

The Effectiveness of Using Brainstorming Strategy on the Development of Creative Thinking Abilities and Speed of Learning some Skills Kinetic Padres Physical Education

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Hassan Mohamed (2014) adds that brainstorming is one of the essential techniques and strategies of motivating thinking and creation as collective thinking or individual way in solving a lot of different scientific and life problems .(3:58)

The modern education faces problems and challenges imposed by this era nature and it is trying to get them over. It is important to support learning process by perfect teaching strategy to reach the goal of learning process. This burden falls on the teacher so he has to develop students thinking inside the curriculum through following teaching strategy which shows the curriculum within it so as to develop the creation and thinking.(8:91)

Research Aim:

The research aims at knowing brainstorming strategy usage effect on the creative thinking and learning some motor skills in athletic education lesson to the second session students of the basic education"

Research assumptions:

- 1- There are assumptions statistically clear between the dimensional and premier measurements of the empirical group in the creative thinking and knowing some motor skills in athletic education for the dimensional.
- 2- There are assumptions statistically clear between the dimensional and premier measurements of the controlling group in the creative thinking and knowing some motor skills in athletic education for the dimensional measurement .
- 3- There are assumptions statistically clear between the two dimensions measurements of the empirical and controlling groups in the creative learning and knowing some motor skills in athletic education for the dimensional measurement of the empirical group

Research approach:

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The researcher uses the empirical approach where it is the suitable approach of research nature. The researcher used one of the empirical designs which are the empirical design for two groups: one of them is empirical and the other is controlling the dimensional and premiere measurement of the two groups.

Research society and sample:

Research society represents first prep stage students in the Prep school of the Future of 2014/2015 in New Damietta Department of Education , who are (75) student and it includes (50) student . They are chosen among the first prep stage students and separated randomly into two equal groups: one is empirical consisting of (20) student, get learning using brainstorming strategy and the other is controlling consisting of (20) student, get learning using verbal explanation and model assessment. (10) Students are chosen for exploratory studies.

Research sample compliance and harmony: Appendix (1)

The harmony and compliance are done on the basic research sample to the empirical and controlling groups , consisting of (50) student of the first prep stage students from 14/10/2014 to 21/10/2014 of the changes that affect results accuracy and the suggested educational program process.

The used tests

1-The test of the innovative thinking:

The researcher used the innovative thinking test on the children of (9-12) years old, prepared by "Sayed khair Allah" 2006.

2- The tests of the physical abilities:

- The researcher used the following tests.
- Vertical jump test of steadiness.
- Pushing medical ball to the maximum distance.
- Running to 45 Meter distance.
- Running over rectangle (10* 16) feet.
- Bending the trunk forward from the standing.

3-Motor skills tests:

- Control the ball test.
- Dribbling speed Test.
- Scrolling speed. test
- Test of accuracy shooting from the free-throw.
- Test of peaceful shooting.

4 -Non-verbal intelligence test. Prepared by Ateyat Mohamed-

-The involved steps to apply brainstorming sessions:

Brainstorming session passes through number of stages that need accuracy in its application as required to ensure its success. These stages

include as identified by" Akram ,Maamon 2008", Mohamed Abdraboh" 2012," Zeinab Mohamed" 2013 ," Hassan Mohamed Hassan 2014"asfollows.

1-Issue discussion and identification (the subject) :

We may find that some of the participants are fully aware of the subject details where some others have simple idea about it and in this case , the leader has to give the participants the minimum limit of information about the subject because giving a lot of details may happen largely of their thinking board and being limited to restricted narrow fields.

2 - Subject reformulation :

Participants are asked to be out of the subject context as it is known and to identify its different dimensions and sides again. There may be another sides of the subject.

3-preparing creativeness and brainstorming:

The participants in brainstorming session need to be prepared to creativeness atmosphere . It takes about 5 minutes when participants are trained to answer the questions by device leader.

4- Brainstorming:

The device leader writes the questions that are chosen through reformulation of the subject they get in the second stage. The participants are asked to present their ideas freely to be written down by notes writer on the specific board in conspicuous place with numbering the ideas according to its order. The leader can after that invite the participants to mediate or think of the presented ideas and generate the more of them .

5- identifying the strangest idea:

The leader can invite the participants to choose the strangest presented idea and the more far away from the mentioned ideas when there are no ideas. They are asked to transfer these ideas to practical useful ones. At the end , the leader should thank the device operator and the participants for their contribution .

