

Effect of the Blended Learning in Students of the Faculty of Physical Education in the University of Jordan Acquiring the skill of Under Hand Passing of the Volley Ball

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Abstract

This study aimed at reconnoitering the effect of the blended learning in acquiring the students of the Faculty of Physical Education in the University of Jordan the skill of under hand passing of the Volley ball. The researcher used the empirical method, that is by designing the equivalent groups (empirical and disincentive), where the empirical group subdued to the blended learning and the disincentive group to the ordinary method. And the sample of study was chosen by the deliberate method from the sections of the Volley ball, level one of the first semester of the academic year 2012/2013, then applied procedures of research on the first section with (21) students. It represents the empirical group and the second section with (24) students represent the disincentive group.

And results of study showed the following:

- 1. Existence of differences with statistical indication between averages of both criteria 'fore and aft' and for the interest of the aft-criterion, that reflects the positive effect of the blend learning in improving the under hand skill of passing the ball.*
- 2. Existence of differences with statistical indication between the averages of both criteria 'fore and aft' and for the interest of the aft-criterion, that indicates to the effect of the ordinary method in improving the skill of under hand passing of the ball.*
- 3. Existence of differences with statistical indication between both groups in the aft-criterion for the interest of the empirical group.*
- 4. Values of the effect size between both criteria the 'fore and aft' of the empirical group individuals amounted to 98.2% and the size of the effect between both groups, the empirical and the disincentive 93.1%. These values express a big size of effect due to (Kohen) standard.*

Introduction and Problem of Study

Learning represents the basic support in the progress of peoples and nations, therefore nations seek to develop their education. And scrutinizing education in general, we find it depends in many of its stages on the classical education, in which the heaviest burden lies on the tutor, and the role of the tutor in founding new methods of learning aiming at making the learner active and positive, and the tutor be a director and instructor, therefore abundant new technological developments appeared in the last period, the aim of which is to make the learner the axis of the educational process instead of the tutor, and concentration on the strategies of active and cooperative learning. From these new developments is the electronic learning (Hasan, 2010).

Salameh (2005) views that with the termination of the twentieth century, concern with the electronic learning started, and concentrated on introducing technology as an effective element in the educational process. And so the electronic learning terms started to spread such as; (Online learning), (Web based Learning), (Digital Learning) and (Video Learning) and other nominations.

By the time passing and because of some parts of deficiency, that appeared in the electronic learning, especially in some parts of human interaction between the tutor and the learner. This line is rarely the unique line, for the blended learning, which gathered between the electronic learning with all its different shapes and the classical education; for in it concentration on online interaction between the tutor and the learner is being done (Garidon & Vauqhann, 2008).

Hussein and Ali (2008) indicate that the electronic learning is characterized with easiness of modernization and modification of suggested information, increased the possibility of communication to exchange, opinions, experience and points of view between students and their tutors, and between students themselves, and overcome the problem of increasing numbers with the narrowness of classrooms, and provide the student with the continuous feedback during the learning process, variety of different sources of learning and education at any time and place due to his abilities and his dependence on the numerous means in preparing the scientific subject, and belittling the administrative burdens on the tutor and abundance of students evaluation methods.

Hasan adds (2010) that in spite of the abundance of characteristics and positives of electronic learning, some people view that there is some deficiency in some parts upon which electronic learning could not overcome, and from this point was the need of a new access gathers between the characteristic traits of both electronic and classical learning and overcome the parts of deficiency in both of them. Then appeared what is called (blended learning), which means blending each of classical learning, with its different forms and the electronic learning, with its variant patterns to increase the effectiveness of educational stand, and opportunities of social interaction and else.

And in this field Al-Qattani (2010) indicated that many universities in different states proved the success of using the blended learning in the university education. The University of Malaysia had adopted it and became basic in it, and learners' numbers increased in this line in the University different fields of specialization, with ascertaining of the University of the Success of this line in achieving the quality of learning and its type. And simultaneously shared in consenting the different wishes of students, but Harvard University in the United States of America and Cambridge University in the United Kingdom. Different patterns of blended learning were used in different fields of specialization led to directing many students to this program.

