracy of the skill (González-Martínez, 2019), meaning that the exercises for the manufactured device The device's manufacturing mechanism and in proportion to the ideal performance of the setting skill helped open the corners and joints of the body in the skill's performance vessel by repeating the exercises on the device.

The researcher also believes that the preparatory stage for the setting skill has a basic role in converting the values of mechanical variables from the legs to the arms to the ball through the motor transfer quickly, as this should be done with an appropriate period of time and the effect of the force used is greater (Li et al., 2017), and thus obtaining a better result, as well as The preparatory stage for the skill of setting, represented by the player's stance and the position of the knee joint, which is slightly bent with the torso leaning a little forward (Gunnarsson et al., 2012), as the goal that is drawn for this stage is to achieve the base



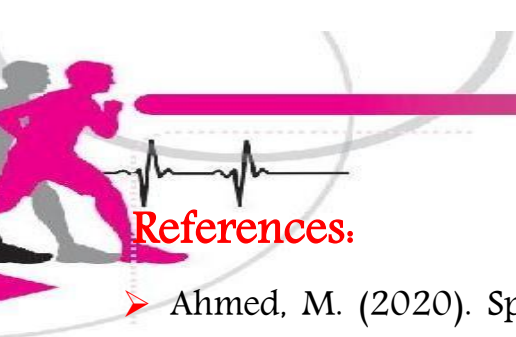
of the pivot, meaning balance so that the directing force for the next stages of this stage has been achieved through the distance between the feet The inclination of the torso in the direction of movement(Holcomb et al., 2007), and this means trying to build momentum and horizontal velocity transferred to the arms, which allows and helps to gain speed.

### **Conclusions:**

1. The exercises of the manufactured learning system contributed to the development of the technical performance and accuracy of the skill of setting in volleyball.
2. The exercises of the learning system manufactured and prepared according to the correct scientific mechanical foundations to perform the skill of numbers in volleyball, which led to the players being able to perform this skill smoothly and with complete ease.

### **Recommendations:**

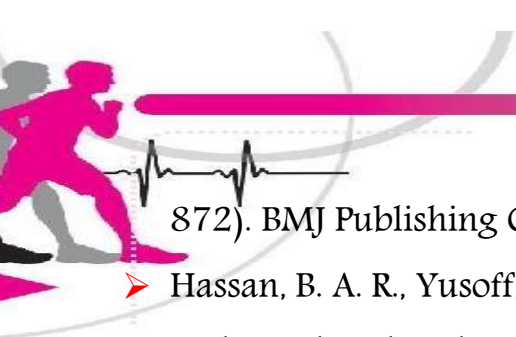
1. The necessity of adopting the manufactured device in the training of young players for the skill of setting in volleyball, emphasizing the introduction of special exercises prepared with the manufactured device during the training unit for the skill of setting in volleyball.
2. The necessity of applying the special exercises prepared with the manufactured device to a larger number of juniors at the club level to improve technical performance and accuracy for the skill of setting in volleyball.



