# The effectiveness of Kid's athletics using mobile learning on the development of some motor skills and physical abilities of student's basic education

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## Abstract

The aim of this research is to teach Kid's athletics to students using mobile learning and to learn about its effect on some motor skills and physical abilities as a project of the International Association of Athletics Federation (IAAF). It aims to provide students with the basic skills of some athletics skills (jumping, throwing and running) by playing teams. The researchers used the experimental method for the experimental one group. The research sample was selected from Sadat City School of Languages in Menoufia Governorate preparatory stage for the academic year 2018/2019. The sample of the research sample was (60) students, they were divided into 10 groups (6 students × 10 groups). Average age (11.59, ± 0.45). The researchers applied motor skills tests and physical abilities. Then they applied athletics for children through watching (mobile) and then practical application in the school playgrounds over a period of (4) weeks and the reality of (2) a week. They then performed distance measurements on motor skills tests and physical abilities. The results revealed that there were statistical differences between the Pre-measurement and the post-measurement. The researchers recommended the use of mobile learning in the teaching of motor skills of athletics according to the curriculum of the preparatory stage.

**Keywords:** Mobile learning, Motor skills, Physical abilities, Kid's athletics .

## Introduction

The childhood of the most basic instruction stages, on which healthy growth is established in future life stages (83).

Play is part of a child's life, whether in the home, school or club, in summer or winter in cities or villages ·These games are often drawn from different sources (1:15).

The competitions of the International Association of Athletics Federation (IAAF) are exciting and offer new exercises for competitions. This is managed within the race teams in different locations dedicated to the competition as well as the place can be for Kid's to participate in a specific period of time. (2:6) (3:33)

Therefore, attention to the training and education of children in recent years has become important in all sports and educational institutions and sports (4:23)

The age (9:12) of the most important ages to teach different skills and motor abilities, Kids of this age are approaching the level of

adults in the rate of pulse and pressure (5:115)

The Kid's athletics project is characterized by the provision of group competition in a gradual and exciting manner, and provides the opportunity for gradual learning which is suitable for this stage. The most important characteristics of this project are the progress, simplicity and effectiveness of application. (6:1427)

Communication technology has become a prominent place among other sciences, and its applications of computer and software, internet and mobile phones include most of the activities and fields practiced by people in society. (7)

Mobile learning adds value to the teaching process, which includes two aspects: (cognitive - educational), which is a whole process of the philosophy of distance education, which is based on expanding the educational opportunities for all learners. (8)

Mobile learning is a type of learning consisting of e-learning and teacher guidance. Students receive the educational materials and multimedia available on the Internet and the teacher guides them towards the required information. (9)

Through the experience of the researchers noted the decline in the demand for children to participate in athletics, where children look at athletics as a difficult and stressful sport, some Kid's do not have the physical, motor, and physiological abilities to play athletics.

Thus the idea was formed by the researchers in the application of Kid's athletics through mobile applications, which may lead to the element of suspense and gravity during practice. And may lead to the development of motor skills and physical abilities of this age group.

## Aim :

This research aims to identify the effectiveness of Kid's athletics education for students using mobile learning in the development of:

1. The motor skills of student's basic education.

2. The physical abilities of student's basic education.

## Method:

The researchers used the experimental method for the experimental one group.

## sample:

The research sample was selected from Sadat City School of Languages in Menoufia Governorate preparatory stage for the academic year 2018/2019. The sample of the research sample was (60) students, they were divided into 10 groups (6 students × 10 groups).

**Table (1) Statistical characterization of the sample in the variable (Length, weight, Age and Mental abilities) (N=60)**

| Variables | Measuring Unit | Mean | Median | Std.deviation | Skewness |
|---|---|---|---|---|---|
| Length | Centimeter | 150.94 | 150.00 | 8.35 | 0.424 |
| Weight | Kg | 41.33 | 42.00 | 8.71 | 0.831 |
| Age | Year | 11.59 | 11.80 | 0.45 | -0.375 |
| Mental Ability | Grade | 43.86 | 44.00 | 1.58 | 0.232 |

Table (1) Shows the modality of the distribution of the sample in the variables (Length, weight, Age and Mental abilities) where the torsion coefficients are limited to (±3).

