

# The Effect of using Some Small Games to Develop Some Perceptual-motor Abilities through Sport Education Lesson for 6-8 Year Old Students

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## ABSTRACT

This study aims to define the effect of using some small games to develop some perceptual-motor abilities through the sport education lesson for 6-8 years old primary stage students. The researcher used the empirical method on a sample of 40 male students divided into two groups: Control and empirical groups under the researchers' supervision as educational units were applied on them using small games. As for tests, they adopted bourdon gauge to use motor perception abilities of children. After statistical treatment of raw results, the researchers found that using small games in sport education lessons had a positive effect on some perceptual-motor abilities under research for 6-8 years old primary stage students.

**Keywords:** Small games, perceptual-motor abilities, primary stage, lesson

## INTRODUCTION

Human wealth is the real wealth of any community. Children are on top of that wealth due to their importance in the face of challenges of the modern era. Assessing the future of any society depends to a large extent on the educational conditions faced by the

new generation of its members, and since childhood is the backbone of the future, and taking care of children in the primary age group is the rule on which the proper upbringing in their developmental stages is based (Barakat, 1989. p. 117), playing is considered the important educational mediator which helps the child grow physically, mentally, cognitively, socially, and emotionally as it is one of the means to understand the psyches of children and determine their preparations through which the child expresses himself freely and interacts with other children. Perceptual-motor abilities are of the critical aspects that are important for the growth of the child due to their impact on other aspects of child growth in general, and their relationship to the ability to learn, in particular, whether in motor or

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cognitive domains (Al Ruby, 1990. p. 9), and as the primary stage is considered one of the most important stages of education because it is the core of the educational process base, physical and sport education is an episode of the educational process at this stage. It attracted the attention of scientists and researchers in many fields of research and psychological studies, especially perception and learning research studies in the areas in which performance depends on motor activity, especially physical and sport education (Porras, 1997).

The physical and sport education cannot be separated at this first stage (basal stage) without the need for small games that are considered one the factors to master playing. They give the physical and sport education lesson fun, pleasure, and relaxation (Bahy, 1994). These motivated researchers to try to employ educational units using some small games to develop some perceptual-motor abilities through the sport education lesson for 6-8 years old students.

Thus, we can ask the following questions:

- Is there a positive effect of the use of small games on developing some perceptual-motor abilities for the sample of the study?
- Are there statistically significant differences between results of pre- and post-tests for samples of the study in some perceptual-motor abilities?
- Are there statistically significant differences between both samples of the study in results of post-tests for some perceptual-motor abilities?

### Objectives of the Study

The study aims to:

- Propose educational units using small games within physical and sport education lessons to develop some perceptual-motor abilities through the sport education lesson for 6-8 years old students
- Define the effect of educational units using small games on developing some perceptual-motor abilities through the sport education lesson for 6-8 years old students
- Defining differences between the control and empirical groups in the level of some perceptual-motor abilities for 6-8 years old students.

## METHODOLOGY

The researchers depended on the empirical method as it is proper to the nature of the study.

### Population and Sample of the Study

Population of the study includes first-year male students at primary schools of Sidi Ali city in Mostaganem District (Algeria). The sample was selected using purposive method and it included students of Al Ekhwa Bin Neama Primary School. The sample of the study consisted of 40 students (1<sup>st</sup> and 2<sup>nd</sup> year) with ages ranging between 6 and 8 years old and average of 7 years. They were distributed on two symmetric groups in number (the control group: 20 students and the empirical group: 20 students).

### Tools of the Study

The study used bourdon gauge to measure perceptual-motor abilities. This gauge is prepared for the stage between 6 and 12 years. It is not preferred to use it on children older than 12 years. This sale consists of 5 aspects adopting 3 areas as it is not proportional with motor area:

First: Balance and shape.

Second: Body image and characteristic.

Third: Visual control.

### The Main Trial

The main trial is about preparing and applying educational units to develop some perceptual-motor abilities through the sport education lesson for 6-8 years old primary stage students. To ensure validity of the study, the researchers adopted simplified method using modern means of education. They gave 18 educational units with a rate of two units a week. Pre-tests were performed on 05 and 06 January, 2015, and then, educational units were applied on the empirical group, whereas the control group used traditional learning method. After finishing programmed units related to the study, post-tests were conducted on 15 and 16 March, 2015 for both samples at the same conditions.

The educational units about small games were prepared considering games of body awareness, balance, space awareness, coordination, and synergy in addition to develop perceptual-motor abilities.

Small games are parts of motor activities that its management requires careful organization by primary stage students. Therefore, a supervisor should respect learning principles, teaching methods and necessary time to work with primary stage students in addition to the use of teaching methods and techniques in the theoretical part of the study.

Each educational unit included administrative and organizational activities including reception, warming-up, and the main part that includes educational activity in which the main objective of the share is achieved, in which a set of small games are presented. As for the final part, it refers to the ordinary condition before the share which is as shown in Table 2.