Definitions of blended learning were made numerous, that is by the difference of view. Khamees (2003) defined that it is an integrated system aiming at assisting the learner during every stage of his learning stages, and it is performed of blending between the classical learning and electronic learning, with its different forms inside classrooms. And (Alekse & Chris, 2004) defined it: a type of education that employs an effective group of means of numerous introductions, teaching methods, and patterns of learning that make easy both processes of learning and education. And it is built on the basis of blending between the classical styles, in which students meet face to face with their tutor and between the electronic learning.

But Ismael (2009) defined it as: employing the new technological developments in blending between objectives and content, sources, learning activities, and methods of communicating information through both styles of learning face to face, and electronic learning to occur interaction between the tutor as an instructor of students through the new developments, which are not conditioned to be specified electronic instruments.

From the precedents, the researcher deduces that employing blended learning became a real occurrence for those who seek to acclimatize with the worldly scientific changes and developments, and it is unacceptable of us today to go on catching the classical educational styles, which concentrate on the tutor and the studying subject as basic axes in the learning educational process, and it became a must for us to care about learners by training them the correct usage of education technology, and preparing them to be able of self-learning, depending on one self, methods of research, and discovering in these modern technological means.

And what also encouraged the researcher to prepare this study is the fewness of scientific research and studies that discussed blended learning in the physical education in general, and the Volley ball game in particular, compared with studies done on other sciences within the space of the researcher's knowledge.

Objectives of Study and Questions

The study aims at reconnoitering the effect of blended learning in acquiring students of the Faculty of Physical Education in the University of Jordan the skill of under hand passing in the Volley ball game through answering the following questions:

1. What is the effect of blended learning in acquiring students of the Faculty of Physical Education in the University of Jordan, the skill of under hand passing in the Volley ball?
2. What is the effect of the classical education in acquiring students of the Faculty of Physical Education in the University of Jordan the skill of under hand passing in the Volley ball?

3. Are there differences with statistical indication in the learning of students of the Faculty of Physical Education in the University of Jordan of the skill of under hand passing of the Volley ball between the empirical and disincentive groups?
4. What is the size of effect of blended learning on the skill of under hand passing the Volley ball at students of the Faculty of Physical Education in the University of Jordan?

Significance of Study

The significance of study conceals in the following points:

- This study may form a qualitative addition to the literature concerned that discusses the blended learning as an educational strategy in the university education.
- Enriching the library with more scientific information about the blended learning as an educational strategy through blending between education and learning as classical and electronic educational activities, purposeful and investigation ally directive depending on research processes in the problem of internet, aiming at reaching the correct and direct information at the shortest time and the least effort.

Terms of Study

The blended learning is an educational strategy, in which the electronic learning integrates with the classical education in one framework, where the instruments of the electronic learning are employed, either those depending on the computer or depending on the internet in learning activities.

Under Hand Passing Skill in the Volley ball Game

This type of passing is performed when the ball is at a level below the shoulder. It is a defensive process, opposite of passing from above, which is considered the first step of attack. And it is preferred to employ passing from under in the game, especially in receiving the sending and defending the playground and the returned balls from the net. And the under passing is mostly by adjacent arms together with both thumbs sticking with each other to get a big flat by sucking the strength of the stroke and directing it in the correct direction (Taha, 1999).

Procedures of Study

Method of Study

The researcher used the empirical method, because of its appropriateness to the nature of study and its objectives, that is by designing the equivalent groups (empirical and disincentive), where the empirical group subdued to the blended learning, but the disincentive group subdued to learning by the normal method.

