Effective use of learning mastery strategy on the level of performing some basic Skills in field hockey for faculty of physical education female students

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Intro and search trouble:

that with learning to master, scientific material is divided into small educational units, students are assigned to read the unit and prepare its related questions for discussion during the lecture and a student does pass end-to-end test, each without passing an 80% mastery test, then studying more activities, or moving to the next unit, and if he doesn't get his proficiency, offer him therapeutic activities until he's mastered.(14:55)

And by teaching the researcher to field hockey for second female students period of physical education college at Assiut University, The researcher noticed that alarge proportion of the students can't perform the skill of(hitting a ball with the flat face of astick-flatting the ball with the flat face of astick-carrying a ball with the flat fact of astick) perfectly during practical lectures which caught the researcher attention. This suggests that the learning process is experiencing certaion difficulties. This may be due to the teaching method ordering teaching which is based on verbal explanation and the functional skill model there fore, it was necessary to use modern teaching methods with their enormous potential to design educational programs and implement them during teaching lessons for some core field hockey skills using the mastery learning strategy. This helps to enhance the education process and to preseut it will in order to achieve quality performance. So the researcher I suggested to use the learning strategy to master these skills to improve the level of female students and to achieve proficiency in learning these skills, by using the stages of learning mastery strategy (preparation stage- actual learning stage- learning mastery stage) these stages are used as part of the teaching course in the teaching lesson pillar for each of the skills to be mastered.

Search objective:

*Lecturer curriculum department and teaching physical education (field hockey) at the faculty of physical Education Assiut University.

This search aims to identify: The effect of using the learning mastery strategy to perfrom certain basic skills in field hockey.

Search hypothesis:

1- There are statistically differences between the pre- and post measurements of the trial group (mastery learning) in the performance level at some basic skills in field hockey for post measurements.

2- There are statistically differences between the pre- and- post measurements of the control group (ordering learning) in the performance level at some basic skills in field hockey for post measurements.

3- There are statistically significanl differences between the two post - measurements for the trial and disciplined group in the performance level at some basic skills in field hockey for the trial group.

Research procedures and plan:

Search method:

the researcher used the experimental method by using pre- and- post measurements of two group, one is trial and the other is control because it suits the nature of the research.

The research community:

The research community represents the (190) female students of second Grad of physical education college at Assiut University (2019-2020).

The research sample:

It was chosen in the deliberated, random way from second group female students of physical education college at Assiut University and their number was (20) students, (10) of them for the disciplined group and (10) for the trial group, statistic profile of the research sample and table (1) shows that.

Table (1)

Arithmetical mean, standard deviation, moderator, spawning and flattening factors for research sample At some growth variables and physical / skill tests under research (No=20)

No		Variables		Measuring unit	Arithmetical mean	standard deviation	moderator	Spawning factor	flattening factors
1	Growth	Age		Year	19.77	0.41	20	-1.42	0.16
٢		Length		Cm	159.6	4.50	158	0.99	0.09
٣		Weight		Kg	62.78	9.84	64.07	-0.04	-1.34
4	Physical tests	Fist strength	Right	Kg	19.35	4.41	20	-0.77	0.35
			Left	Kg	19.25	5.01	20	-0.52	-0.58
٥		Running 400m. sprint		Min.	1.75	0.47	1.57	0.48	-1.25
٦		Stem twisting forward from standing		cm.	10.5	5.23	11	0.02	-1.57
7		Baro for agility		Second	27	3.17	26	0.33	0.81
٨		Sprint 30 m.		Second	6.05	1.23	6	0.82	0.54

Follow Table (1)
Arithmetical mean, standard deviation, moderator, spawning and flattening factors for research sample At some growth variables and physical / skill tests under research (No=20)