**Table 1:** Tests of perceptual-motor abilities of the study

Scale tests	Scale items	Measurement areas
Test of walking on a board	Forward walk on a board	Balance and shape
	Backward walk on a board	
	Side walk on a board	
Jumping test	Jumping	
Body parts assignment test	Body parts assignment	Body image and characteristics
Movement imitation test	Movement imitation	
Crossing hurdles test	Crossing hurdles	
Cross-Weber test	Cross-Weber	
Ground angles test	Ground angles	
	Shape	
Test of visual collection of shapes	Organization	Visual control

**Table 2:** Time distribution of the educational unit

Parts	Preparation part		Main part	Final part
	Administrative	Warm-up		
Time duration	05 min	10 min	25 min	05 min

Researchers applied 16 educational units with the average of two units weekly for 2 months

## PRESENTATION, ANALYSIS AND DISCUSSION OF RESULTS

Table 3 shows that there are no statistically significant differences at the control sample as counted T value ranges between 0.69 and 4.68, and these are generally less than tabulated T value which is 2.09 at significance level 0.05 and freedom degree  $(n - 1) = 19$ . Accordingly, there are no statistically significant differences between pre- and post-tests.

Table 4 shows that there are statistically significant differences in favor of post-tests at the empirical sample as counted T value ranges between 7.62 and 13.58, and these are generally less than tabulated T value which is 2.09 at significance level 0.05 and freedom degree  $(n - 1) = 19$  (except for Cross-Weber test). The researchers attribute this finding to the contribution of small games in physical education lessons over the adoption of scientific basics in preparing educational units.

Table 5 shows that there are statistically significant differences in favor of post-tests between control and empirical samples in favor of the empirical one. The counted T value ranges between 3.82 and 7.46, and these are generally bigger than tabulated T value which is 2.02 at significance level 0.05 and freedom degree  $(2n - 2) = 38$  (except for Cross-Weber test as the counted T value was 0.23 and it is less than tabulated one). The researchers attribute this notable improvement to the contribution of small games in the used physical education lessons compared with

**Table 3:** Results of pre- and post-tests of the control sample in perceptual-motor abilities under study

Tests	Statistical measures						
	Mean±SD		Counted T	Tabulated T	Freedom degree n-1	Significance level	Statistical significance
	Pre-test	Post-test					
Forward walk on a board	1.65±0.49	2.4±0.82	4.68	2.09	19	0.05	Insignificant
Backward walk on a board	1.55±0.60	1.8±0.62	1.42				Insignificant
Side walk on a board	1.95±0.69	2.15±0.75	1.45				Insignificant
Jumping	1.75±0.72	2±0.73	1.75				Insignificant
Body parts assignment	2±0.65	2.25±0.72	1.56				Insignificant
Movement imitation	1.75±0.55	2.30±0.80	3.24				Insignificant
Crossing hurdles	1.8±0.62	2.05±0.76	1.56				Insignificant
Cross-Weber	1.5±0.61	1.7±0.73	1.45				Insignificant
Ground angles	1.8±0.52	1.9±0.64	0.69				Insignificant
Visual collection (shape)	1.95±0.60	2.15±0.81	1.45				Insignificant
Visual collection (organization)	2.00±0.65	2.25±0.79	1.56				Insignificant

SD: Standard deviation

**Table 4:** Results of pre- and post-tests of the empirical sample in perceptual-motor abilities under study

Tests	Statistical measures						Statistical significance
	Mean±SD		Counted T	Tabulated T	Freedom degree 2n-2	Significance level	
	Pre-test	Post-test					
Forward walk on a board	1.9±0.64	3.3±0.66	7.62	2.09	19	0.05	Significant
Backward walk on a board	1.6±0.60	3.1±0.72	9.74				Significant
Side walk on a board	1.9±0.64	3.25±0.64	10.28				Significant
Jumping	2.05±0.69	3.4±0.68	10.28				Significant
Body parts assignment	2.1±0.72	3.4±0.68	12.36				Significant
Movement imitation	2.00±0.56	3.7±0.47	16.17				Significant
Crossing hurdles	1.95±0.51	3.5±0.51	13.58				Significant
Cross-Weber	1.55±0.60	1.65±0.59	1.00				Insignificant
Ground angles	1.85±0.49	3.35±0.59	13.07				Significant
Visual collection (shape)	1.7±0.66	3.2±0.7	9.74				Significant
Visual collection (organization)	2.2±0.62	3.55±0.51	8.10				Significant

