The effects of Neurolinguistic Programming Exercises on Developing Thinking Strategies and the Effectiveness of the Rotation Technical Performance Phase in the Backstroke Swimming

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- Introduction:

There is no doubt that scientific research contributes to the progress of sports activities, if we look at the global levels in the championships and Olympic sessions, we can recognize the tremendous progress and rapid rise in the level of performance of players, and the level of performance in swimming in developed countries has reached in recent years to a stage of outstanding performance in all physical, technical, psychological and mental aspects due to the results of scientific studies and research and the development of scientific devices, auxiliary tools and scientific methods In the training of players, and that access to players to the highest possible level of sports excellence is not achieved randomly, but is achieved through the development and development of various abilities, skills, qualities and knowledge of players in a way that increases their abilities to achieve the maximum level of sports so that we can catch up with developed countries athletically.

The study of psychology in the field of sports had the greatest impact in understanding the behavior and experience of the individual under the influence of the practice of sports activity and measuring this behavior and this experience and trying to benefit from the information and knowledge gained in the scientific practice of these sports activities (19: 49).

Mental training contributes to the education process, as it contributes to the development of motor skills, by contributing to identifying the needs of the learner (14: 303).

Mental training programs are one of the reasons for the outstanding performance of athletes, as these include more than just a vivid picture of performance, but extend to include the use of all body sensations if possible to improve performance (29: 3).

Mental training as one of the training methods for higher mental processes to organize knowledge to enhance the educational process affecting the changes in behavior and performance of skill and motor by

linking the imaginary perception of motor and skill performance to the cognitive process in a way that supports experience and affects behavior with re-consolidation by repeating the perception, that is, it is the mental repetition of the vocabulary of the special content to learn a motor or skill performance and its associated sequence, without seeing it kinetically (18: 94) .

The emotional perception of the player, the mental motor perception, the retrieval of the technical aspects of performance, the retrieval of successful experiences, training in focusing attention, and training in isolating thinking with regard to non-training (41: 47).

Performing in a certain skill properly, this will be reflected in improving his performance of this motor skill (2: 187).

Those in charge of the education and training process, as it is considered one of the important exercises that work on the rest of the muscles on which the great effort falls during practice, in addition to providing the opportunity to exploit the available energy exerted best (13: 89).

It is among the mental processes addressed by some psychological research study of attention because of its effective role in all sports activities where all other mental processes are based, and that attention is the focus of feeling in a particular thing in preparation for observation and thinking about it (9: 2).

The sports field is the ability to focus on the symbols associated with the environment and maintain this focus throughout the competition period (14: 255).

Important psychological for athletes, it is the basis for the success of the process of education, training or competition in its various forms, distraction or lack of focus negatively affects performance, many athletes attribute the reason for the low level of their performance in the competition to the loss of focus (3: 361).

- Search problem:

Through the reference survey and previous studies and the work of the researcher in the field of swimming training, it was found that there were some technical errors during the performance of the rotation phase in the crawl swimming on the back, which may sometimes lead to the exclusion and exit of swimmers from the races and not achieving the desired results from

training and also negatively affect the digital level of the backstroke crawl swimming And since mental training is one of the important factors for the advancement of technical aspects, it is here that the importance of mental training and its impact on rotation appears For swimmers crawling on the back, which prompted the researcher to try to conduct this study to approach this trend in order to identify the impact of mental training on rotation in swimming crawl on the back and thus the level of performance, which appears through the importance of the current study so that the results that can be drawn by the study mirror codified scientifically and on the ground in the Egyptian environment reflect to coaches and swimmers emerging the importance of taking care of mental training and rotation during training programs and during races and the role of mental training To improve the rotation in achieving the best desired results, for which training programs have been developed.

- Research Objectives:

The research aims to identify the impact of the mental training program on:

-Improving the technical performance of the rotation stage for backstroke swimmers.

