

Developing the Physical Abilities for Gymnastic Beginners According to the Egyptian Federation Requirements and its Effect on Achievement Level

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Abstract: This study was performed in 2010 to design a training program to develop the physical abilities and to improve the performance level of gymnastics under 7 years old. According to the research goals, sample, through the fact of reports and information and forms the statistical treatments the following points have been detected: there are statistical differences between both the pre-post measurement for research sample under 7 years old in the ability of running 20 m for the sake of post measurement the time in pre measurement = 5.68 second and the post was 4.24 second by improving 25.35 %, while pre was 4.13 second and in the post was 8.88 by improving 115.01%. There are statistical differences between both the pre-post measurement for research sample under 7 years old in their ability on press hand stand from L for the sake of post measurement the repeat in pre measurement = 1.75 and the post was 2.88 by improving 64.57% while the degree in pre was 6.75 and in the post was 9.19 by improving of 36.15%. There are statistical differences between both the pre-post measurement for research sample under 7 years old in their ability on bent arms from hang for the sake of post measurement the repeat in pre measurement = 2.26 and the post was 10.75 by improving 377.78 %, while the degree in pre was 4.56 and in the post was 9.38 by improving of 20.87. There are statistical differences between both the pre-post measurement for research sample under 7 years old in their ability of long jump for the sake of post measurement the distance between the pre measurement = 133.88cm and the post was 147.9 cm by improving 10.47% while the degree in pre was 7.81 and in the post was 9.44 by improving percent of 20.87%. There are statistical differences between both the pre-post measurement for research sample under 7 years old in their ability on bent arms from support for the sake of post measurement the repeat in pre measurement = 4.63 and the post was 11.38 by improving 145.79% while the degree in pre was 6.0 and 6.69 in the post by improving 61.5 %. There are statistical differences between both the pre-post measurement for research sample under 7 years old in their ability on hand stand for the sake of post measurement the time in pre measurement = 8.13 second and the post was 27.50 by improving 238.25% while the degree in pre was 5.38 and in the post 9.38 by improving 74.35%. The program developed physical abilities and improved performance level, resulting in winning the gymnastics (first levels) in the local championship in Egypt.

Key words: Gymnastic % Achievement level % Physical abilities

INTRODUCTION

Each skill has performing requires to do it correctly and well. these requires have tow side, first physical requires that mean the physical qualities for doing the skill, second motor requires that mean the mechanical qualities of the skill to be performed well in the case of absence these requires, there's weakness in performing the skill so its important to know the physical and motor requires through the performing requires in each sport

stage [1]. Gymnastic sport is one of the important sport that needs progressive means for training to reach the basic sports that participate in developing the physical qualities and skills abilities for players [2].

Technical skills in gymnastic sport requires perfect perform for the skills, these skills needs special training requires and also developing the physical qualities for these skills, they also needs much interests and cares [3].

The physical and skills training are two faces for one coin, we should take of them, so the Egyptian

federation put groups of physical tests to measure the physical abilities of the beginners through the special championship which represented 60 % and arrange the difference according to these results according to preferring the skills sides owner physical for some trainers and preferring the physical sides for the Egyptian union, so the researchers think of this research problem there's no perfect training program based on scientific steps we can depend on to develop the physical qualities levels for beginners under 7 years old, the two researchers think of designing scientific training program to develop the level of physical abilities.

The research aims at putting suggested training program physical abilities to recognize the following:

- C The effect of training program on developing physical abilities for beginners under 7 years old.
- C Degree of research sample (achievement level).

The Research Hypothesis:

- C There are statistical differences between both the pre-post measurement for research sample in physical abilities for the sake of post measurement.
- C There are statistical differences between both the pre-post measurement for research sample in the total degrees (physical – skillful) for sake the post measurement.

EL-Baqery [3] recognized the relation between psychology co-ordination for adult wrestling and its effect on achievement level. He used the description curriculum on sample of 120 wrestling players; the results affirm that positive relation between psychology co-ordination for adult wrestling and its effect on achievement level.

Mostafa [4] deducted the relation between psychology co-ordination and sport achievement level for Judo players, he used the description curriculum on sample of 96 players that their age between 19 - 29 years old, the results firm that there was positive relation with psychology co-ordination and sport achievement level for the research sample.