No		Variables		Measuring unit	Arithmetical mean	standard deviation	moderator	Spawning factor	flattening factors
٩		Wide jumping from stability		Meter	161.9	17.22	163.5	-0.62	0.42
١٠		Throw and recive the ball		No.	6.3	2.10	6	-0.02	-0.59
١١		Hand aim at over lapping rectangles		No.	2.5	0.60	3	-0.78	-0.21
١٢	Skill tests	Hitting the ball with the flat face of the stick	Strength	Meter	3.7	1.45	3	0.35	-1.30
١٣			Speed	Second	35.45	10.11	33.5	0.52	-0.59
١٤			Accuracy	Degree	2.4	0.50	2	0.44	-2.01
١٥		Flatten the ball with the flat face of the stick	Strength	Meter	3.2	0.95	3	0.37	-0.59
١٦			Speed	No.	3.6	0.99	4	-0.12	-0.88
١٧			Accuracy	Degree	5.85	0.93	6	0.75	-0.39
١٨		Carrying the ball with the flat face of the stick	Strength	Meter	4.2	1.32	4	0.20	-0.23
١٩			Speed	No.	2.75	0.71	3	0.41	-0.82
٢٠			Accuracy	No.	2.45	0.51	2	0.21	-2.18

Table (1) indicates arithmetical mean, standard deviation, spawning and flattening factor for research sample at growth variables(age- length- weight) and physical and skill variables under research which shows that spawning factors for research sample distributed and homogeneous in these variables, and flattening factors values for research sample should be less than (3) so that the factor is flatten which indicates the normal distribution of the sample.

Homogeneous of research sample:

The researcher found parity between the two research groups- the control and trial- at growth rates (age- length- weight) and physical varibales and performance level of some basic skills in field hockey, these measurements were made after scientific factors were carried out on the tests (under research) table (2) shows that.

Table (2)
The differences between control and trial groups at growth rates physical and skill variables under research (No=20)

No		Variables	Measuring unit	Groups	Arithmetical mean	standard deviation	App. Value	Indication
1	Growth	Age	Year	Trial	19.75	0.42	0.43	Non-function
				Disciplined	19.9	0.31		
٢		Length	Cm	Trial	162.75	7.09	0.52	Non-function
				Disciplined	161.1	4.14		
٣		Weight	Kg	trial	65.44	9.32	0.82	Non-function
				Disciplined	66.36	8.43		

Follow Table (2)
The differences between control and trial groups at growth rates physical and skill variables under research (No=20)

No	Variables			Measuring unit	Groups	Arithmetical mean	standard deviation	App. Value	Indication
4		Fist strength	Right	Kg	trial	19.9	5.4	0.61	Non-function
					Disciplined	18.5	5.2		
			Left	Kg	trial	19.9	5.4	0.76	Non-function
					Disciplined	19.3	5.1		
٥	Physical tests	Running 400m. sprint		Min.	trial	1.6	0.4	0.09	Non-function
					Disciplined	1.8	0.50		
٦		Stem twisting forward from standing		cm.	trial	8.6	3.9	0.16	Non-function
					Disciplined	7.2	3.9		
7		Baro for agility		Second	trial	24.2	1.8	0.01	Non-function
					Disciplined	27.5	4.1		
٨		Sprint 30 m.		Second	trial	12.0	0.5	0.23	Non-function
					Disciplined	12.3	1.6		
٩		Wide jumping from stability		Meter	trial	1.2	15.3	0.68	Non-function
					Disciplined	1.4	21.8		
١٠		Throw and recive the ball		No.	trial	8.0	2.5	0.93	Non-function
					Disciplined	7.0	1.8		
١١		Hand aim at over lapping rectangles		No.	trial	2.8	0.4	0.59	Non-function
					Disciplined	2.7	0.48		
١٢	Skill tests	Hitting the ball with the flat face of the stick	Strength	Meter	trial	1.80	3.2	0.58	Non-function
					Disciplined	1.70	1.5		
١٣			Speed	Second	trial	31.3	7.7	0.16	Non-function
					Disciplined	35.9	9.6		
١٤			Accuracy	Degree	trial	3.2	1.3	0.12	Non-function
					Disciplined	2.4	0.5		
١٥		Flatten the ball with the flat face of the stick	Strength	Meter	trial	6.9	2.1	0.01	Non-function
					Disciplined	2.5	1.1		
١٦			Speed	No.	trial	4.3	1.4	0.11	Non-function
					Disciplined	3.3	1.1		
١٧			Accuracy	Degree	trial	4.9	1.6	0.05	Non-function
					Disciplined	5.8	1.0		
١٨		Carrying the ball with the flat face of the stick	Strength	Meter	trial	3.6	1.1	0.01	Non-function
					Disciplined	2.6	1.0		
١٩			Speed	No.	trial	5.2	1.2	0.02	Non-function
					Disciplined	5.3	0.6		
٢٠			Accuracy	No.	trial	4.4	0.8	0.03	Non-function
					Disciplined	4.6	0.5		