- Improving mental abilities (relaxation, visualization, concentration of attention) for backcrawl swimmers

- Research hypotheses:

1 - There are statistically significant differences between the average standard n (before and after) of the experimental group in the variables (mental tests - technical performance of the rotation stage of swimming crawling on the back) in favor of the dimensional measurement.

2 - There are statistically significant differences between the average standardn (before and after) of the control group in the variables (mental tests - technical performance of the rotation stage of swimming crawling on the back) in favor of the dimensional measurement.

3 - There are statistically significant differences between the two groups (experimental - control) in the variables (mental tests - technical performance of the rotation stage of swimming crawling on the back) in favor of the experimental group.

- Search terms:

1 - Mental Training :

It is a sequential long-term training system that includes strategies that use mental abilities and employ them in developing performance at different sports levels and developing public health (14: 31).

2- Mental Imagery :

It is the repetition of the perception of a motor skill previously learned in order to promote the learning of this skill, which is one of the means through which the objectives of mental training are accomplished in the acquisition of learning (3: 432).

3- Relaxation :

-Research Methodology:

The experimental method was used using the experimental design oftwo groups, one experimental and the other controlled by the method of pre- and post-measurement of the two groups.

-Research Community:

The research community was chosen in a deliberate way from the swimming team at the Rose Island Sports Club in Mansoura (born in 1999: 2000) for the year 2011, and the number of 55 swimmers

10 swimmers were selected from the research community as a group for the exploratory study and outside the strength of the basic sample, and 5 swimmers were excluded for irregular training.

-Research Sample:

10 Exploratory Studies (Non-Distinguished Group)

The basic research sample included 30 swimmers. It was randomly divided equally into two groups (experimental and control) each group includes (15) swimmers

-Reasons for choosing a research sample:

1- They have the ability to achieve muscular and mental relaxation and sensory and visual perception in mental training programs.

2- They have the necessary preparations to complete the performance requirements.

3- They have the ability to control and accuracy in the performance of various motor skills by developing kinesthetic perception.

-Homogeneity of the research sample:

Table (2)

the homogeneity of the experimental and control research groups and the survey sample in the variables under research -0.968

المتغيرات		وحدة القياس	المتوسط	الوسيط	الانحراف المعيارى	معامل الالتواء
القياسات الأساسية	الطول	سم	147.625	149.25	6.902	-0.706
	الوزن	كجم	45.19	44.8	7.629	0.153
	السن	سنوات	11.854	11.75	0.550	0.566
	العمر التدريبى	سنوات	6.97	7	0.440	-0.205
Description of the research population and sample	Research Community	Research Community	Excluded	The rest after exclusion	5.125	55
	50	Total Research Sample	15 experimental groups	99	15 control groups	Exploratory study
	طول الجذع	10 Exploratory Studies (Non-Distinguished Group)	75.663	77	5.439	-0.738
القياسات البدنية	قوة الرجلين	كجم	35.375	35	2.880	0.391
	مرونة الجذع	Variables	Unit of measurement	Average	Broker	Standard deviation
	رشاقة	ثانية	6.871	6.8	0.577	0.367
	Length	Poison	147.625	149.25	6.902	-0.706
مستوى الذكاء	Weight	Kg	45.19	44.8	7.629	0.153
الاختبارات العقلية	Age	Yrs	11.854	11.75	0.550	0.566

Follow Table (2) 0.045

المتغيرات			Training age	yrs	6.97	7	0.440
	0.117	تصور بصرى	Leg length	poison	98.875	99	5.034
		Trunk length	poison	75.663	77	5.439	-0.738
		Kg	35.375	35	2.880	0.391	-0.228
		2.125	2	1.265	0.297	1.324	Agility
		6.8	0.577	0.367	10.5	Transition speed	second
		2.013	0.178	IQ level	Illustrated IQ test	Degree	31.6
	1.878		0.160	Mental tests	Relaxation Ability Scale	Degree	27.325
مرحلة الدوران 15متر28			2.093	-0.968	20.36	0.847	Variables

It is clear from Table (2) that all the values of the torsion coefficient were confined between (+3: -3), where the highest value of the torsion coefficient = 0.995 in the auditory perception variable and the lowest value of the torsion coefficient was 0.045 in the technical performance variable for the rotation stage 15 meters, which shows that there is homogeneity between the members of the basic research sample as well as the exploratory sample.