Sample of Study

The study sample was chosen by the purposeful method, from the Volley ball sections, level (one) in the Faculty of Physical Education in the University of Jordan, in the first semester of the academic year 2012/2013. And both sections (one) and (two) were chosen to implement the procedures of study on them, for the number of the first section amounted to (21) students. And it represents the empirical group, which was taught by the blended learning. And the second section amounted to (24) students, and represents the disincentive group, which was taught by the normal method. Both tables (1) and (2) show the results of equivalence.

Table (1) The average and standard deviation and T. Value to compare between the averages of both groups in the variables of age, length and weight

Variables	Group	Number	Average	Standard Deviation	T. Value	Level of Indication
Age	Disincentive	24	19.25	1.45	1.14	0.259
	Empirical	21	19.76	1.55		
Length	Disincentive	24	174.71	6.09	1.41	0.165
	Empirical	21	177.81	8.56		
Weight	Disincentive	24	71.67	17.54	0.99	0.327
	Empirical	21	67.19	11.70		

Table (1) shows that T. Value counted to variable of age has amounted to (1.14) with level indication (0.259) and to variable of length (1.41) with level indication (0.165), and to variable of weight (0.99) with level indication (0.327). All values of level indication of these variables are considered not statistically indicative, because they were bigger than (0.05) that assists in producing that both groups are equivalent in these variables.

Table (2) The average and standard deviation and T. Test value to compare between the average of both groups in the fore-criterion of the skill of under hand passing in the Volley ball game

Group	Number	Average	Standard Deviation	"T" Value	Level of Indication
Disincentive	24	15.67	6.36	1.90	0.063
Empirical	21	19.33	6.53		

Table (2) pin-points that T. Value counted for the skill of under hand passing the Volley ball amounted to (1.90) with level indication (0.063) and the value of indication level is considered statistically un-indicative, because it was bigger than (0.05). That indicates to inexistence of difference between averages of both groups in the fore criterion that assists in producing their equivalence in the fore-criterion.

Instrument of Study

Using the experiment of under hand passing to measure the ability of the lab on the speed of passing and ability enables him of the skill of under hand passing was done, and the number of correct passing times was counted for (30) seconds, Appendix (1).

Truthfulness and firmness of the instrument of Study

It was depended on two types of truth and they are the truthfulness of content that is by showing the experiment on seven experts specialized in education methods and physical education in the Volley ball, and scientifically qualified. They indicated to the appropriateness of this experiment in measuring the skill of under hand passing. Appendix (2).

It was also depended on self-truthfulness for the experiment obtained a coefficient of self-truthfulness amounting to (0.92), and table No. (3) Illustrates that.

**Table (3)
Self – truthfulness**

Experiment	Firmness	Self – Truthfulness
Under Hand Passing	0.847	0.92

Experiment Firmness

Dependence was done at the method of experiment implementation and its reimplementation as a way of counting experiment firmness, where implementation of experiment was done on (8) students with time separation of three days, table No. (4) Illustrates coefficient of firmness.

**Table (4)
Results of firmness of the receiving skill from under in a way of experiment implementation and reimplementation of (8)**

First Implementation		Second Implementation		Firmness Coefficient	Level of Indication
Average	Standard Deviation	Average	Standard Deviation		
18.67	4.52	19.89	4.12	0.847	0.003

The table shows that value of firmness coefficient between both implementations; first and second has amounted to (0.847) and it is indicative at the level of (0.05) for the value of indication (0.003), and it is a value below (0.05) that indicates to the existence of connection between both implementations and so deduced the firmness of this skill performance.

