



The impact of CogniPlus technology in the development of the divided attention and accurate front serving of the top (tennis) among some fourth class students

Article Info

Received: September 12, 2015
Accepted: November 19, 2015
Published online: Dec 1, 2015

Baidan Kylan Mahmoud, Jinan Naji Zwayen
Faculty of Physical Education & Sport Sciences
BaidaaGylan@yahoo.com
[jinan Naji Zwayen](#)

Abstract:

Present study aims to develop some of attention aspects and accurate front serving of the top (tennis) by using cogniplus program among fourth class students (girls) in year of 2014-2015. Experimental approach was used in our study because it is suitable to the nature of the study. The number of participants in present study 27 students, 5 of them was excluded because of special distances and 7 students excluded due to absence, so the number of participants were 12 students. We divided students into two groups (experiment and control), 6 students for each, where experiment group used cogniplus program whereas control group used program which prepared by the teacher. Our study concluded that using new technics as Vienna test system and CogniPlus resulted in getting true and accurate results when compare them with normal tools which were used before.

Keyword: CogniPlus, attention, front serving, tennis, fourth class students.

1. Introduction:

With great progress in various sciences which accompanied the amazing discoveries in computer and information technology world. Psychology becomes at the forefront of sciences which employs technology in the interpretation of phenomena and studying events of human according to the programs and advanced tools mimic the developments in the science of anatomy and the physiology of the human brain and the study of mental and cognitive abilities.

Computer science and laboratories are included only a part of this progress, advanced computers are becoming the most important characteristic of modern scientific laboratories in the countries of the developed world which recently included the modern psychological laboratories as one of the most important tools of modern psychological which crystallized through electronic psychological systems and designed for variety scientific areas and considered one of the psychological examination and diagnosis tools (Bourne & Lye, 1971).

Volleyball has been developed significantly and greatly, it is now in many countries of the world occupies the first rank in terms of playing and attract a large number of players and audiences to it because it is the fast rhythms and continuous follow-up and exchanges between offensive and defensive skills for it contents character of technical performance accuracy and speed (Fiedler, 1978).

Mental processes play an important role in the mastery of basic skills and develop them in a lot of games and sports events including volleyball game. However, one of these processes is the attention which is one of the important processes leads to enforcement of the different success skills and helps to make quick solutions of individual and collective skills. Many of the positions require quick solutions and the concentration of high attention in order to make appropriate solutions to situations that occur in the match before the performance of movements should focus on performance and accuracy in order to get the player on a good position assisted in skills perform very nicely, serving in volleyball is one of the skills that require concentration of attention (Glen, 1972).

The importance of present research is to know the effect of treatment system (Cogniplus), which is one of the systems and programs modern computerized, in the development of psychological and cognitive aspects and cognitive including attention and front serving accuracy of the top (tennis) for some of the fourth class students of academic year (2014-2015), so as to achieve the best performance results on the psychological and skill level. The researchers hope to use the modern computerized systems which concern in inspection, measurement, diagnosis and treatment as an alternative objective for the paper-and-pencil measures in the near future in all educational institutions to raise the required level (Schuhfried, 2004).

The attention is one of the mental processes result in a good reaction, the performance of the various skills required to the attention, serving requires a focus on the weak player place in the opposing team, as well as hitting and blocking require the ability to attention (Bourne & Lye, 1971).

Through follow-up educational units for volleyball syllabus within the fourth class in the faculties of physical education, researchers found a problem experienced by learners which is a loss or a lack of attention through learning the basic skills or improve their performance accuracy, and this is reflected in the carrying out of the duties through carrying out offensive plans therefore not being able to possess solutions to achieve the main aim, it is important in learning these skills and improve their performance accuracy by relying on modern software and computerized and sophisticated in order to achieve the best results and levels.

Present study aims to develop some of attention aspects and accurate front serving of the top (tennis) by using cogniplus program among fourth class students (girls) in year of 2014-2015.

2. Methodologies:

An experimental approach was used in present study because it is suitable to the nature of the study to get accurate results.