- Equivalence of the research sample

The equivalence of the research sample in the anthropometric, physical, mental and technical performance variables under research as shown in Table (3):

Table (3)

The significance of the differences between the experimental group and the control group in the research variables 1.388

Unit of measurement		Average	Broker		Standard deviation		Torsion coefficient
			س	ع	س	ع	
Mental perception scale in the sports field	Visual Visualization	degree	10.275	10	1.569	0.526	0.965
	Auditory visualization	degree	10.475	10	1.432	0.995	1.037
	Kinetic sensation	degree	10.900	11	1.317	-0.228	1.767
	Perception of the accompanying emotional state	degree	10.3	10	1.324	0.680	0.123
القياسات الإنثروبومترية	Ability to control perception	degree	10.425	10.5	1.279	-0.176	1.595
	Mental perception from an internal perspective	degree	10.275	10	1.320	0.625	1.388

Follow Table (3)

The significance of the differences between the experimental group and the control group in the research variables **0.726**

Attention Concentration Test		**Degree**	**6.025**		**6**		**1.330**
			Second	**20.373**	**20.36**	**0.847**	
	طول الجذع	سم	77.433	4.367	76.5	Variables	Unit of measurement
Experimental Group	Control group	" T "	34.4	3.112	Going to	On	Going to
	مرونة الجذع	Basic tests	Length	poison	150.433	6.109	148.333
	0.965	ثانية	Weight	kg	47.387	9.769	44.253
	1.037	ثانية	Age	yrs	11.895	0.595	11.58
0.351	1.767	درجة	Training age	yrs	6.98	0.512	6.96
0.370	0.123	Anthropometric measurements	Arm length	poison	68.933	3.995	66.5

		تصور بصرى	Leg length	Poison	101	3.423	98.667	5.538
		تصور سمعى	درجة	Variables	Unit of measurement	Experimental Group	Control group	" T "
	1.595	Going to	On	Going to	on	11.133	1.356	Trunk length
		4.367	76.5	4.614	0.569	Physical measurements	The power of the legs	Kg
		36.2	2.859	1.650	1.506	Trunk elasticity	Poison	2.467
		1.134	1.023	10.4	Agility	Second	6.846	0.662
	0.511		0.182	5.933	Transition speed	Second	22.764	2.195
22.963			1.938	0.263	IQ level	Illustrated IQ test	Degree	31.733

Tabular value of "T" at a significant level (0.05) and a degree of freedom of 28 = 2.048

It is clear from Table (3) that all the calculated values of "T" were less than the tabular value of "T" in all the tests under research, which indicates that there are no statistically significant differences between the two groups and the control.

Data collection methods and tools

The researcher used the following means and tools

Presentation and discussion of results

First: Presentation and discussion of the results of the first hypothesis

Table (13)

The significance of the differences between the pre- and post-measurements of the experimental group in mental tests and technical performance of the rotation stage of 15 meters 45.12*

1.981			**31.2**	**1.521**		**0.827**		**Mental tests**
				27.533	**1.767**	**26.733**	**2.520**	
الاختبارات العقلية	Mental perception scale in the sports field		Visual Visualization	degree	10.8	1.859	10.4	1.352*
	مقياس التصور العقلى فى المجال الرياضى	تصور بصرى	Auditory visualization	degree	10.733	1.580	10.667	1.496*
		تصور سمعى	Kinetic sensation	degree	11.133	1.457	11.133	1.356*
		إحساس حركى	Perception of the accompanying emotional state	degree	10.4	1.502	10.2	1.424*