The educational method of both groups, the empirical and disincentive

- The empirical group was taught the determined skill within the Volley ball game curriculum (1) through the internet, that is through students' referring to a number of specified electronic sites before hand by the tutor of the course, including a number of illustrative pictures; moveable and immoveable (video), which show the correct performance of the skill, where the student can see the serial immoveable group of pictures, available there and illustrate the technical parts of the skill performance.
- The student also can see the complete performance of the skill and in a moveable form through a (video tape) existing on the site too, and can repeat any part of the skill by slow or swift picturing according to his wish and speed in learning.
- Students congregate at the computer – lab in the Faculty before the assigned time of starting the lecture with quarter of an hour, where every student sits in front of a computer, and sees the educational site, specialized for the under hand passing skill for about ten minutes.
- Students transfer afterward to the physical hall to implement the skill practically and by partial supervision of the course tutor. Learning continued in this way to nine educational hours, for three weeks and fifty minutes for each lecture.

But the disincentive group was taught in the normal way, which depends on explanation, specimen and implementation, for the same number of educational hours and duration for the individuals of the empirical group.

Employed Statistics

Average, standard deviation, T. test and size of effect were used by comparing the average of both groups in the 'fore and aft' criteria.

Previous Studies**Firstly: Studies discussed electronic education**

(Wilkinson & Hiller, 1999) did a study, aimed at experimenting skills of the Volley ball game, and reconnoitering answers of girl students about using blended disks (plates) in educating skills of the Volley ball and its plans by employing the computer. The sample of study consisted of (99) girl students from the ninth grade, and results of study showed existence of differences, statistically indicative in performance and for the interest of the group, which used the blended disks in learning skills of the Volley ball game compared with the classical style. (Makasci, 2000) prepared a study, aimed at checking effectiveness of the effect of education built on the computer in improving ability of analyzing skills of motional perception related to football game. Sample of study consisted of (40) individuals of males and females, their ages amounted between (19-40) years. They did not have any previous experience in the football, then dividing them into two groups; disincentive used the classical method and empirical group then educational by employing a blended computer disk. Results of study showed that education by employing the blended disk was more effective.

And Subh and Al-ajlouni study (2003) to reconnoiter the effect of employing the computer in educating Mathematics on students achievements and trends, the results pin-pointed to existence of differences with statistical indication in students trends towards the computer for the interest of the empirical group, meanwhile no differences with statistical indication existed in the trends ascribed to sex. And in Al-Hayek study (2004), which aimed at reconnoitering the effect of employing an assistant computer program in teaching the skills of the Volley ball on students of the Faculty of Physical Education in the University of Jordan performance. The study deduced that there are difference with statistical indication for the interest of the empirical group, which employed the computer in learning skills of the basketball.

And in study by (Padfield & Penningto, 2000) aiming at reconnoitering trends of the students towards employing the computer skills in teaching skills of the Volley ball in the physical education. And the results showed that there is positivity towards this type of education, and the two researchers recommended employing the computer skills in the physical education. And in (Albrini, 2006) study, to investigate trends of English Language instructors in Syria towards employing information technology and communications in education. The study concentrated on the significance of instructors' stand from technology, and the extent of their experience with it, in addition to cultural determinants considering them responsible for introducing the computer into schools, and so sharing information of positive trends towards information technology and its employment in the educational process.

Secondly: Studies discussed blended learning with some variables

Study of the (University of Central Florida, 2001), which indicated to students who learned through the style of blended learning, their achievement was higher than students who were educated by the classical way, (face to face) and to the complete electronic education, and to increase the rate of reserving learning with blended learning students, over students of classical education and the complete electronic learning. And (Lynna, 2004) prepared a study, aiming at acknowledging the effectiveness of blended learning, which collects between learning by internet and classical education. The results of study deduced that blended learning is extremely appropriate to the different learners in their inclinations and their psychological characteristics, and deduced to existence of positive trends towards learning by this way. And (Greson, 2005) prepared a study aiming at acknowledging the effect of blended learning in the students achievement at the Maysouri University in the United States of America, and results indicated that blended learning showed surpassing in the students' performance and achievement of their study, in addition to doing the best in research skills and planning.