Abd El-Razeq [5] studied the relation between the active rhythm and achievement level for research sample, he used the description curriculum on sample of 30 players under 20 years old of Minoufya wrestling players, the results affirm that there was positive relation

between the active rhythm type and both of special physical abilities and psychology properties and achievement level for wrestling sport players.

Hasnen [6] recognized on the role of vital rhythm and its effect on digital achievement for swimming beginners, he used the description curriculum on sample of 16 players between 16 - 17 years old, the results affirm that there was positive relation between vital rhythm for swimming beginners and its relation with the sport achievement for 100m swimming.

Ahmed [7] suggested a training program by using aural rhythm on strategy of speed organization and digital achievement level for walking race, the results affirm that improving in digital level for experimental group through the suggested training program.

Rmdan [8] recognized the influence of suggested program on distinguished anaerobic and digital achievement level for runner 800e, he used the experimental curriculum on sample of 8 players, the results affirm that the suggested training program its effect on distinguished anaerobic and digital achievement level for runner 800 m.

MATERIALS AND METHODS

The Research Method: The researchers had used the experimental method for one group experimental.

The Research Sample: It was chosen intentionally a sample of 8 beginners of gymnastics joined it newly in the Egyptian Olympic club under 7 years old.

- C Homogeneity for research sample.

Tests Validity: Table 5 shows differences between distinct and indistinct groups in physical variables were for the sake of distinguished group.

Stability of Tests: It is shown in Table 6 that there was a statistical significant correlation between the variables in (measurements / market), where the value of "R" calculated (measurements / market) is greater than " R " spreadsheet which shows the stability of the tests under discussion.

Pre Measurement: The researchers has done pre measurement on Tuesday, 23/02/2010 through the results of Cairo Open Championship.

Table 1: Research sample description N =12

Serial	Group	Numbers	Percentage
1	Experimental	8	66.67%
2	Discovery studies	4	33.33%
3	total	12	100%

Table 2: Mean; standard deviation and skewness for research sample N=8

Variable	Measure	Mean	St. deviation	Skewness
Length	Cm	111.50	3.55	1.500
Age	year	6.54	0.31	0.486
Weight	kg	20.54	0.79	0.292
Training age	year	2.35	0.37	0.352

The Table shows that skewness for research sample is between ± 3 that shows homogeneity for sample at these variables

Table 3: Mean; st. deviation and skewness for research sample in physical variables

Variable	Measure	Mean	St. deviation	Skewness
Running 20 m	Time	5.68	0.55	0.111
Press hand stand from L	Time	2.25	1.39	0.160
Bent arms from hang	Repeat	2.25	1.39	0.160
Long jump	cm	133.88	18.25	0.596
Bent arms from support	Repeat	4.63	3.54	0.618
Hand stand	Time	8.13	7.47	0.758
Bent arms and Hip circle	Repeat	3.0	2.62	0.573
Legs up from hang	Time	18.0	9.07	1.213

The Table shows that skewness for research sample is between ± 3 that shows homogeneity for sample at these variables

Table 5: Contrast validity between tow groups distinct and Indistinct in physical variables

Variables	Distinct				Indistinct					
	Mean		St. deviation		Mean		St. deviation		"T" test	
	Time	Mark	Time	Mark	Time	Mark	Time	Mark	Time	Mark
Running 20 m	4.35	6.75	0.13	0.65	5.35	4.38	0.37	0.75	5.20*	4.284*
Press balance	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark
	4	8.88	0.82	1.03	1	2.75	0.82	3.20	4.243*	3.122*
Hang pull	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark
	9.25	7.13	0.69	0.48	2.50	5.13	1.29	0.85	7.905*	4*
Long jump	cm	Mark	cm	Mark	cm	Mark	cm	Mark	cm	Mark
	143.75	8.38	4.79	0.48	116	6.50	8.04	0.91	9.982*	5.96*
Pres on parallel bars	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark
	8.25	7.13	1.50	0.75	3.50	5.13	2.08	0.85	3.612*	6.928*
Hand stand	Time	Mark	Time	Mark	Time	Mark	Time	Mark	Time	Mark
	26	7.13	7.30	1.11	6.50	5	3.70	0.0	3.555*	3.833*
Hip circle	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark
	14.25	8.13	1.50	0.70	3.50	5.75	1.29	0.65	9.696*	3.450*
Legs static bar hang	Time	Mark	Time	Mark	Time	Mark	Time	Mark	Time	Mark
	30	7.50	3.27	0.82	18	6.38	1.63	0.48	6.573*	4.700*