6- assessment session :

The aim of this session is to assess the ideas and identify what is needed, and sometimes the ideas are existed but not apparent to be disabused .The scientific factors of motor and physical skills of creativeness are under discussion

Pre measure

The pre measurements were conducted on the essential sample of research i the 26/10/2014 to 27/10/2014.

Main experiment

The main experiment was conducted on the main sample of research in the 28/10/2014 to 23/12/2014.

measure

Post measurement

The post measurements were conducted on the essential sample of research in the 24/12/2014 to 25/12/2014.

Results:

Table (1)

Significance differences between the averages of the pre and post scales for the experimental on the innovative thinking and the motor skills in the Basketball under consideration.

N =20

	Test	Measurement unit	pre tests		post tests		The Difference	Value (T)
			\bar{x}	σ	\bar{x}	σ		
1	Total creativeness	Degree	15.300	2.494	21.700	2.250	6.400	*12.95
2	Fluency	Degree	7.850	1.814	11.650	2.539	3.800	*14.20
3	Flexibility	Degree	4.850	1.182	8.500	1.000	3.650	*10.43
4	Originality	Degree	2.600	0.753	1.550	0.759	1.050	*4.09
5	Ball control	Degree	11.300	0.923	15.900	0.911	4.600 -	*16.16
6	Dialogue fastness	Second	14.400	0.680	11.050	0.759	3.350	*13.75
7	Passing fastness	Second	12.250	0.850	9.850	0.670	2.400	*9.39
8	Free throw	Degree	4.225	0.316	6.850	0.745	2.625 -	*13.35
9	Peaceful aim	Degree	0.648	0.077	1.900	0.718	1.251	*8.28

T value at degree 18 and certain level 0,05 =1,75

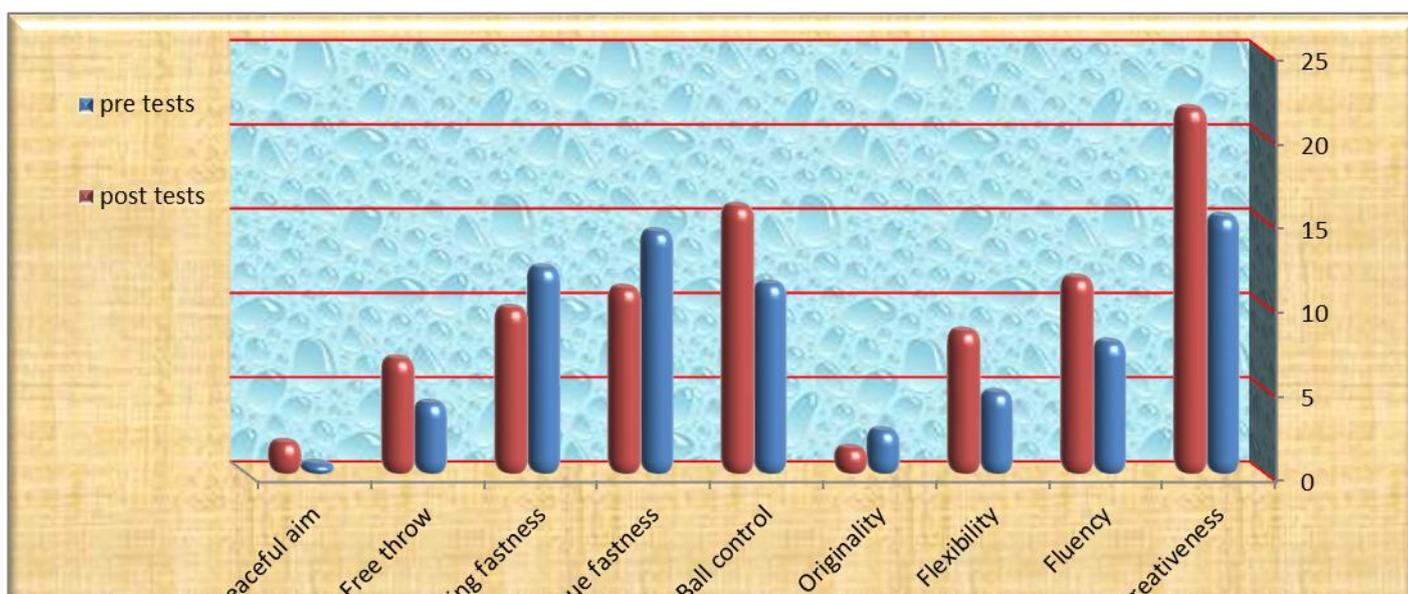


Figure (1)

Table (1) and figure(1) shows that identifies that there are identifying differences between the dimensional and premiere measurements for the empirical group in all motor skills and creative thinking measurement for dimensional measurement .