And (Boyle, 2005) made a study aimed at developing a studying curriculum that suits the blended learning style and investigating its effect in the students' performance. Boyle also did develop a blended learning environment to deal with the problems that students face, and conditioned numerous demands to guarantee the success of the acting curriculum on blended learning: the continuous materialistic and technical support, encouragement of cooperative work and team-work, and participating instructors in development process, and the curriculum to be with high quality. And from the results of study, that the developed curriculum in the blended learning style achieved a noticed improvement in learning by heart, remembrance and grasping at students. (Akkoyunlu & Soyly, 2006) have done a study, aimed at investigating the point of view of students towards the environment of blended or intermixed learning. And study showed the existence of positive trends at students towards employing the intermixed learning method, and also existence of effect to the method of intermixed (blended) learning in education achievement of students and the level of their participation.

And Ashemeri (2007) prepared a study, aimed at investigating the effect of blended learning in teaching the geography subject on the achievement of the medium third grade in Hafrel Baten governorate and their trends towards it. The study resulted in the following results: existence of differences statistically indicative in the full marks of students ascribed to the effect of employing blended learning in teaching the geography subject, and enjoyment of students who studied geography in the way of blended learning of positive trends towards geography learning.

Commentary on previous studies

It is clear from the previous studies that electronic and blended learning deduced skillful and achieving results better than students who were taught by the normal method. And the researcher got benefit from these studies in reconnoitering the means, methodology and procedures of present learning and discussion of results. This study is characterized with a new addition in the field of blended learning of the different physical games in general, and in the field of the Volley ball in particular.

Showing and Discussion of Results

The First Question

The first question words: what is the effect of blended learning in acquiring students of the Faculty of Physical Education in the University of Jordan to the skill of under hand passing for the empirical group?

To answer this question T-Test was used, for the following table explains the results of this question:

Table (5)

Average, standard deviation and value of T-Test to compare between the averages of both 'fore and aft' criteria of the empirical group individuals

Measurement	Number	Average	Standard Deviation	T-Test Value	Level of Indication
Fore	21	19.33	6.53	7.47	0.000
Aft	21	24.86	5.82		

Table (5) shows that the value of counted T. of under hand passing of the ball amounted to (7.47) with the level indication (0.000). And the value of level indication is considered statistically indicative, because it was below (0.05) that indicates to the existence of difference between both averages ‘fore and aft’, where indication was for the interest of aft-criterion owner of the upper medium, that reflects the positive effect of the blended learner in improving the skill of passing the ball at the individuals of the empirical group.

The researcher views that blended learning has been recently introduced into the educational learning process, and had an effective role in the modern educational process, as it was before, and the heavy burden in it lies on the instructor, and his role in finding new methods of learning for the sake of motivating students and catching their concern and attract them to the education process.

And also new technological developments appeared in the present time, aiming at making the learner the axis of the educational process instead of the instructor, and concentrating on the active learning and cooperative learning strategies. From these new developments blended learning, which collects classical and electronic learning.

Appearance of this result in this study agrees with what (Wilkinson & Hiller, 1999) indicated, that employing the blended disks in educating skills of the Volley ball by using the computer, and developed the performance of the empirical group compared with the classical style, this result also agreed with what (Makasci, 2000) deduced that employing the blended learning achieved better results in improving the ability to analyze the compound skills related to the football game, compared with the classical method.

The Second Question

The second question words on: What is the effect of the classical education in acquiring students of the Faculty of Physical Education in the University of Jordan on the skill of under hand passing the ball of the disincentive group in the Volley ball?

To answer this question, “T” – Test was used, for the following table illustrates the results of question:

Table (6)
Average and standard deviation and value of “T” – Test to compare between both averages of ‘fore and aft’ criteria of individuals of the disincentive group on the skill of under passing the ball

Criterion	Number	Average	Standard Deviation	T-Test Value	Level of Indication
Fore	24	15.67	6.36	3.42	0.002
Aft	24	17.75	7.01		

Table (6) clears that the counted T. value of the skill of under hand passing the amounted to (3.42) with the level of indication (0.002). The value of the level of indication is considered statistically indicative, because it was below (0.05), that indicates to the existence of difference between both averages of ‘fore and aft’ criteria, where indication was for the interest of the aft-criterion, owner of the upper medium, that indicates to the effect of the normal method in improving the skill of passing the ball at the individuals of the disincentive group.