		تصور الحالة الانفعالية المصاحبة	Ability to control perception	degree	10.467	1.506	10.4	1.183*
		القدرة على التحكم فى التصور	Mental perception from an internal perspective	degree	10.4	1.404	10	1.134*
		Attention Concentration Test	Degree	5.933	1.387	6.2	1.082	0.587*
	Second		20.114	0.942	20.341	0.759	0.726	18.65*
الأداء الفنى لمرحلة الدوران 15متر			ثانية	20.114	0.942	18.611	0.940	45.12*

Tabular value of "T" at a significant level (0.05) and a degree of freedom of 14 = 2.145

It is clear from Table (13) that all the calculated values of "T" were higher than the tabular value of "T" in all the tests under research (mental tests and technical performance of the rotation stage 15 meters), which indicates that there are statistically significant differences between the pre- and post-measurements of the experimental group in the variables under research (mental tests and technical performance of the rotation stage 15 meters) and in favor of the post-measurement, which indicates the improvement of the experimental group in the tests under research statistically significant improvement and Table (14) shows the following rates of improvement at all

Figure (2) Differences between the pre- and post-measurements of the experimental group in the technical performance of the rotation stage and the measure of relaxation ability

It is clear from Table (13) and Figure (1, 2) that there are statistically significant differences between the average of the pre-dimensional standards of the experimental group in the components of the mental test variables - the technical performance of the rotation stage 15 meters for swimming crawling on the back in favor of the dimensional measurement, as the calculated values of "T" ranged between 7.69: 45.12 and these values are higher than the value of "T" table, which amounted to 2.145 at a significant level of 0.05.

Table (14) 7.47

المتغيرات			وحدة القياس	متوسط القبلى	Variables	Unit of measurement	Pre-measurement
Telemetry	Value "T"		درجة	27.533	Going to	on	Going to%
	مقياس التصور العقلى فى المجال الرياضى	Mental tests	Relaxation Ability Scale	Degree	27.533	1.767	45.867%
		تصور سمعى	Mental perception scale in the sports field	Visual Visualization	Degree	10.8	1.859%
		* 21.71	درجة	11.133	Auditory visualization	degree	10.733%
		1.552	* 22.97	10.4	15.667	Kinetic sensation	degree%
		15.933	1.580	* 21.56	15.6	5.133	Perception of the accompanying emotional state%
		1.502	15.667	1.633	* 23.08	5	48.07%
	degree		10.467	1.506	15.6	1.765	* 23.84*
الأداء الفنى لمرحلة الدوران 15متر			ثانية	Mental perception from an internal perspective	Degree	10.4	1.404%

Table (14) shows the differences in the improvement rates in mental tests and technical performance for the rotation stage 15 meters between the pre- and post-measurements of the experimental group

Table (14) also shows that mental abilities recorded the highest percentage of improvement in the attention concentration variable and reached an improvement rate of 91.01%, while the lowest percentage of improvement was in the variable of the technical performance test for the rotation stage and the improvement rate was 7.47%.

The researcher attributed the statistically significant differences, and the rates of improvement in the emerging experimental group in the components of the variables of mental tests - the technical performance of the rotation stage under research to the positive impact of the proposed mental training program.

From the foregoing, the researcher believes that the first hypothesis of the research has been achieved, which states

that there are statistically significant differences between the average standard (pre-dimensional) of the experimental group in the variables (mental tests - technical performance of the rotation stage of swimming crawling on the back) in favor of the dimensional measurement .

Second: Presentation and discussion of the results of the second hypothesis

Table (15)

The significance of the differences between the pre- and post-measurements of the control group in mental tests and the technical performance of the rotation stage 18.15*

15.4			1.805	* 18.11		القياس البعدى		Attention Concentration Test
				1.387	11.333	1.799	* 18.65	
20.114			0.942	18.611	0.940	45.12*	2.560	12.61*
مقياس صور العقلى المجال الرياضى		تصور بصرى	درجة	Variables	Unit of measurement	Tribal Medium	Dimensional Average	troupes*
		Relaxation Ability Scale	degree	27.533	45.867	18.334	66.58	10.58*
		Degree	10.8	15.933	5.133	47.52	1.183	10.71*
		10.733	16.133	5.4	50.31	11.8	1.207	Kinetic sensation *
		15.933	4.8	43.11	1.183	11.867	Perception of the accompanying emotional state	degree*
		5.267	50.64	10	1.134	Ability to control perception	Degree	10.467*
5.133			49.04	6.2	1.082	Mental perception from an internal perspective	Degree	10.4*
مرحلة15.4 الدوران 15متر			5	48.07	0.759	Attention Concentration Test	Degree	5.933