Value "T" spreadsheet in the abstract level (0.05) = (1.943)

Table 4: Mean; standard deviation and skewness for research sample (degree) in physical variables

Variable	Measure	Mean	St. deviation	Skewness
Running 20 m	Time	4.13	0.35	2.828
Press balance	Time	2.25	1.39	0.160
Hang pull	Repeat	4.56	1.95	2.251
Long jump	cm	8.31	1.77	0.744
Pres on parallel bars	Repeat	5.88	1.92	0.877
Hand stand	Time	5.38	1.38	0.453
Hip circle	Repeat	3.25	1.91	0.308
Legs static bar hang	Time	6.96	3.02	1.833

The Table shows that Skewness for research sample is between ± 3 That shows homogeneity for sample at these variables

Implementing the Program: Been applied to the proposed training program in the period from Thursday 25/02/2010 and approved on Monday 26/04/2010.

Post Measurement: The researchers done post measurement Monday, 26/04/2010 through Republic Championship results.

Results of the First Hypothesis: Shown in Table 7 the existence of significant differences between the average measurements (pre and post) for the experimental group under discussion in the variables of physical and for the average telemetric where the value of "T" calculated is greater than the value of "T" spreadsheet in the abstract level (0.05).

Table 6: Mean, standard deviation and the value of "R" calculated between the two applications (I and II) in the physical variables under consideration

	Application				Re- application					
	Mean		St. deviation		Mean		St. deviation		"R" test	
Variables	Time	Mark	Time	Mark	Time	Mark	Time	Mark	Time	Mark
Running 20 m	5.35	4.38	0.37	0.75	4.48	6.68	0.36	0.70	0.883*	0.932*
Press balance	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark
	1	2.75	0.82	3.20	2.50	0.58	5	3.74	0.887*	0.893*
Hang pull	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark
	2.50	5.13	1.29	0.85	4.75	5.88	0.96	1.31	0.920*	0.912*
Long jump	cm	Mark	cm	Mark	cm	Mark	cm	Mark	cm	Mark
	116	6.50	8.04	0.91	127.50	6.25	17.08	1.71	0.927*	0.883*
Pres on parallel bars	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark
	3.50	5.13	2.08	0.85	6.25	6	0.86	1.47	0.916*	0.891*
Hand stand	Time	Mark	Time	Mark	Time	Mark	Time	Mark	Time	Mark
	6.50	5	3.70	0.0	5.25	6	2.22	1.22	0.898*	0.905*
Hip circle	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark
	3.50	5.75	1.29	0.65	6	6.38	2.94	2.29	0.953*	0.917*
Legs static bar hang	Time	Mark	Time	Mark	Time	Mark	Time	Mark	Time	Mark
	18	6.38	1.63	0.48	24.25	7.38	4.35	0.85	0.939*	0.968*

Value "R" spreadsheet in the abstract level (0.05) = (0.878)

Table 7: Significant differences between the averages of measurements (pre and post) for members of the sample in the physical variables under consideration

Variables	Before				After				"T" test	
	Mean		St. deviation		Mean		St. deviation			
	Time	Mark	Time	Mark	Time	Mark	Time	Mark	Time	Mark
Running 20 m	5.68	4.13	0.55	0.35	4.24	8.88	0.14	0.74	6.699*	16.756*
Press balance	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark
Hang pull	1.75	6.75	1.04	3.04	2.88	9.19	0.83	1.28	3.211*	2.208*
	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark
Long jump	2.25	4.56	1.39	1.95	10.75	9.38	1.04	0.52	10.32*	5.845*
	cm	Mark	cm	Mark	cm	Mark	cm	Mark	cm	Mark
Pres on parallel bars	133.88	7.81	18.3	1.46	147.9	9.44	7	0.62	2.949*	3.457*
	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark
Hand stand	4.63	6	3.54	1.85	11.38	9.69	0.92	0.46	5.224*	5.636*
	Time	Mark	Time	Mark	Time	Mark	Time	Mark	Time	Mark
Hip circle	8.13	5.38	7.47	1.38	27.50	9.38	1.14	0.35	6.732*	7.260*
	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark	Repetition	Mark
Legs static bar hang	3	3.25	2.62	1.91	10.50	9.50	1.20	0.65	7.016*	8.611*
	Time	Mark	Time	Mark	Time	Mark	Time	Mark	Time	Mark
	18	6.69	9.07	3.02	28.50	9.63	1.41	0.35	2.949*	2.552*