The researcher views that education by the classical method, which depends in it on the instructor’s paraphrase and making the educational specimens and applied trainings, causes an effect in the process of improving and developing the level of technical and skillful performance of students. This method was used for a long spell of time, and there were no methods depend on modern technology in the education process.

The Third Question

The third question words on “Are there differences with statistical indication in students of the Faculty of Physical Education in the University of Jordan learning the skill of under hand passing the ball between the two groups?”

To answer this question, T-Test was used to acknowledge the differences between both averages of groups in the aft-criterion, for the following table illustrates the results of this question.

Table (7): Average and Standard deviation, and the value of T-Test to compare between averages of both groups in the aft-criterion

Group	Number	Average	Standard Deviation	T-Test Value	Level of Indication
Disincentive	24	17.75	7.01	3.66	0.001
Empirical	24	24.86	5.82		

Table (7) clears that the value of counted T. of the skill of under hand passing the ball amounted to (3.66) with level of indication (0.001), and the value of level of indication is considered statistically indicative, because it was below (0.05) that indicates to the existence of difference between both groups in aft – criterion, and this indication was for the interest of the empirical group, where the medium of its learning of the skill of under hand passing in the Volley ball is the biggest, it amounted to (24.86).

Through the long experience of the researcher in the field of the Volley ball education and its employing numerous educational methods, he noticed that these methods cause an effect and development in the level of student's performance, but there are always questions asked which of these styles causes improvement and development quicker and better. From this point came this study to compare between the two used styles, where the result came through employing technology by blended education, as caused better improvement at students compared with the normal better method the result shown in this study agrees with studies of: (Al – Hayek, 2004), (Subh & Al-Aajlouni, 2003), (Albirini, 2006), (Creson, 2005) and (Al-Shemmari, 2007). Their results indicated that employing education built on using modern technology represented in using the computer and blended education have a better effect than normal methods.

The Fourth Question

The fourth question words on: What is the size of the blended learning effect on the skill of receiving the ball by hands from under in students of the Faculty of Physical Education in the University of Jordan Learning? To answer this question, values of counting the size of effect twice; the first at comparing the fore – criterion with the aft – criterion of the individuals of the empirical group, and the second at comparing the average of both groups in aft – criterion and the following table illustrates the results.

Table (8)

	Size of Effect
Between the fore and aft of the empirical	0.982
Between the two groups	0.931

Table (8) clears that the value of the effect size between both criteria; the 'fore & aft' of the individuals of the empirical group (effect of blended learning) has amounted to (98.2%) and amounted between the average of both groups; the empirical and the disincentive (93.1%). The effect of these expresses a big size of effect, that is in accordance with (Kohen's standard), which considers the effect becomes big if equaled (80%), medium if equaled (50%) and weak if equaled (20%), that is at comparing both averages of the groups. The researcher asserts that the big size of effect, caused by blended learning points that using modern technology agree with the modern trends, which human resources working in the field of educating skills of the physical games have to depend.

Deductions

In the light of showing and discussion of results, the researcher deduces the following:

- Blended learning improves and develops the level of student's performance in learning the skill of under hand passing the ball.
- Employing the classical method, which depends on the instructor's paraphrasing, and making the educational specimens cause improving and developing the level of performance to the skill of under hand passing the Volley ball.
- Employing the modern technology represented in blended learning is better than employing the normal method.
- Blended learning causes a bigger size of effect to the skill of under hand passing of the ball than the normal method.