**Tools:**

**1. Motor Skills Tests :**
▪ The Ladders.
▪ Jumping squares.
▪ Fortex.
▪ Jump forward.

**2. Physical Abilities Test:**
▪ Speed: (20 M Running).
▪ Agility: (Paro3*4.5 M).
▪ Flexibility: (Drape trunk).
▪ Explosive power (arms): Throw the medical ball.
▪ Explosive power (legs): 3 Hop Right &3 Hop Left.
▪ Compatibility (Numbered circles).
▪ Endurance (8 Minute Running).

**Pre-measurement:**

The Researchers conducted Pre-measurement on the sample of the basic study of (60) students in the period from Monday 8/10/2018 to Sunday 14/10/2018.

**The Application of research:-**

The Researchers applied the research period from 15/10/2018 to Wednesday, 7/11/2018.

**Post-measurement:-**

The Researchers conducted Post-measurement on the sample of the basic study of (60) students in the period from Thursday 8/11/2018 to Wednesday 14/11/2018.

**Results:-**

**Table (2) Differences between Pre-measurement and Post-measurement in variable (Motor Skills Tests) (N=60)**

| Variables (Motor Skills) | Measuring Unit | Pre-measurement | | Post-measurement | | Differences | T .Test |
|---|---|---|---|---|---|---|---|
| | | Mean | Std.deviation | Mean | Std.deviation | | |
| The Ladders | Second | 4.43 | 0.53 | 3.05 | 0.29 | 3.68 | 13.77* |
| Jumping squares | Second | 37.15 | 1.36 | 48.70 | 2.30 | 11.55 | 11.27* |
| Fortex | Meter | 11.90 | 1.10 | 14.55 | 0.98 | 2.65 | 16.47* |
| Jump forward | Meter | 1.42 | 0.03 | 1.50 | 0.04 | 0.08 | 16.65* |

Shows the significant level p <0.05

Table (2) shows that there are statistically significant differences between Pre-measurement and Post-measurement in variable (Motor Skills Tests) for Post-measurement.
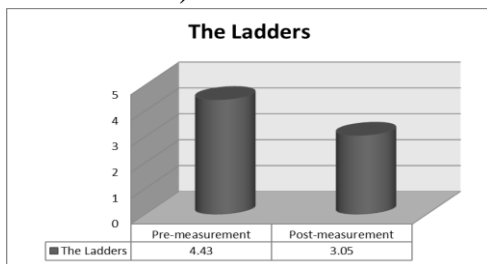


**Fortex**

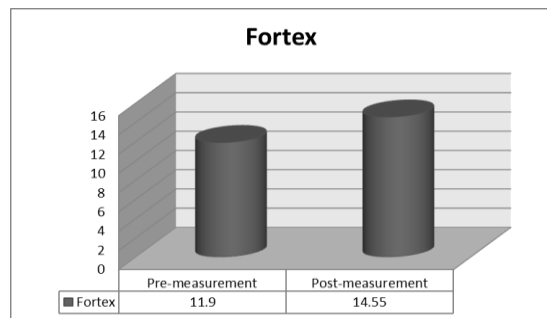| | Pre-measurement | Post-measurement |
|---|---|---|
| Fortex | 11.9 | 14.55 |

Figure (3) Differences between Pre-measurement and Post-measurement in variable (Fortex)

**The Ladders**

| | Pre-measurement | Post-measurement |
|---|---|---|
| The Ladders | 4.43 | 3.05 |

Figure (1) Differences between Pre-measurement and Post-measurement in variable (The Ladders)

**Jump forward**

| | Pre-measurement | Post-measurement |
|---|---|---|
| Jump forward | 1.42 | 1.5 |

Figure (4) Differences between Pre-measurement and Post-measurement in variable (Jump forward)