Showing up table results that there are differences between the dimensional and premiere measurements for the empirical group in creativeness exercise (dimensions and total degree) are under the discussion .

T value is limited and it is bigger at certain level 0.05 which shows that there are differences for dimensional measurement. Table(1) also shows that there are identifying differences between the two measurements in motor skills exercises under discussion where T value is limited and it is bigger than T in table at certain level 0.05 which show that there are differences for the dimensional and premiere measurement . The researcher aims the identifying progress in increasing creative exercises results and its dimensions at using brainstorming strategy in the main part (learning some motor skills in basketball) from athletic education lesson which undergo to basic rules and principles in application which lead to increasing motor performance level indirectly and lead to positive result on students (under discussion). This is clear through intelligence test improvement rates and total creativeness dimensions .

Brainstorming strategy usage in the educational program undergoes to four stages in the basic part of athletic education lesson which are (preparation, activation, ideas generating and assessment), the skill partition is done through it in motor mission shape by students . This can help to discover the cooperative and personal application as well as solving problems to be available in front of students during learning .

"Akram Maamoun(2008)" refers that learning based on discovering is based on the active level of learner and his abilities to precognition and intuitive thinking in educational material structure **(31:39)**.

this corresponds with what Hassan Mohamed Hassan 2014 that modern teaching models allow the learners to think of large number of solutions for one problem (116:3).

The researcher identifies the importance of brainstorming strategy that it care for the individual differences among students at application and it suits all ages and levels. It is one of strategies that enhance creative thinking. It is considered as state of mental liberation of person to get the creative solution of the presented problem. It also develops person ability to solve problems in creative way through making it available for all to generate large number of ideas in spontaneous , quick and free way , it can also help to solve one problem and then choosing the best solution

This corresponds "with miller 2004", "Nonis 2001" , "Doha Ehataby 2002", "Mohamed el Komy" 2003 and "Mohamed abd" rahou studies using teaching modern strategies develop the mental abilities as creativeness' for teacher .

We found that students answers of the questions raised during the performance or applications depend on oneself . Students sharing in dialogue and discussion with teacher help to understand and acknowledge information and knowledge related to motor skills (under discussion) and difficult to understand and difficult to forget.

This corresponds with studies results of" Akram Maamoun2008 , Mohamed abd rabu 2008". This achieves assumption one of the study which stipulates that "there are clear differences between the dimensional and premiere measurements of empirical group in creative thinking and learning some motor skills in athletic education lesson for dimensional measurement".

Table(2)
Significance differences between the averages of the pre and post scales for the experimental on the innovative thinking and the motor skills in the Basketball under consideration.

N =20

Test	Measure	pre tests	post tests	The	Value
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		ment unit	\bar{x}	σ	\bar{x}	σ	Difference	(T)
1	Total creativeness	Degree	15.850	2.758	17.800	2.015	1.9500	*4.174
2	Fluency	Degree	8.700	1.559	9.050	1.099	0.350	*2.333
3	Flexibility	Degree	5.50	1.356	5.500	1.235	0.450	*2.932
4	Originality	Degree	2.750	0.716	3.250	0.910	0.500	*3.684
5	Ball control	Degree	11.400	1.142	12.750	0.638	1.350	*4.133
6	Dialogue fastness	Second	14.500	0.760	12.500	0.606	2.00	*10.420
7	Passing fastness	Second	12.000	1.123	11.550	0.510	0.450	*1.690
8	Free throw	Degree	4.325	0.224	4.650	0.759	0.625	*3.372
9	Peaceful aim	Degree	0.611	0.061	0.825	0.372	0.214	*2.376