"app." Value at level 0.05 = 2.09 / "m" = arithmetical mean / "s" = standard deviation

From table (2) there are no statistical differences at level (0.05) between trial and control groups in growth rates under research which indicates the two research groups parity in these variables.

Data collection tools:

- Physical and skill tests to evaluate female students level in performance, attach (3), (5).

First survey stndy:

This study carried out on asample of research community and from the basic sample from (17/ 2/ 2019) to (24/ 2/ 2019) In order to find the scientific parameters of the

physical and skill tests under investigation.

Second survey study:

Aimed at applying some of the courses of the proposed tutorial to see how these lessons could be applied, ensure that mastery learning strategy is used at application procedures and what tools did the application need, and the study achieved its targets.

The supposed tutorial application procedures:

The Pre-measurement:

The Pre-measurement for Variables under research has Carried out for the trial and disciplined groups from (26/ 2/ 2019) to (28/ 2/ 2019) for the basic sample under research.

The supposed tutorial application and implementation:

The programme has been Carried out by using mastery learning strategy for some basic skills in field hockey on second group students of faculty of physical education, Assiut university (The trial group), also ordering method is used with the control group (attach 8), the implementation of the program for trial group was for (6) weeks, two lesson aweek, from (3/ 3/ 2019) to (18/ 4/ 2019),

and (2) tutorials aweek has been teached, the supposed tutorial program was (3) educational units in (12) educational lesson, the time of the lesson (90) minutes (attach 7).

The post – measurement :

The post– measurement for disciplined trial groups for skills under research at the same arrangement and conditions of Pre- measurements from (21/ 4/ 2019) to (23/ 4/ 2019).

The statistical used processors :

It has been carried out by statistical program "Excel" to process the data statistically, and from the most important statistical methods:

Arithmetical– standard deviation– moderator– spawning factor– flattening factor– correlation coefficient– percentage for improvement rates – "app" test equation.

The results show and discussion:

First assumption: There are statisrically differences between pre and post measurements for disciplined group (ordering learning) at the performance Level of some basic skills in field hockey for post-measurement.

Table (3)
The differences between pre and post measurements and "app"
value and improving rate of control group in skill test (under
research) (No =10)

No	Skill tests		Measuring unit	Pre-measuring		post-measuring		(app)value	Differeuce between averges	Improving rate
				M	S	M	S			
1	Hitting ball skill	hitting strength test	Meter	1.70	1.5	9.2	0.91	3.88	٧.٥	%٥٣٩.٤٧
		hitting speed test	Time	35.9	9.6	30.3	4.00	9.25	5.6	%88.18
		hitting accuacy test	Degrees	2.4	0.5	6.1	1.52	3.04	3.7	%251,76
2	Flatlen ball skill	flatlen strength test	Meter	2.5	1.1	8.1	1.52	3.67	5.6	%٣٢١.٥
		flatlen speed test	No	3.3	1.1	10.8	1.47	3.49	٧.٥	%٣٢٣.٩٧
		flatlen accuacy test	Degrees	5.8	1.0	6.5	1.08	8.96	٠.٧	%١٠٦.٢٦
3	Carrying ball skill	carrying strength test	Meter	2.6	1.0	8.5	1.35	3.45	٥.٩	%324.32
		carrying speed test	No	5.3	0.6	16.2	1.93	3.79	١٠.٩	%300.36
		carrying accuacy test	No	4.6	0.5	17.5	2.06	6.65	12.9	%375.83

approximatly "app" value at level (0.05)= 2.26

From table (3) results it appears that there are statistical differences between the degrees average of pre and post measurements for disciplined group in skill performance level at some basic skills in field hockey where value of calculated "app" is between (9.25 : 3.04) and it is more than the value of "app" at level (0.05) and from table it is appear that the improving rate between pre and post measurements for disciplined group is between (539.47% : 88.18%) we notice that the improving rate appears clearly from data schematic view between pre and post measurement for disciplined group at some basic skills (under research) where the amproving rate appears clearly, it us less in time tests and more in the other tests at post measurement for dis Ciplined group at some basic skills (under research).