2.1 Participants:

Community of the study was selected intentionally which included girl students of the fourth class at the Faculty of Physical Education and Sport Sciences-Jadiriya for the academic year 2014-2015, while the sample has been selected by the draw took place on the one class who their number 27 students. We excluded five students because of their private circumstances and 7 students because of the absence and lack of commitment and thus the number of sample remaining was 12 students. Then the sample was divided according to the

marital and individual numbers into two groups (experiment and control) each group including six students, experimental group students underwent to the development sessions related to the development of attention for sample according technical cognitive (CogniPlus). Whereas students of the control group used usual approach prepared by lecturer.

2.2 The homogeneity of the sample:

Researchers accounted Mean and Standard Deviation to describe sample of the study in term of (age, length, weight) in order to get the homogenization between samples of the study.

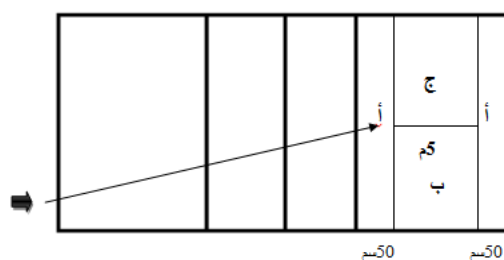
Table (1) shows the subject homogeneity in study variations.

Statistical Variations	Number	Mean	Standard Diviation	Median	Skewness coefficient
Age Year	12	22.78	2.05	22	1.14
Length Cm		158.39	4.01	158	0.29
Weight Kg		55.68	3.46	55	0.59

Table 2 shows that skewness coefficients of the sample has been narrowed between (+3, - 3) in measurements (Age - Length - Weight), which shows the homogeneity of the sample.

2.3 Measurement of Serving Skill Accuracy from the Top in volleyball:

- The aim of the test: Measurement of Serving Skill Accuracy From the Top in volleyball.
- Used tools: legal volleyball court, balls account (10), and evaluation form which is prepared previously.
- Performance Method: the player serve the ball into (A, B, C, and D) positions.
- Recorder: there are three attempts for every player.
- (4) Points for each attempt inside (A) position.
- (3) Points for each attempt inside (B) position.
- (2) Points for each attempt inside (C) position.
- (1) Points for each attempt inside (D) position.
- (0) when the ball goes out these positions.
- When the ball fall on a shared line between two points is calculated degree of the region the top.
- Attempt is canceled in the case of the player doing legal error (Marwan, 2001).



Picture (1) shows Measurement of Serving Skill Accuracy From the Top in volleyball

2.4 Pre-tests:

2.4.1 Divided attention:

Divided attention test achieved on morning 10, Sunday 18-19\1\2014 in psychological lab of the Psychological Research Center at the University of Baghdad. However, the test was done for the two groups (experimental and control groups).

Tests were achieved as following:

- First phase: (Checkup and diagnosis phase according to Vienna Test System for participates).
- Second phase: (indeed measurement phase) that included following:
 - A. The explanation of how to apply and test the performance of the divided attention test within the test of comprehension according to Vienna Test System relating to checkup and measurement and diagnosis.
 - B. Each student has been tested alone, where psychological tests included divided attention test within the comprehension test according to Vienna Test System.
 - C. Period of test: 15 minutes for each player.

2.4.2 Pre-tests of Serving Skill Accuracy from the Top in volleyball:

Pre-tests to measure serving skill accuracy from the top (tense) have been conducted for the same players who have done psychological tests amounted (12) students (6) students for each group (experiment and control).

1. Pre-tests of serving skill accuracy from the top (tense) were conducted on Tuesday 20\1\2014 at the ten morning.
2. All the tests for both groups conducted on the Volleyball court of Physical Education & Sports Sciences.
3. All the tests conducted under supervisor of researchers.

2.4.3 Main Experiment:

The researchers conducted the main experiment (experimental group) within the contemporary psychological laboratory at the University of Baghdad, on Sunday; 23\ 3\2014 by using the following steps:

1. Experimental group was applied computerized training and rehabilitation program within the system CogniPlus which includes computerized programs working to develop the divided attention where each student (unexamined) underwent for this program for a half hour a day, as well as the training program ensure a number of training units an average of three weeks and five training units per week for a period of half an hour a day.
2. Control group used usual syllabus.