## References:

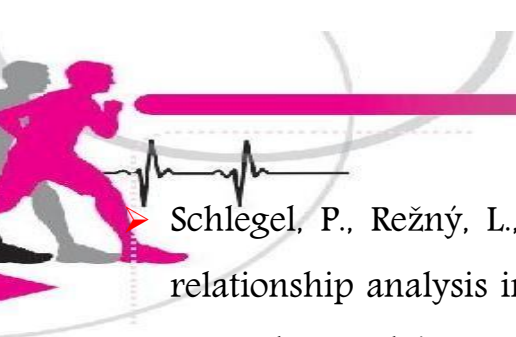
- Ahmed, M. (2020). Special exercises using the strength training balanced rate according to some kinematic variables and their impact in the muscular balance and pull young weightlifters. 24(01), 7612–7617.
- Ammar, A., Riemann, B. L., Masmoudi, L., Blaumann, M., Abdelkarim, O., & Hökelmann, A. (2018). Kinetic and kinematic patterns during high intensity clean movement: searching for optimal load. *Journal of Sports Sciences*, 36(12), 1319–1330. <https://doi.org/10.1080/02640414.2017.1376521>
- Dos, T., Santos, ', Thomas, · Christopher, Comfort, P., & Jones, P. A. (2019). The Effect of Training Interventions on Change of Direction Biomechanics Associated with Increased Anterior Cruciate Ligament Loading: A Scoping Review. 49, 1837–1859. <https://doi.org/10.1007/s40279-019-01171-0>
- Exercise, A., & Journal, S. S. (2021). Rationing Training Load according to the Nature of the Prevailing Muscular Work and its Effect on the Functional adaptation, Specific Strength and Snatch Achievement for Weightlifters at (14–16 year-old). 5(1), 1–17.
- González–Martínez, A. (2019). Determinación de propiedades aerodinámicas de la jabalina mediante dinámica de fluidos computacional. [Determination of aerodynamic properties of javelin by means of computational fluid dynamics]. RICYDE. *Revista Internacional de Ciencias Del Deporte*, 15(56). <https://doi.org/10.5232/ricyde2019.05602>
- Gunnarsson, T. P., Christensen, P. Mø., Hølse, K., Christiansen, D., & Bangsbo, J. (2012). Effect of additional speed endurance training on performance and muscle adaptations. *Medicine and Science in Sports and Exercise*, 44(10), 1942–1948. <https://doi.org/10.1249/MSS.0b013e31825ca446>
- Hackett, D., Davies, T., Soomro, N., & Halaki, M. (2016). Olympic weightlifting training improves vertical jump height in sportspeople: A systematic review with meta-analysis. In *British Journal of Sports Medicine* (Vol. 50, Issue 14, pp. 865–





872). BMJ Publishing Group. <https://doi.org/10.1136/bjsports-2015-094951>

- Hassan, B. A. R., Yusoff, Z. B. M., Othman, M. A. H., Bin, S., information is available at the end of the Chapter, A., & <Http://dx.doi.org/10.5772/55358>. (2012). We are IntechOpen , the world ' s leading publisher of Open Access books Built by scientists , for scientists TOP 1 %. Intech, 13.
- Holcomb, W. R., Rubley, M. D., Lee, H. J., & Guadagnoli, M. A. (2007). Effect of hamstring-emphasized resistance training on hamstring:quadriceps strength ratios. *Journal of Strength and Conditioning Research*, 21(1), 41–47. <https://doi.org/10.1519/R-18795.1>
- International Journal of Psychosocial. (2020). 5706894.
- Journal, I., Rehabilitation, P., Ismaeel, S. A., Fenjan, F. H., & Qadori, R. H. (2020). Biomechanical analysis of some variables and EMG of the muscles during the performance of the snatch lift in weightlifting. 24(05), 8234–8240.
- Lee, J., & Yang, C. (2022). Deep neural network and meta-learning-based reactive sputtering with small data sample counts. *Journal of Manufacturing Systems*, 62, 703–717. <https://doi.org/10.1016/J.JMSY.2022.02.004>
- Li, X., Samuel, O. W., Zhang, X., Wang, H., Fang, P., & Li, G. (2017). A motion-classification strategy based on sEMG-EEG signal combination for upper-limb amputees. *Journal of NeuroEngineering and Rehabilitation*, 14(1). <https://doi.org/10.1186/s12984-016-0212-z>
- Marsh, A. P. (2001). Biomechanics in Sport: Performance Enhancement and Injury Prevention. In *Medicine and Science in Sports and Exercise*. Vol. IX. <https://doi.org/10.1097/00005768-200105000-00033>
- Martelli, F., Lambert, M., Butt, P., Cheney, T., Antonio Tatone, F., Callaby, R., Rabie, A., Gosling, R. J., Fordon, S., Crocker, G., Davies, R. H., & Smith, R. P. (2017). Evaluation of an enhanced cleaning and disinfection protocol in Salmonella contaminated pig holdings in the United Kingdom. <https://doi.org/10.1371/journal.pone.0178897>



- Schlegel, P., Režný, L., & Fialová, D. (2020). Pilot study: Performance-ranking relationship analysis in Czech crossfitters. *Journal of Human Sport and Exercise*, 16(1). <https://doi.org/10.14198/jhse.2021.161.17>
- Taresh, S. A. (2020). The effect of physical exercises using the (DYNA FOOT) device. In the development of some biochemical variables and the skill of shooting by jumping in front - High with the hand ball for juniors. *European Journal of Molecular and Clinical Medicine*, 7(6), 2704–2712. <https://embase.com/search/results?subaction=viewrecord&id=L2010507907&from=export>.