T value in the table at 18 degree and certain level 0,05=1,75

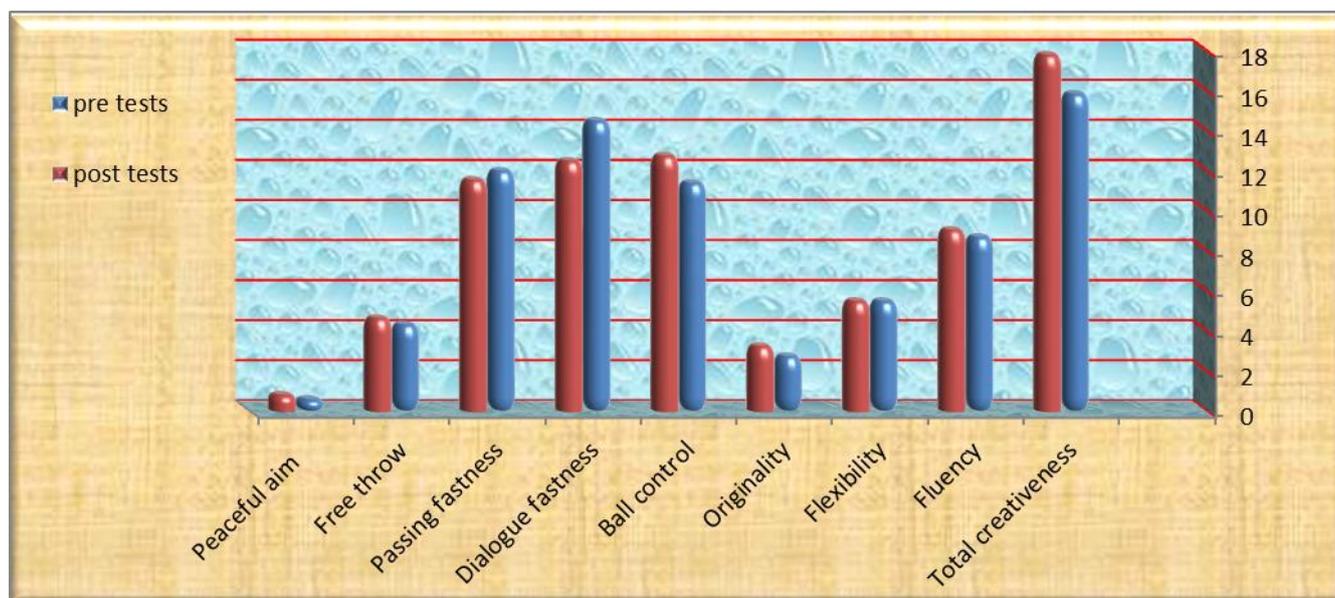


Figure (2)

Table (2) and figure(2) shows that there are clear differences between the dimensional and premiere measurement of the controlling group in all skillful exercises and creative thinking measurement for dimensional measurement .

Through showing table 6 we find that there are statistic differences between the dimensional and premiere for

the controlling group in creativeness exercise (dimensions and low degrees) under discussion where t counted value is bigger than t in the table at certain level 0,05 that shows that there are clear differences of controlling groups dimensions .

Table (2) shows that there are clear differences between the dimensional and premiere measurements of controlling group in creativeness exercises under discussion where t value counted is limited and it is bigger than its value in the t in the table at certain level 0,05 which show that there are clear differences between the dimensional and premiere measurement for the controlling group.

The researcher knows the progress the controlling group achieved in motor skills exercise under discussion which used the traditional followed technique(explanation and model) hides in this way that cannot be ignored, where it depends on explanation and giving good model of the wanted skill to be learned. The improvement in the controlling group in controlling group performance goes back to the followed way in education through the different stages of education.

This corresponds with what Mahmoud Abu Alatta 2010 of learner performance of skills depend on teacher skills in teaching, good explanation and preparing model for all the skills to be learned under discussion(15:84)

Osman Mustafa (2003)that teacher is the axis of education: he corrects students works and asses them. He also corrects the skillful performance whereas the student accepts the ideas without debate and sees that the teacher is the responsible for his success (10:180).

This can correspond with the study of" **Fatma Mohamed 2003, Fatma ahmed2005, Randa ibrahim2009, Mohamed Abdraouh 2012 and Zeinab Mohamed 2013"** .

This achieves the assumption two of the study which stipulates that "**there are clear statistic differences between the dimensional and premiere measurements of the controlling group in the creative thinking and learning some of the motor skills in athletic education lesson for the.**

Table(3)

Significance differences between the averages of the two post scales for the control groups on the innovative thinking and the motor skills in the Basketball under consideration.