"The researcher" sees that the improving that happened at the performance level of some basic skills in field hockey at disciplined group to use ordering learning method through practical model presentation and simple verbal explanation about the skill under research, and the positive influence of control group results because of the importance of teacher existence who gives clear idea about good performance (the model) that makes it more effective, and present good feed back to the improving the performance level of disciplined group students at skills performance under research this result agrees with the study of " Rayan Fekry hassan " (2004) (13), and the study of " Abd el- karim Mahmoud abd el-halim" (2006)(1), that ordering learning method from the direct methods for quick data and skills acqwaintance from teacher to learner where the teacher feels excellence and educational situation control and managing environmental conditions during learning (13:128) (1:248).

Table (4)
The differences between pre and post measurements and "app" value and improving rate of trial group in skill tests (under research) (sample =10)

No	Skill tests		Measuring unit	Pre-measuring		post-measuring		(app)value	Differeuce between averges	Improving rate
				m	S	M	S			
1	Hitting ball skill	hitting strength test	Meter	1.80	3.2	11.4	0.96	5.9	٩.٦	%631.53
		hitting speed test	Time	31.3	7.7	27.8	4.73	3.42	٣.٥	%٨٤.٧٨
		hitting accuacy test	Degrees	3.2	1.3	9.5	0.52	9.09	٦.٣	%293.67
2	Flatlen ball skill	flatlen strength test	Meter	6.9	2.1	10.2	0.91	9.27	3.3	%140.92
		flatlen speed test	No	4.3	1.4	16.2	1.47	4.04	١١.٩	%372.44
		flatlen accuacy test	Degrees	4.9	1.6	9.5	1.43	5.49	4.6	%188.97
3	Carrying ball skill	carrying strength test	Meter	3.6	1.1	12.8	1.47	5.81	٩.٢	%351.95
		carrying speed test	No	5.2	1.2	23.3	1.88	4.35	١٨.١	%442.87
		carrying accuacy test	No	4.4	0.8	23.6	3.09	4.58	19.2	%531.96

"app." value at level (0.05)= 2.26

From table (4) results it appears that there are statistical differences between the degrees average of pre and post measurements for trial group for post measurement degrees at performance level for some basic skills (under research) where value of calculated "app." Is between (9.27: 3.42) and it is more than the value of "app." Value at level (0.05).

And from the table it appears that improving rate between pre and post measurements for trial group is between (%631.53 : %84.78) and this due the followed educational program and what it contains from moving activities and various, different applicable exercises.

"The researcher" sees that the improvement that happened at the performance level of some basic skills in field hockey for trial group because of the existence of a lot of educational alternatives which exciting the learner and motivate him to do the best and not to be bored, also this strategy helps each learner to learn the skill according to his self speed, in addition to correction of errors and no time fore learning where every learner takes a sufficient time at learning and present feed back and moving to next unit after mastering (80%) from educational homework which lead to skill absorption by learners (under re search) in abetter way.

This result agrees with the study of **"Al-motwaly Ebrahim ahmed" (2003) (6), "Hegazy Wael mahmoud" (2006) (7), "Nasr- Eldin mostafa mohamed" (2007) (10), " Ahmed Ahmed adel" (2009) (3) and " Abo Abdoun Fatma mahmoud" (2011) (2)**, that it is important touse mastery learning strategy and what it includes from educational alternatives in better motor skill acquisition.

This result agrees with **"others Makarem abo harga" (2001)** that when using educational means we have to basic elementes from leaning elements and they are active participation element from learner side , and feed back element which improve motor performance (11: 19).