2.4.4 Post-tests:

1. Psychological tests conducted on Tuesday 15\4\2014 in the morning nine at the psychological lab of Baghdad University.
2. Serving skill accuracy from the top (tense) conducted for both groups at the courts of Volleyball of Physical Education College – Aljadria on the morning Ten of Thursday 17\4\2014, we followed the same steps as mentioned above in pre-tests.

2.5 Statistical Analysis:

We used SPSS to analyze our data.

3. Results and Discussion:

Table (2) shows mean, SD, and T-test for pre and post-tests of variables of experimental group

Variables	M	SD	T-test	Tabulate T	Significant
Divided attention	4.3	2.89	3.63	2.57	S
Serving accurate	31.26	17.97	4.233		S

T-value under significant level (0.05) and freedom degree (4).

Table (2) shows mean and SD of divided attention test for pre and post-tests of control group, mean showed to be (4.3) and SD (2.89) whereas T-test was (3.63) which is bigger than tabulate T which is (2.57) at the freedom degree (4) and significant level (0.05), it means there is a significant differences between results of pre and post-tests in favor of post-test.

In pre and post-tests of serving skill accuracy from the top (tense) for control group, we found that mean is (31.26) with SD (17.97) whereas T-test was (4.233) which is bigger than tabulate T which is (2.57) at the freedom degree (4) and significant level (0.05), it means there is a significant differences between results of pre and post-tests in favor of post-test.

The effectiveness of the training program had a significant impact in restoring cognitive rehabilitation in accordance with the technical of cognitive knowledge (CogniPlus), which is contained within the programs on exercises led to significant development in the level of the divided attention of the sample and thus the evolution of knowledge and cognitive abilities, Mastrangelo (2003) mentioned that the aim of training and rehabilitation by using computer is to improve the knowledge and cognitive abilities for people by the latest technology, moreover, the developing and improvement of computer and information technology helps to improve training and rehabilitation methods of knowledge and cognitive. As well as the cause of the developing return to the participates stability in the use of the approach taken by the teachers of the subject on a regular basis, making the remarkable evolution reflected positively and directly on the level of serving skill accurate, which helped to build kinetic programs in the brain for the skill enabled players to invest those programs in different circumstances and with high accuracy, Yareb (2002) found that diversifying the training will generate a general and flexible program can be invested learner in changing circumstances for skill performance.

Table (3) shows mean, SD, and T-test for pre and post-tests of variables of control group

Variables	M	SD	T-test	Tabulate T	Significant
Divided attention	19.83	63.75	0.685	2.57	No S
Serving accurate	10.8	10.47	2.517		No S

T-value under significant level (0.05) and freedom degree (4).

Table (3) shows mean and SD of divided attention test for pre and post-tests of control group, mean showed to be (19.83) and SD (63.75) whereas T-test was (0.685) which is less than tabulate T which is (2.57) at the freedom degree (4) and significant level (0.05), it means there is no significant differences between results of pre and post-tests.

In pre and post-tests of serving skill accuracy from the top (tense) for control group, we found that mean is (10.8) with SD (10.47) whereas T-test was (2.517) which is less than tabulate T which is (2.57) at the freedom degree (4) and significant level (0.05), it means there is no significant differences between results of pre and post-tests.

It is difficult for an individual to attention into two things at the same time with high cognitive speed for the same exhilarating, because the divided attention and serving accuracy require precision and concentration but does not require the speed of the response as this leads to the falsification of the results and this was confirmed by (Arwa, 2012) that divert attention between two very different tasks be drained for time and more difficult to divert attention between two similar tasks. In addition, (Melzer, 1998) confirmed by (Allen) that no correlation and harmony steadily between mission accomplishment and attention to complete other task at different ages. This foundation agreed with study of Adel (2011) which found perceptual process due to fatigue affects the senses, and results in negative effects following mental processes of sensory perception, such as attention and memory, etc., as it results in obstruction and delay or total disruption of the mechanisms of control.