Value "T" spreadsheet in the abstract level (0.05) = (1.895)

Table 8: Significant differences and rates of improvement and the value of (ETA squared) between the mean measurements (pre and post) of the respondents in the variables under consideration skills

Variables	Before		After		Percentage	"T" test	Eta squared
	Mean	St. deviation	Mean	St. deviation			
Vaulting board	8.23	1.42	9.26	1.42	12.52%	13.981*	0.97
Floor exercise	10.10	0.47	11.63	0.52	15.15%	9.919*	0.93
Horizontal bar	9.81	1.33	11.14	1.24	13.56%	12.505*	0.95
Mushrooms	8.22	0.66	9.50	0.90	15.57%	9.085*	0.92

Value "T" spreadsheet in the abstract level (0.05) = (1.895)

Table 9: Significant differences and rates of improvement and the value of (ETA 2) between the mean measurements (pre and post) of the respondents in the total scores (physical and skill) under consideration

Variables	Before		After		Percentage	"T" test	Eta squared
	Mean	St. deviation	Mean	St. deviation			
Vaulting board	12.29	2.63	17.19	2.05	39.87%	5.229*	0.79
Floor exercise	13.41	2.06	16.97	1.93	26.55%	6.934*	0.87
Horizontal bar	13.66	2.61	16.19	2.32	18.52%	5.679*	0.82
Mushrooms	15.34	3.08	18.64	3.09	21.51%	3.216*	0.59

Value "T" spreadsheet in the abstract level (0.05) = (1.895)

It is shown in Table 8 that there are statistical significant differences between the average measurements (pre and post) for the experimental group under discussion in the variables skill and for the average telemetric where the value of "t" calculated is greater than the value of "T" spreadsheet in the abstract level (0.05).

Results of the Second Hypothesis: It is shown in Table 9 that there are statistical significant differences between the average measurements (pre and post) for the experimental group under consideration in the total scores (physical skill) and for average telemetric where the value of "t" calculated is greater than the value of "T" indexed at the level of moral (0.05).

CONCLUSION

According to the research goals, sample, through the fact of reports and information and forms the statistical treatments the following points have been detected.

- C There are statistical differences between both the pre-post measurement for research sample under 7 years old in the ability of running 20 m for the sake of post measurement the time in pre measurement = 5.68 second and the post was 4.24 second by improving 25.35 %, while pre was 4.13 second and in the post was 8.88 by improving 115.01%.
- C There are statistical differences between both the pre-post measurement for research sample under 7 years old in their ability on press hand stand from L for the sake of post measurement the repeat in pre measurement = 1.75 and the post was 2.88 by improving 64.57% while the degree in pre was 6.75 and in the post was 9.19 by improving of 36.15%.
- C There are statistical differences between both the pre-post measurement for research sample under 7 years old in their ability on bent arms from hang for

the sake of post measurement the repeat in pre measurement = 2.26 and the post was 10.75 by improving 377.78 %, while the degree in pre was 4.56 and in the post was 9.38 by improving of 20.87.

- C There are statistical differences between both the pre-post measurement for research sample under 7 years old in their ability of long jump for the sake of post measurement the distance between the pre measurement = 133.88cm and the post was 147.9 cm by improving 10.47% while the degree in pre was 7.81 and in the post was 9.44 by improving percent of 20.87 %.
- C There are statistical differences between both the pre-post measurement for research sample under 7 years old in their ability on bent arms from support for the sake of post measurement the repeat in pre measurement = 4.63 and the post was 11.38 by improving 145.79% while the degree in pre was 6.0 and 6.69 in the post by improving 61.5 %.
- C There are statistical differences between both the pre-post measurement for research sample under 7 years old in their ability on hand stand for the sake of post measurement the time in pre measurement = 8.13 second and the post was 27.50 by improving 238.25% while the degree in pre was 5.38 and in the post 9.38 by improving 74.35%.

Recommendations:

- C The results of this research and the program are directed to the coaches in the field of gymnastic sport.
- C We must develop the physical abilities for the beginners in gymnastic sport.
- C The importance of doing similar studies by using another tool that have an effective role in developing the physical level.
- C Applying the suggested program on the beginners under 7 years old.

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