N1=N2=20

	Test	Measurement unit	Experimental Group		Control Group		The Difference	Value (T)
			\bar{x}	σ	\bar{x}	σ		
1	Total creativeness	Degree	21.700	2.250	17.800	2.015	3.900	*5.773
2	Fluency	Degree	11.650	2.539	9.050	1.099	2.600	*4.202
3	Flexibility	Degree	8.500	1.000	5.500	1.235	3.000	8.441
4	Originality	Degree	1.550	0.759	3.250	0.910	1.700	*6.413
5	Ball control	Degree	15.900	0.911	12.750	0.638	3.1500	*12.653
6	Dialogue fastness	Second	11.050	0.759	12.500	0.606	1.4500	*6.672
7	Passing fastness	Second	9.850	0.670	11.550	0.510	1.700	*9.019
8	Free throw	Degree	6.850	0.745	4.950	0.759	1.900	*7.988
9	Peaceful aim	Degree	1.900	0.718	0.825	0.372	1.075	*5.942

T value at degree 38 and certain level 0,05=1.96

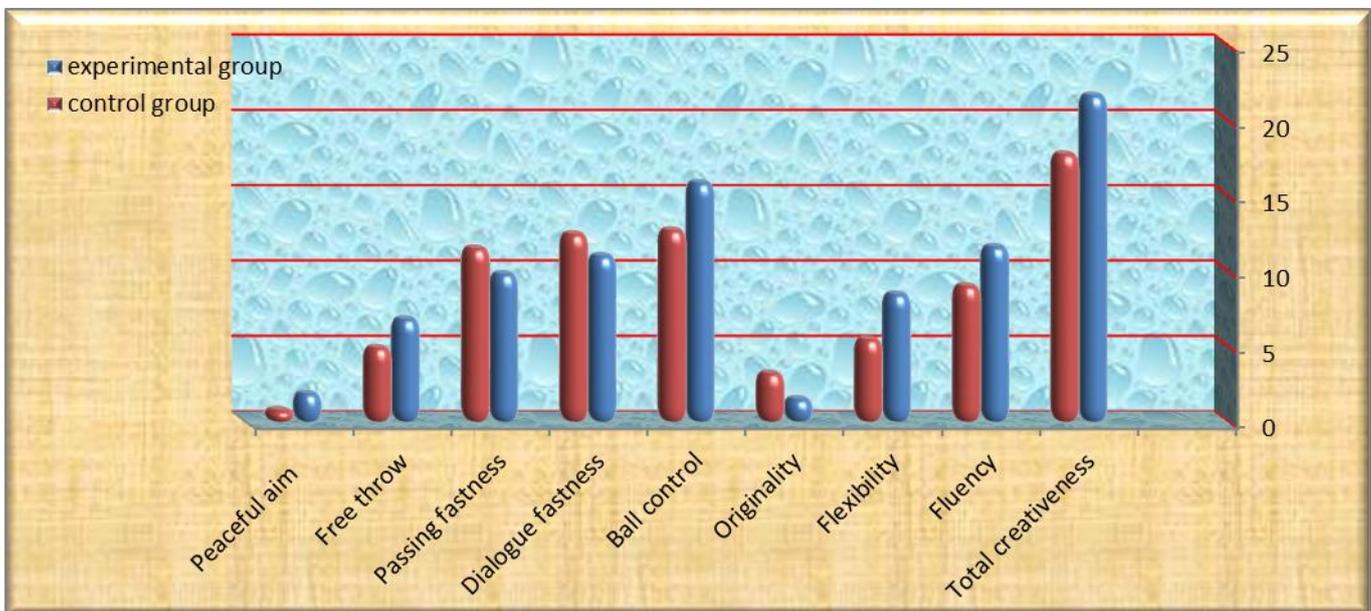


Figure (3)

Table (3) and figure (3) shows that 3 that there are clear differences between empirical and controlling groups in the dimensional measurement for all motor skills and creative thinking measurement under discussion for the empirical group .

The researcher relates these differences for the empirical grouping the dimensional measurement of the controlling group that students don't accept the traditional way of teaching technique that give along period and students lose fast responsiveness . This makes students suffer border in addition to non-positive sharing and effectiveness inside the educational unit, so the researcher employs brainstorming strategy to develop creativeness. The strategy is used through the motor skills of basketball (under discussion) inside the

This complies with what "**Mohamed Abd rabouh 2012**" referred to that taking into account the former experiences of learners and make it point of new teaching that makes teaching successful (59).

