

Effective Use of Feedback in Learning Third Star

Swimming Skills

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Abstract

Feedback is important for junior swimmers who learn new motor skills as their perception of these skills is generally incomplete. So, they are in dire need of feedback information to improve their perception and performance of that skill, and to help to detect their errors and to determine how to correct them.

This study aims to identify the effective use of feedback through junior swimmers' combination of both viewing and model to learn the skills of swimming (free, back, breast, butterfly).

The researcher used the experimental method because of its suitability to the nature of the study by devising two groups (control group and experimental group), and using pre- and post test measurements. The research sample was selected -- according to the representative, deliberate method -- from among the research community represented by junior swimmers under 10 years at the Al-Ahly Club at Gizeera, Cairo, Egypt; the research sample was not from among those junior swimmers awarded the Third Star.

The research sample comprised 52 junior swimmers, 8 of them were excluded due to non-attendance at the tutorials and 12 were chosen for the pilot experiment. The remainder number was randomly divided into two equal groups, each one comprises 16 juveniles. Homogeneity was done to the research sample, where the first group (control group) used verbal explanation and the performance of the model, while the second group (experimental group) used the technical performance of swimming through a computer connected to screen displaying the performance of the model. The educational program was implemented for the two groups at the same time.

The most important results are that feedback has a positive impact in increasing the junior swimmers' perception of motion to enhance their correct skill performance, and that learning by using video-taped material and the repeat of model performance are more effective than learning through the model performance only.

The researcher recommends the importance of using educational aids, especially the novel ones such as video-taped material and multimedia in learning swimming.

Research Terms:

Third Star In Swimming Is The Skilled Outcome
Of Swimming Performance (Free, Back, Breast, Fly)
For A Distance Of 2 X 25 Meters In Addition
To Mastering The Start And Rotation As Well As Many
Of The Skilled Exercises Related To The Four Swimming Skills.
It Is A Basic Standard Test To Be Passed
Before The Participation In The Competitions
Of The Egyptian Swimming Federation At The Stage
Of 11 Years For All Swimmers.

Key words

Feedback - Third Star Swimming.

Introduction:

Feedback is important for junior swimmers who learn new motor skills as their perception of these skills is generally incomplete. Therefore, they generally need to use feedback information to improve their perception and performance of these skills.

Moreover, this information helps to discover young swimmers' errors and to correct them through directions and perceptual inputs in order to produce kinetic outputs suitable to responsive body organs, as a result of the learning process in order to achieve good performance.

The Research Problem & its Importance:

Registering records nowadays does not depend only on the functional and physical levels of a swimmer but also basically on a swimmer's proficiency to perform a skill correctly.

The process of teaching juniors swimming used to depend only on the verbal instruction and then performing the model and the movement. This method proved to be traditional and inadequate at the age of technology and information, and does not yield the required results.

Feedback is achieved through a junior swimmer's watching video-taped models

as well as watching his own performance increases his perceptual ability regarding his motor skill. Consequently, feedback increases a swimmer's ability to play back that motor skill with its minutest details; this helps him to understand the nature and form of that skill to achieve self-improvement when an error takes place.

It is important for junior swimmers to win the third star in the four skills of swimming (free, back, breast, butterfly) and master the two skills of starting and rotating spontaneously.

The evaluation of junior swimmers' third star skills (Attachment no. 1). The researcher found that most swimming instructors use the traditional method in their instruction (verbal explanation and performing a relevant motor model). Therefore, the researcher attempted to introduce a new approach and a technological method in instruction as an attempt to increase the motivation of junior swimmers and to enhance their attitudes towards learning and reaching the best level of motor performance.

Aim of the Research:

- 1- This research aims to set a syllabus by using feedback and knowing its effectiveness.
- 2- The effectiveness of using feedback appears through the merging of watching models & watch-

ing one's own performance with a view to knowing swimming skills of the third star (free, back, breast, and butterfly).

Premises of the Research:

There are statistically significant differences between pre- and post measurement grades in the four swimming skills of the third star (free, back, breast, butterfly).

Terms of the Research:

Third Star in swimming is the skilled outcome of swimming performance (free, back, breast, fly) for a distance of 2 x 25 meters in addition to mastering the start and rotation as well as many of the skilled exercises related to the four swimming skills. It is a basic standard test to be passed before the participation in the competitions of the Egyptian Swimming Federation at the stage of 11 years for all swimmers.

Literature Review:

1. MohamedAla'a-uddin Hassan (2007) devised a syllabus in 2006 by using feedback for 20 junior swimmers to learn first star skills in swimming for 4 weeks. Results show statistically significant differences between the grades of pre- and post measurement grades. Improvement ratio was between % 38.46 to % 61.65.

2. K. E. Mathias (1992) did a study showing the effect of interactive video-taped learning on 17 swimmers who were learning two swimming skills. He used the experimental method. His most important conclusion is that interactive video-taped learning is more effective and more positive than traditional learning.