Tabular value of "T" at a significant level (0.05) and a degree of freedom of 14 = 2.145

It is clear from Table (15) that all the calculated values of "T" were higher than the value of "T" tabular in all tests under research (mental tests and technical performance of the rotation stage), which indicates the existence of statistically significant differences between the pre- and post-measurements of the control group in the variables under research in favor of the post-measurement, which indicates the improvement of the control group in the tests under research statistically significant improvement and Table (16) shows the following rates of improvement in each test separately.

Figures (4) (5) show the differences in the pre- and post-measurements of the control group in variables (mental tests and technical performance of the rotation stage of crawling swimming on the back)

Table (16) 2.96

11.333			5.4	91.01	Technical performance of the rotation phase 15 meters	Second	20.114
18.611	-1.503		7.47	26.733	29.133	2.4	8.97%
	مقياس التصور العقلى فى المجال الرياضى	تصور بصرى	درجة	10.4	11.533	1.133	10.89%
		Variables	Unit of measurement	Pre-measurement	Telemetry	Value "T"	12.49%
		On	Going to	on	12.4	Mental tests	Relaxation Ability Scale%
		2.520	29.133	2.560	* 12.61	1.6	Mental perception scale in the sports field%
		10.4	1.352	11.533	1.506	* 12.47	14.10%
		Degree	10.667	1.496	12	1.309	* 10.58*
	اختبار تركيز الانتباه		Kinetic sensation	degree	11.133	1.356	12.4%
1.183			* 10.71	20.341	19.737	Perception of the accompanying emotional state	degree%

the back under research have improved among the swimmers of the control group, where we find that mental abilities recorded the highest percentage of improvement in the focus of attention variable and the rate of improvement was 24.726%, while the lowest percentage of improvement in the variable of technical performance of the rotation stage was 15 meters and the percentage of improvement was 2.969% .

From the foregoing, the researcher believes that the second hypothesis of the research has been achieved, which states that there are statistically significant differences between the average standard (pre-dimensional) of the control group in the variables (mental tests - technical performance of the rotation stage of swimming crawling on the back) in favor of the dimensional measurement

Third: Presentation and discussion of the results of the third hypothesis

Table (16) shows the improvement rates in mental tests and technical performance for the rotation stage between the pre- and post-measurements of the control group

It is clear from Table (15) and Figure (4, 5) that there are statistically significant differences between the average of the pre-dimensional standards of the control group in the components of the mental test variables - the technical performance of the rotation stage of the crawl swimming on the back in favor of the dimensional measurement, as the calculated values of "T" ranged between 6.48:18.15 These values are higher than the tabular value of "T" which amounted to 2.145 at a significant level of 0.05.

Table (16) also shows that all components of the mental tests variables - the technical performance of the rotation stage of the crawl swimmer on

Table (17)

The significance of the differences between the experimental and control groups in the dimensional measurement of mental tests and the technical performance of the rotation stage 3.62

10.2		1.424	11.8		1.207		* 12.22
			Ability to control perception	Degree	10.4	1.183	
1.1	11	درجة	29.133	Mental perception from	Degree	10	1.134*

				an internal perspective			
0.990	11.5	درجة	Attention Concentration Test	Degree	6.2	1.082	7.733*
	Technical performance of	second	20.341	0.759	19.737	0.756	18.15**
	إحساس حركى	درجة	12.4	1.183	15.933	1.580	6.93*
	Unit of measurement	Tribal Medium	Dimensional Average	troupes	Percentage improvement	Mental tests	Relaxation Ability Scale*
	29.133	2.4	8.97	1.125	Mental perception scale in the sports field	Visual Visualization	degree*
	1.133	10.89	11.533	0.990	Auditory visualization	Degree	10.667*
1.333		12.49	7.733	1.163	Kinetic sensation	Degree	11.133*
مرحلة12.4 الدوران متر15		1.267	11.38	0.756	18.611	Perception of the accompanying emotional state	degree*