Table (5)

The differences between the two post measerments for disciplined and trial groups in skill tests (under research) (sample =20)

No	Skill tests		Measuring unit	post-measuring for disciplined group		post-measuring trial group		(app) value	Differeuce between averges
				M	S	m	S		
1	Hitting ball skill	hitting strength test	Meter	9.2	1.03	11.4	0.96	4.86	٢.٢
		hitting speed test	Time	44.3	4.27	27.8	4.73	6.74	16.5
		hitting accuacy test	Degrees	6.1	1.37	9.5	0.52	3.82	3.4

Follow Table (5)
The differences between the two post measerments for disciplined and trial groups in skill tests (under research) (sample =20)

No	Skill tests		Measuring unit	post-measuring for disciplined group		post-measuring trial group		(app) value	Differeuce between averges
				M	S	m	S		
2	Flatlen ball skill	flatlen strength test	Meter	8.1	1.85	10.2	0.91	5.37	٢.١
		flatlen speed test	No	10.8	2.09	16.2	1.47	4.26	5.4
		flatlen accuacy test	Degrees	6.5	1.26	9.5	1.43	3.26	3.0
3	Carrying ball skill	carrying strength test	Meter	8.5	1.08	12.8	1.47	3.43	٤.٣
		carrying speed test	No	16.2	2.04	23.3	1.88	3.06	7.1
		carrying accuacy test	No	17.5	1.43	23.6	3.09	4.67	٦.١

"app." value at level (0.05)= 2.09

From table (5) it appears that there are statistical differences between the degrees average of the two post measurement for disciplined and trial groups where value of calculated"app." Is between (6.74: 3.06) and it is more than the value of "app." Value at level (0.05).

"The researcher" sees that improving at trial group individuals due to multiple feed back sources through showing a lot of educational alternatives (the teacher– moving pictures by computer– stable pictures by trans parency) in addition to taking into account individual differences between learners where the learner who can get mastery or from verbal explanation and giving model then giving sufficient time at training and learning with errors correction and presenting feedback differs from the learner who understand and master at next stage by using another educational alternative through (C.D) show and knowing skill educational steps under research.

And this differs from the learner who don't master through the previous two stages where they are offered stable alternative which is

stable pictures show by transparency until the learners getting mastery through the three stages or getting some basic skills in field hockey.

This result agrees with the study of **"Nasr El-din Mostafa mohamed"** (2007) (10), **"Ahmed Ahmed adel"** (2009) (3), **" El-Halfy Haidar majid" (2010) (5), "Abo Abdoun Fatma mahmoud" (2011) (2), "Magdy sara mohamed" (2013) (8), and " Matar Diaa thamer" (2014) (9),** where the studies emphasized on mastery learning strategy effectiveness at improving skill side of under research skills, and also emphasized on importance of using mastery learning strategy and modern teaching mothods at acquiring motor skills comparing with ordering learning method **"Alfred" (2006)** indicates that ordering learning method don't give sufficient time for every learner to do more times, and don't let the teacher correct the errors when it appears to all learners, also educational responsibility is upon the teacher through taking decisions about educational unit (4 :94) .

        This result agrees with the study of **"others Mostafa abed el- sameq"(2001)** that using educational methods in learning operation gives the learner fead back that results quantitative and quantitative learning, also providing content in proportion to individual differences helps the learner getting to the right level at his own speed. (12: 76)

conclusion: 1-Mastery learning strategy has appositive influence at the performance level of some basic skills in field hockey.

2-Ordering learning method has appositive influence at the performance level of some basic skills in field hockey.

1- Mastery learning strategy exceeds ordering learning method at post-measurement improving rates than pre-one at performance level some basic skills (under research skills).

1- Recommendations Mastery learning strategy should be used when learning some some basic skills in field hockey.

2- Knowning about the characterisitics and needs of students to develop appropriate curricula and programmes that will help them develop soundly and integrally.

3- The importance of incorporating teaching methods that play an effective role in

the learning process in line with educational modernization and development and one of them is mastery learning strategy.

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