SD: Standard deviation

**Table 5:** Results of post-tests of the control and empirical samples in perceptual-motor abilities under study

Tests	Statistical measures						Statistical significance
	Mean±SD		Counted T	Tabulated T	Freedom degree 2n-2	Significance level	
	Pre-test	Post-test					
Forward walk on a board	2.4±0.82	3.3±0.66	3.82	2.02	38	0.05	Significant
Backward walk on a board	1.8±0.62	3.1±0.72	6.14				Significant
Side walk on a board	2.15±0.75	3.25±0.64	5.01				Significant
Jumping	2.00±0.73	3.4±0.68	6.29				Significant
Body parts assignment	2.25±0.72	3.4±0.68	5.20				Significant
Movement imitation	2.30±0.80	3.7±0.47	6.73				Significant
Crossing hurdles	2.05±0.76	3.5±0.51	7.07				Significant
Cross-Weber	1.7±0.73	1.65±0.59	0.23				Insignificant
Ground angles	1.9±0.64	3.35±0.59	7.46				Significant
Visual collection (shape)	2.15±0.81	3.2±0.7	4.38				Significant
Visual collection (organization)	2.25±0.79	3.55±0.51	6.20				Significant

SD: Standard deviation

the control sample which depends on the traditional method in practicing physical and sport education.

### Discussing Findings of the Study

Table 4 shows that there are statistically significant differences between pre- and post-tests for the empirical sample at the level of some perceptual-motor abilities and the use of T student method with raw results. The purpose was to issue objective judgments about the extent of using small games in developing some perceptual-motor abilities. We found that the control group which works under its teacher's supervision with traditional work method did not achieve any development level in perceptual-motor

abilities. Table 3 shows that the counted T value did not reach statistical significance. The researchers found that causes of this weakness were because most teachers do not use small games during the physical and sport education class. On the contrary, the empirical sample on which educational units using small games were applied, showed significant differences in findings as counted T values were bigger than the tabulated one at significance level (0.05) and freedom degree ( $n - 1 = 19$ ). This is as shown in Table 4 which asserts the positive effect of the used and directed small games with the aim of developing some perceptual-motor abilities. This is positively reflected on primary stage students (6-8 years old)

**A Model of Educational Unit Unit No. 01****Main objective: Space perception and body balance****Means of achievement: Whistle, balls, rings and squares****Number of student: 20****Achievement duration: 45 min**

Lesson stages	Secondary objectives	Learning positions	Duration	Success criteria	Guidelines
Preparation stage					
Educational setting	Preparing psychological setting and lesson's educational requirements	Preparing stuff, students monitoring, absenteeism and sport greeting	5 min	Discipline and keeping quiet	Quietness and order
General and private warm-up	Physical preparation of students to receive motor tasks	Running with light intensity around the field with arms rotation forward and backward, hopping and joint flexibility exercises	10 min	Keeping balance during running and effective participation in warm-up exercises	Respecting distances among students during running
Achievement stage	<ul style="list-style-type: none"> <li>• Body perception and realization</li> <li>• Motor control</li> <li>• Ability to balance</li> </ul>	<ul style="list-style-type: none"> <li>• Game of running over rings (see annex No. 02)</li> <li>• Jumping game inside squares</li> <li>• Game of lifting the injured</li> </ul>	25 min	<ul style="list-style-type: none"> <li>• Keeping balance during running</li> <li>• Coordination between eyes and legs</li> <li>• Body control</li> </ul>	<ul style="list-style-type: none"> <li>• Stretching body during performance</li> <li>• Body control</li> </ul>
Evaluation stage	Gradual restoration to normal body condition	Colors game, walking in a complete quietness around the field with assertion of respiration move, inhale, exhale, sport greeting and offering sweets	5 min	Full relaxation and positive rest	Guiding students to the importance of rest after effort

in their perceptual-motor abilities as the study is consistent with studies of Saad Abdullah Bin Saad's study and study of Amasha (1993), the study of Leila Hammad Sawan and Al Gawhari (1992) and the study of Halim (1994).

Results of Table 4 showed statistically significant differences between the samples of the study in favor of the empirical sample in post-test findings for perceptual-motor abilities under study. It showed that the counted T values were bigger than tabulated T values (2.02) at freedom degree  $(2n - 2) = 38$  and a significance level of 0.05 except Cross-Weber test. In addition, this is consistent with Saad Abdullah Bin Saad's study that found statistically insignificant differences in study results for samples of the study tests for Cross-Weber test. These results also agreed with the study of Ebtehag Ahmed Abdel Aal Amasha, the study of Leila Hammad Sawan and Hervit Abdul Ghaffar Al Gawhari, which stressed the importance of motor education in improving perceptual-motor abilities for students of primary school stage.

Moreover, the researchers found that the empirical sample excelled over the control one. This is clear through results collected in Table 5 which reflects the extent of connection between goals of the used small

games and enhancing perceptual-motor abilities. Accordingly, the achieved progress was resulting from adopting scientific basics in the content of educational units during dealing with students through the respect of learning rules in terms of full-time periods, exercise continuity and a number of weeks in proportion with students' characteristics and qualities.

## CONCLUSIONS

The study concluded that:

- The use of small games in sport education lessons had a positive effect on enhancing some perceptual-motor abilities of children
- There are statistically significant differences between pre- and post-tests in favor of post-test in all perceptual-motor abilities under study for the empirical sample
- The age category from 6 to 8 years old is the most appropriate one to enhance perceptual-motor abilities.

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