Table (4) shows the differences between Experimental and control groups in studied variables

Variables	Control		experiment		T-test	Tabulate T	Significant
	Mean	SD	Mean	SD			
Divided attention	20.83	25.46	4.03	2.89	400.4	2,23	S
Serving accurate	31.16	17.97	10.8	10.47	2.249		S

T-value under significant level (0.05) and freedom degree (10).

Table (4) shows mean and SD of divided attention test for both groups, mean showed to be (20.83) and (4.03) and SD (25.46) and (2.89) whereas T-test was (400.4) which is bigger than tabulate T which is (2.23) at the freedom degree (10) and significant level (0.05), it means there is a significant differences between results of both groups in favor of experiment group.

In serving skill accuracy from the top (tense) for both groups, we found that mean is (31.16) and (10.8) with SD (17.97) and (10.47) whereas T-test was (2.249) which is bigger than tabulate T which is (2.23) at the freedom degree (10) and significant level (0.05), it means there is a significant difference between results of both groups in favor of experimental group.

The reason is in that the use of modern programs and computerized which led to the development of the experimental group to the control group, as well as training programs contained system (CogniPlus) led significantly to the development of the serving skill accuracy from the top (tense) and the superiority of the experimental group on control, as well as commitment of participates in the training program prepared by the computerized system led to the development of the experimental group to the control group in this test because of effect of repeated and continuing rehabilitation and development sessions without interruption of the experimental group according the use of cognitive technical system (CogniPlus), which led to the evolution of the level of divided attention to the research sample, which reflected positively in the superiority of the experimental group to the control group in this test. Which helped to build dynamic programs in the brain for the skill enabled players to invest those programs in different circumstances and with high accuracy.

4. Conclusion:

Our study concluded that using new technics as Vienna test system and CogniPlus resulted in getting true and accurate results when compare them with normal tools which were used before. We found that using Vienna test system and CogniPlus result in improve and develop divided attention and serving skill accuracy from the top (tense).

References:

- Adel Abdul Rahman Al-Salhi, (2011). Use the power of the mind to improve the health of the body (the foundations and concepts), Amman, Dar Tigris Publishers & Distributors, 1:159.
- Allen ,Bryce (1994). Perceptual speed, learning and information retrieval performance, SIGIR '94 Proceedings of the 17th annual international ACM SIGIR conference on Research and development in information retrieval ,Springer-Verlag New York, Inc. New York, NY, USA, 234-248.
- Arwa Mohamed Rabie, (2012). Cognitive Psychology, Syria Damascus, Dar ideas for Studies and Publishing, 1:37-49.
- Bourne, (1971). the psychology of thinking. New Jersey: Prentice- Hall, Englewood dips, 157-169.
- Fiedler, M. (1978). Volleyball. Sportverlage, Berlin, 210-227.
- Glen H.Egstrom, (1972). Volley Ball-second Edition. USA by Frances Schaa, 78-95.
- Harber.A.&R.P. Runyon, (1983). Fundamentals of psychology, London. 3:134-152.
- Margaret, W Motlin, (1994). Cognition, Harcourt publishers, 3:216-237.
- Marwan Abdul Majeed, (2001). Scientific Encyclopedia of Volleyball. Aman. Warraq Foundation for Publishing and Distribution. 1:123-1127.
- Mastrangelo, P.M. (2003). Deviant computer use at work: from bad to worse: Systems, Man and Cybernetics, IEEE International Conference.
- Schuhfried GmbH, (2009/2010). Vienna Test System: Psychological Assessment Catalogue .Modeling, Austria.
- Schuhfried, (2005). Reha Com, Computer-aided Cognitive Rehabilitation, Catalog, Austria .Modeling, Hyrtlstrabe.
- Schuhfried, (2004/2005). Vienna Test system, Computerized Psychological Diagnostics, Catalog Austria 2340Modling, Hyrtlstrabe.
- Schuhfried, (2010). Training of Cognitive Abilities Catalogue .Modeling, Austria,87-101.
- Yareb Khyoun, (2002). Motor learning between principle and applicant, Baghdad, rock to print, 1:26-34.