The Research's Procedures:

The Research Method:

The present study used the experimental method, and adapted it to the nature of the research by having two groups: a control group and an experimental one.

The Research Sample:

The research sample was chosen deliberately from among 52 junior swimmers under 10 years at Al-Ahly Club at Gizeera. 12 junior swimmers were chosen for the pilot experiment.

The junior swimmers were divided into two groups (16 each): The control group used verbal instruction and a performing model, and the experimental group used watching the video-taped swimming performance. The teaching program was done for the two groups at the same time.

Table (1):

Classification of the Sample

Study sample				Percentage of sample of total sample		Sample of the pilot study		The excluded	
Experimental		Control group		Number	%	Number	%	Number	%
Number	%	Number	%						
16	30,77	16	30,77	32	61,54	12	23,08	8	15,38

Table (2):

The arithmetic mean, the standard deviation, the median and the value of coefficient of torsion of the sample in the growth variables

Variables	Measurement unit	Average	Deviation	Broker	Curve value
Old	Year	9,38	0,97	9,75	-,36
Tall	Cm	142,00	8,42	140,00	,54
Weight	Kg	33,73	3,77	33,00	1,15
Training Age	Year	3,64	0,96	3,00	,16

Handicapped (n) = 44

Table No 2 shows the arithmetic mean, the standard deviation and the value of coefficient of torsion of the sample in the variables under consideration, the growth rates (age, height, weight, age of training), where it is clear that the values of coefficients of these variables, torsion of the sample were confined between (+3), which refers to the moderation of the distribution of the sample and the homogeneity in these variables.

Methods of Collecting Data:

The researcher used previous studies and Arabic and foreign references. Then he designed a form for collecting all the data of the junior swimmers. (Attachment. 2)

The researcher used the following apparatuses and tools:

- ✓ A restameter set to measure the tallness of swimmers by cm., a k/g medical balance to measure the weight of the junior swimmers.
- ✓ A video camera attached to a computer set, a screen, a swimming pool 25 m., a gymnasium.

The Educational Program:

The pre-test measurement took place on 28-29 May 2009.

The post-test measurement took place on 11-12 July 2009.

The program took place between 30 May 2009 to 10 July 2009.

The Research Details & Discussion of Conclusions:

Table (3):

The arithmetic mean, standard deviation and T-value calculated in-between the pre- and post- measurements for the control group in the four types of swimming free, back, breast, butterfly)

Swimming way		Variables	Measurement	Pre-measurement		Post-measurement		<T> value calculated
				A	S	A	S	
Free	1-	25 m arm-stroke (arm action)	Degree	3,46	,45	4,58	,99	5,07*
	2-	25m leg kick on the side	Degree	4,19	,16	5,67	,49	10,93*
	3-	50m swimming (2×25) start and turn	Degree	5,93	0,79	8,96	0,86	6,91*
Back crawl	1-	25m arm-stroke	Degree	3,27	0,86	5,85	0,94	6,72*
	2-	25m leg kick on the side	Degree	3,07	0,47	5,68	0,78	18,41*
	3-	50m swimming (2×25)start and turn	Degree	6,56	0,49	7,74	0,62	10,063*
Brest stroke	1-	25m arm-stroke (arm action-breasi) and leg kick free	Degree	2,83	0,58	5,49	0,48	10,66*
	2-	25m breast stroke over flead water	Degree	3,05	0,13	6,08	1,08	9,95*
	3-	50m breast (2×25) standard and turn	Degree	6,54	0,49	9,56	0,66	10,94*
Fly single	1-	25m leg kick fly on back-stroke	Degree	2,72	0,45	3,73	0,44	8,19*
	2-	25m leg kick fly on the side	Degree	2,73	0,44	4,16	0,84	5,56*
	3-	25m arm left-arm right – two arms	Degree	4,73	0,62	6,43	0,50	9,44*
	4-	25m butterfly stroke	Degree	4,56	0,49	6,53	0,50	59,00*

Handicapped (n) = 16

*The value of indexed "T" at level of significance and degrees of freedom 15 = 2.131

Table No. 3 shows the arithmetic mean, standard deviation and T-value calculated between pre and post measurements under consideration, where there are statistically significant differences between the two measurements in favour of the post-test measurement.

Hence, it can be concluded that the verbal explanation and performance

of the practical model –with repeated application multiple times– has led to junior swimmers' remarkable improved performance, causing a positive impact on the speed of their learning. This conclusion is consistent with theories of learning (e.g. theory of trial and error) and is consistent with what Afaf Abdel-Karim concluded (1994).