This also complies with what "**Rashad Mousa and Seham Khatab 2004**" mentioned that creative development techniques are based on learning according to using the modern teaching strategy in learning and depend on dialogue means and discussion that develop creativeness (117)

He researcher declares that brainstorming strategy has taken into account level, abilities and the individual differences among learners to learn the motor skills under discussion that is characterizes by logical order in an organized and following way that helps to concentrate and understand every part easily .

In addition to this, brainstorming strategy helps to create a lot of mental abilities to students like criticism , analysis and comparisons between skill performance and what students see on the visual device in preparation stage, and this what is corresponded with "**Hassan Mohamed 2013**" that facing problems related to students helps to build meaning to what they learn and develop the confidence in their ability to solve problems (7:17).

This complies with the study of "**karma maamoun2008**" and "**zeinab mohamed2013**", and this achieves assumption three of the study that stipulates that " there are differences between the dimensions measurements of controlling and empirical in creative thinking and learning some motor skills in athletic education lesson for dimensional measurement of empirical group .

Conclusions:

- 1- Using the suggested brainstorming strategy leads to positive effect on motor skills level progress in basketball (under discussion), using this strategy in activation and preparation, and the speed of learning these skills .
- 2- The use of brainstorming strategy results in positive impact on level of the innovative thinking and the motor skills with the experimental sample of research, and the speed of learning these skills .

The Recommendations:

- 1- Applying the suggested educational program through using brainstorming strategy .
- 2- Doing a lot of empirical researches using another modern ways related to education technology.

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Attachments

Attachment (1)

Table (1)

The mathematical average , standard diversion , coefficient flexure of research sample in changes of (age, length , weight , intelligence rate , physical , skillful and creative tests)

N = 50

Research changes	Measurement unit	\bar{x}	σ	Standard diversion	coefficient flexure
Age	Year	11.54	0,54	12.00	-0.65
Length	Centimeter	146,10	2.47	147,00	-1.32
Weight	KG	44,52	1.36	44,00	0.29
Intelligence	Degree	155,60	26.90	171,00	0.77-
Total creativeness	Degree	15,78	2.97	16.0	0.32-
Fluency	Degree	8.46	2.01	8.00	0.01-
Flexibility	Degree	4.72	1.31	5.00	0.15
Originality	Degree	2.60	0.73	2.00	0.79
Legs muscle ability	Centimeter	24.46	1.28	25.00	0.94-
Arms muscle ability	Centimeter	250.60	8.67	250.00	.0.71-
Fitness	Second	19.14	0.81	19.00	0.02-
Fastness	Second	7.46	0.79	7.00	0.27
Flexibility	Centimeter	4.58	0.84	4.00	0.28
Ball control	Degree	11.40	1.03	12.00	0.05
Dialogue fastness	Second	14.42	0.67	14.00	0.51
Passing fastness	Second	12.04	0.95	12.00	0.23-
Free throw	Degree	4.32	0.28	4.40	0.43-
Peaceful aim	Degree	0.60	0.07	0.57	1.40

It is clear from table (4) that flexure coefficient of research sample in changes (age –length –weight –intelligence as one of the mental abilities –physical tests – creativeness- motor skills) are limited between (+-3) which identifies sample individuals harmony in these changes .

Table (2)
Assumptions identification between the empirical and
controlling groups in changes are under discussion

N =40

Research changes	Measurement unit	Empirical Group		Controlling group		The difference between two averages	Value (T)
		\bar{x}	σ	\bar{x}	σ		
Age	Year	11,56	0,502	11,5500	0.6	0.050	0.28
Length	Centimeter	146,300	1.190	145.10	3.0	1.100	1.387
Weight	KG	44,550	2.49	45.050	1.3	0.500-	1.239
Intelligence	Degree	116.90	1.81	117.70	2.0	0.800-	1.448
Total creativeness	Degree	15.30	2.49	8.70	2.7	550-	0.661
Fluency	Degree	8.85	1.81	5.05	1.559	850-	1.589-
Flexibility	Degree	4.850	1.18	2.75	1.3	200-	0.497-
Originality	Degree	2.60	0.753	24.30	0.7	150-	0.645-
Legs muscle ability	Centimeter	24.2580	1.251	250	1.4	050-	0.118
Arms muscle ability	Centimeter	249.50	9.445	18.95	8.5	500-	0.175
Fitness	Second	19,400	0.820	18.95	75	450	1.800
Fastness	Second	7.100	0.788	7.250	786	150-	0.603
Flexibility	Centimeter	4.150	0.760	4.300	801	150-	0.642
Ball control	Degree	11.300	923	11.500	1.142	1.00-	0.304
Dialogue fastness	Second	14.400	0.680	14.000	0.760	0.100-	0.438
Passing fastness	Second	12.250	0.850	12.00	1.123	0.250	0.793
Free throw	Degree	4.225	0.613	4.235	0.224	0.1000-	1.154
Peaceful aim	Degree	0.648	0.077	0.611	0.061	0.037-	1.697

T value at certain level $0.05=2.684$

It is clear in table (2) tat there are no statistic difference at level 0.05 between the two groups (empirical and controlling) in of the research changes which refer to the two groups compliance .