Recommendations

In the light of the objectives and questions of study, the researcher recommends the following:

- Employing blended learning in educating and learning skills of the Volley ball in general and the skill of under hand passing in particular.
- Search for educational means and methods depending on modern technicalities in the educational process to escort developments prevailing in this field.
- Preparing studies by employing blended learning on skills of the Volley ball and other physical games.

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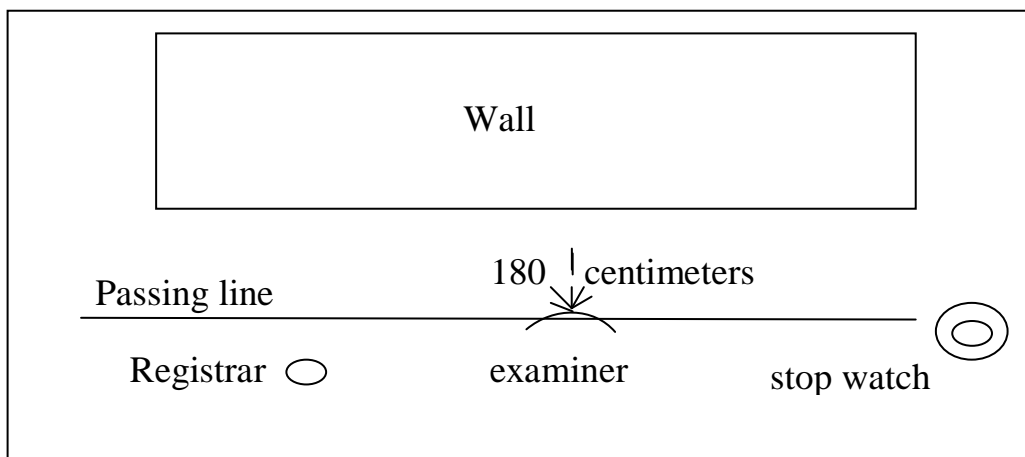
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Appendix (1)**Test of Under Hand Passing**

- Purpose of test: measuring the ability of the examiner in quickness of passing, and the capacity of his possibility of the skill of under hand passing.
- Instruments: smooth wall, a line drawn on land parallel to the wall, and far from it at some of (018) centimeters, a Volley ball, a stop watch.
- Performance Specifications: the examiner stands behind the line that is (180) centimeters far from him (passing – line) and facing the wall, in condition that he catches the ball by hands to throw it to the wall, to returned to him once again behind the line of passing, to follow the passing process by hands from under once again ... and so the performance continues for thirty minutes. Form (1)

Form No. (1)**Facing Test Plan of the Under Hand Passing****Conditions**

1. Passing is done at all periods of performance from behind the passing line.
2. Time counting starts from the first pass for thirty seconds.
3. If the ball drops after returning from the wall before the passing line, the examiner has to catch the ball and begin passing it from behind the passing line.
4. Skill of under passing has to be employed and not other types of passing.
5. If the examiner stepped during performance over the passing line, the pass is not counted.
6. The examiner has to stop from performing at time of announcing the termination period of (30) seconds.

Registration

Number of the ball touching times the wall in a period of (30) seconds (correct attempts only in accordance with the previous conditions) and the final grade of the exam is the number of correct attempts in (30) seconds.

Appendix (2)**Names of Expert Referees**

No.	Name	Specialization	Place of Work
1.	Prof. Bassam Mismar	Curricula and methods of teaching the physical education	Univ. of Jordan
2.	Prof. Arabi Hamodeh	Measurement & Evaluation	Univ. of Jordan
3.	Prof. Fayez Abu Aareedah	Physical Training	Yarmouk University
4.	Prof. Abel Salam Hasan	Curricula and methods of teaching	Univ. of Jordan
5.	Dr. Saleem Al-Jazzazi	Physical Training	Mu'ta University
6.	Dr. Iisam Jumaa	Physical Training & International Trainer in the Volley ball	Univ. of Jordan
7.	Lecturer Thyab Shatarat	Physical Training & International Lecturer in the Volley ball	Univ. of Jordan