Table (4):

The arithmetic mean, standard deviation and T-value calculated in-between the pre- and post- measurements of the experimental group in the four types of swimming free, back, breast, butterfly)

Swimming way	Variables	Pre-measurement		Post-measurement		'T' value calculated
		A	S	A	S	
Free	1- 25 m arm-stroke (arm action)	3,51	0,48	9,55	0,78	9,49*
	2- 25m leg kick on the side	4,25	0,45	7,17	0,39	19,59*
	3- 50m swimming (2×25) start and turn	6,19	0,38	11,90	0,29	43,93*
Back crawl	1- 25m arm-stroke	3,33	0,49	6,63	0,48	1,39**
	2- 25m leg kick on the side	3,18	0,39	6,78	0,40	19,23*
	3- 50m swimming (2×25)start and turn	6,70	0,44	12,28	0,62	29,09*
Brest stroke	1- 25m arm-stroke (arm action-breast) and leg kick free	3,01	0,43	6,52	0,51	18,19*
	2- 25m breast stroke over flood water	3,20	0,84	6,98	0,43	13,89*
	3- 50m breast (2×25) standard and turn	6,61	0,65	11,63	0,48	23,46*
Fly single	1- 25m leg kick fly on back-stroke	2,73	0,45	4,62	0,49	12,66*
	2- 25m leg kick fly on the side	2,73	0,44	5,08	0,56	12,43*
	3- 25m arm left-arm right – two arms	4,72	0,45	8,69	0,46	31,11*
	4- 25m butterfly stroke	4,55	0,50	8,87	0,53	29,45*

Handicapped (n) = 16

*The value of indexed "T" at level of significance and degrees of freedom 15 = 2.131

Table No. 4 shows the arithmetic mean, standard deviation and T-value calculated in-between pre and post measurements under consideration, where there are clearly statistically significant differences between the two measurements in favour of the post-test measurement.

Hence, it can be concluded that this improvement is due to the positive effect of feedback by using the repeated shows through computer

sets and projector screens as junior swimmers tend to imitate the performance show of champion swimmers. This conclusion agrees with the results of D. Burstein (1986) and K.E Mathias (1992) about using educational facilities such as films to improve the motivation of learners and acquire proper motor skills. A learner's view of his own performance has an effect on the speed of learning skills; this agrees with what Amgad El-Gameel suggested (1999).

Table (5):

The arithmetic mean, standard deviation and T-value calculated in-between the pre- and post- measurements of the experimental group in the four types of swimming free, back, breast, butterfly)

Swimming way	Variables	Pre-measurement		Post-measurement		'T' value calculated
		A	S	A	S	
Free	1- 25 m arm-stroke (arm action)	4,58	0,99	9,55	0,78	4,89*
	2- 25m leg kick on the side	5,67	0,49	7,17	0,39	9,95*
	3- 50m swimming (2×25) start and turn	8,96	0,86	11,90	0,29	12,55*
Back crawl	1- 25m arm-stroke	5,85	0,94	6,63	0,46	2,99*
	2- 25m leg kick on the side	5,86	0,78	6,78	0,40	3,96*
	3- 50m swimming (2×25)start and turn	7,74	0,62	12,28	0,62	17,61*
Brest stroke	1- 25m arm-stroke (arm action-breast) and leg kick free	5,49	0,48	6,52	0,51	5,69*
	2- 25m breast stroke over fead water	6,08	1,08	6,98	0,43	2,51*
	3- 50m breast (2×25) standard and turn	9,56	0,66	11,63	0,48	0,72*
Fly single	1- 25m leg kick fly on back-stroke	3,73	0,44	4,62	0,49	5,86*
	2- 25m leg kick fly on the side	4,16	0,84	5,08	0,56	3,92*
	3- 25m arm left-arm right – two arms	6,43	0,50	8,69	0,46	12,65*
	4- 25m butterfly stroke	6,53	0,50	8,87	0,53	12,53*

Handicapped (n 1) = (n 2) = 16

*The value of indexed "T" at level of significance and degrees of freedom 15 = 2.131

Table No. 5 shows the arithmetic mean, standard deviation and T-value calculated in-between the two post measurements of the experimental and control groups in all variables under consideration, where there are statistically significant differences between the two measurements in favour of the post test measurement of the experimental group.

Hence it can be concluded that the improvement of junior swimmers' motor

skills is due to their watching their own performance as well as the performance of champion swimmers; this stirs their imagination and thinking, motivates them, and makes the process of communication between the trainers and junior swimmers easier. This also leads to their better understanding and clear perception of the details of the swimming skills.

This conclusion agrees with those of Tarek Nada (1993), Tarek Mahdi (1994), and Hazen et al (1990).

Findings and Conclusions:

In the light of the discussion of the findings and the limitations of the research sample, it is found that:

- ✓ feedback has its positive effect on increasing a swimmer's movement perception with a view to consolidating his/ her proper skill performance
- ✓ Learning by viewing video-taped material and the repeat of the

performance of a model are more effective than learning by viewing the performance of a model only.

Recommendations:

It is important to use educational aids, especially the modern ones, such as video-taped materials and multi-media during the learning of swimming motor skills because of their positive effect in improving the level of skill performance.

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