Attachment (2)

The scientific factors of motor and physical skills of creativeness are under discussion A-tests trust

: Difference trust of motor

and physical tests are counted and creative thinking as well ,through test application on two groups of students , special group consisting of 10 students , the normal group consisting of 10 students . The two groups are out of research sample and representing research sample

Table (3)

The mathematical average, standard diversion and T value between the special and normal groups in the physical and motor exercises

N 1=N2=10

Tests	Measurement unit	Empirical Group		Controlling group		The difference	Value (T)
		\bar{x}	σ	\bar{x}	σ		
Total creativeness	Degree	21,200	1.715	14.500	1.813	6.700	7.015
Fluency	Degree	12.00	2.00	7.50	1.581	4.500	1.470
Flexibility	Degree	7.666	0.707	6.400	1.173	3,066	6.795
Originality	Degree	1.666	0.707	117.70	0.699	0.0.733.	2.226
Vertical jumping test	Degree	25.200	0.788	2.400	1.2.057	8100 -	7.045
Medical ball kicking test	Centimeter	254,00	6.992	33.300	12.297	44,0000	11.653
Running around rectangle	Centimeter	19.000	0.816	298.00	0.875	5,100-	9.839
Originality	Second	7.700	0.823	13.900	0.674	2.000	13,471
Running at 45 meter	Second	4.800	0.918	5.700	0.632	5,800	5.6414
Ball control test	Degree	11.600	9.1.074	7.400	12.200	20,080	15.280
Fast maneuvering test	second	14.300	0.483	12.200	0.632	1.600	8,435
Fast passing test	Second	11.700	0.674	10.100	0.567	20-	5,737
Free throw test	Degree	4.520	0.204	6.060	0.834	20.80	0.642
Peaceful aiming	Degree	0.562	0.007	2.000	0.816	11,438	5.569

R value in table at certain level $0,05=0,5219$

Table 4 identifies that R the counted value is bigger than its value at

B-tests stability

To count tests stability, the researcher used the re-test way through applying this test on sample consisting of 10 students and representing of research sample and out of the original sample at interval 7 days between the two applications . relating coefficients are counted between the first and second application to find stability of these exercises . Table 4 identifies relating coefficient

Table (4)
The mathematical average, standard diversion and relating coefficient between the two applications: the first and the second of the physical exercises

N =10

Tests	Measurement unit	First Application		Second application		Relating coefficient
		\bar{x}	σ	\bar{x}	σ	
Total creativeness	Degree	14.50	2.273	12.300	1.766	0.678*
Fluenc	Degree	7.500	1.581	6.600	1.712	0.944*
Flexibility	Degree	4.600	1.173	3.900	0.994	0.935*
Originality	Degree	2.400	0.699	2.00	0.816	0.645*
Vertical jumping test	Centimeter	25.200	0.788	25.300	0.843	0.869*
Medical ball kicking test	Centimeter	254,00	6.992	254.500	6.851	0.825*
Running around rectangle	Centimeter	19.000	0.816	19.300	0.823	0.826*
Originality	Second	7.700	0.823	7.900	0.737	0.860*
Running at 45 meter	Second	4.800	0.918	5.000	0.816	0.889*
Drape the trunk of the stand	Centimeter	4.800	0.918	5.000	0.816	0.889*
Ball control test	Degree	11.600	1.074	11.800	0.918	0.810*
Fast maneuvering test	Second	14.300	0.483	14.400	0.516	0.802*
Fast passing test	Second	11.700	0.674	11.900	0.737	0.825*
Free throw test	Degree	4.520	0.204	4.560	0.222	0.901*
Peaceful aiming	Degree	0.562	0.007	0.564	0.009	0.904*

R value in table at certain level 0,05=0,5219

Table 4 identifies that R the counted value is bigger than its value at