Tabular value of "T" at a significant level (0.05) and a degree of freedom of 28 = 2.048

It is clear from Table (17) that all the calculated values of "T" were higher than the tabular value of "T" in all the tests under research (mental tests and technical performance of the rotation stage), which indicates that there are statistically significant differences between the two dimensional measurements of the experimental and control groups in the variables under research in favor of the dimensional measurement of the experimental group in the tests under research.

Figure (8) Differences between the experimental and control groups in the dimensional measurement of the ability to relax and the technical performance of the rotation phase

From the above, the researcher attributes the difference between the two measurements to the effect of the proposed program using mental exercises followed in training the experimental group on the variables of mental abilities and technical performance of the rotation stage under research

The researcher attributes the progress of the swimmers of the experimental group to the swimmers of the control group in the dimensional measurements of the research variables as a result of the use of the proposed training program using mental exercises followed in the training of the experimental group without control.

It is clear from Table (17) and Figure (7, 8) that there are statistically significant differences between the average of the two dimensional standards of the experimental and control groups in the components of mental tests and the technical performance of the rotation stage of swimming crawling on the back in favor of the dimensional measurement, as the calculated values of "T" ranged between **3.62**: **18.10** and these values are higher than the value of "T" table, which amounted to **2.048 at a significant level of 0.05.**

Table (17) also shows that all the components of the variables of mental tests and the technical performance of the rotation phase of the crawl swimmer on the back under research have improved among the swimmers of the experimental group from the control.

The researcher attributed the statistically significant differences, and the rates of improvement in the emerging experimental group in the components of the variables of mental tests and the technical performance of the rotation stage of swimming crawl on the back to the positive impact of the program, which uses mental training in training.

Thus, the third hypothesis is achieved, which states that there are statistically significant differences between the two groups (experimental - control) in the variables (mental tests - technical performance of the rotation stage of crawling swimming on the back) in favor of the experimental group.

Conclusions and recommendations

Conclusions:

In the light of the objectives of the research and its hypotheses and within

the limits of the research sample and its characteristics and measurements used and the method used and a conclusion to the results of the statistical treatments it was possible to reach the following conclusions:

1- The proposed program of mental training plays an important and vital role in the development of the most important mental abilities (relaxation, mental perception, concentration of attention).

2- Mental abilities (relaxation, mental visualization, concentration of attention) contributed to improving the level of technical performance of the rotation stage in crawling swimming on the back.

3- The proposed program of mental training has a positive effect on improving the turnaround time of crawling swimmers on the back.

4- Mental training increases the individual's ability to relax, which leads to a reduction in the level of anxiety associated with performance, which leads in turn to the individual's ability to control the concentration of attention during the performance of the rotation phase in the crawl swimming on the back.

5- Muscle relaxation of the trunk further contributes to improving the time and level of technical performance of the rotation phase in the crawl back swim.

6- Focusing attention further contributes to improving the level of technical performance of the rotation phase in the crawling backstroke.

7- The proposed program using mental training (experimental) showed a positive effect on the variables (mental abilities - technical performance of the rotation stage) among the experimental group junior.

Recommendations:

1. Benefiting from mental training programs at the level of the gifted sector in swimming.

2. The need to pay attention to the development of mental abilities within the training programs for the junior stages in swimming, because of its positive impact on improving the time and level of technical performance of the rotation stage in the crawl swimming on the back.

3. Develop programs for the development of mental abilities.

4. Develop special programs that reduce stress with a focus on the use of cascading relaxation, which the results have shown to be effective for working with athletes.

5. Work to focus on the dimensions of clarity and control when developing the ability to mental visualization

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