**Jumping squares**

| | Pre-measurement | Post-measurement |
|---|---|---|
| Jumping squares | 37.15 | 48.7 |

Figure (2)Differences between Pre-measurement and Post-measurement in variable (Jumping Squares)

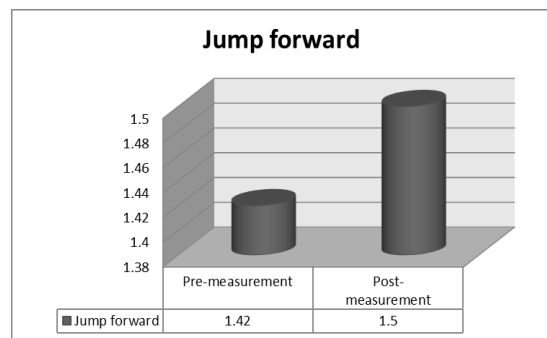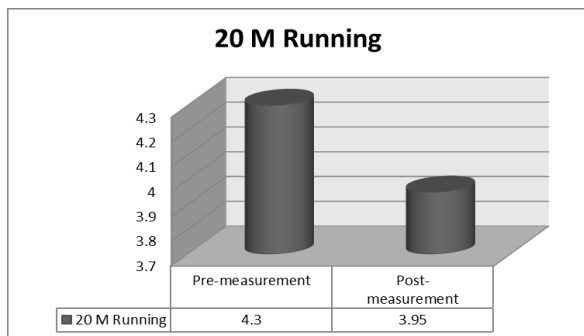**Table (3) Differences between Pre-measurement and Post-measurement in variable (Physical Abilities Test) (N=60)**

| Variables (Physical Abilities) | Measuring Unit | Pre-measurement | | Post-measurement | | Differences | T .Test |
|---|---|---|---|---|---|---|---|
| | | Mean | Std.deviation | Mean | Std.deviation | | |
| 20 M Running (Speed) | Second | 4.30 | 0.35 | 3.95 | 0.27 | 0.35 | 3.79* |
| Paro3*4.5 M (Agility) | Second | 31.20 | 1.50 | 28.60 | 1.35 | 2.60 | 4.25* |
| Drape trunk (Flexibility) | Centimeter | 6.78 | 1.36 | 9.50 | 1.83 | 2.72 | 4.41* |
| 3 Hop Right (Explosive power) | Meter | 3.85 | 0.61 | 4.76 | 0.83 | 1.01 | 4.88* |
| 3 Hop Left (Explosive power) | Meter | 3.65 | 0.67 | 4.65 | 0.77 | 1.00 | 4.07* |
| Throw the medical ball (Explosive power) | Meter | 8.13 | 1.02 | 10.43 | 0.79 | 2.30 | 4.38* |
| Numbered circles (Compatibility) | Second | 7.55 | 1.33 | 6.04 | 1.32 | 1.51 | 4.74* |
| 8 Minute Running (Endurance) | Meter | 1305.33 | 9.45 | 1387.36 | 8.36 | 82.03 | 3.73* |

Shows the significant level p <0.05

Table (3) shows that there are statistically significant differences between Pre-measurement and Post-measurement in variable (Physical Abilities Test) for Post-measurement.
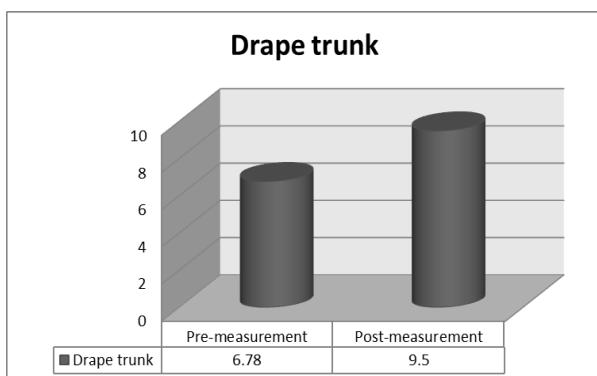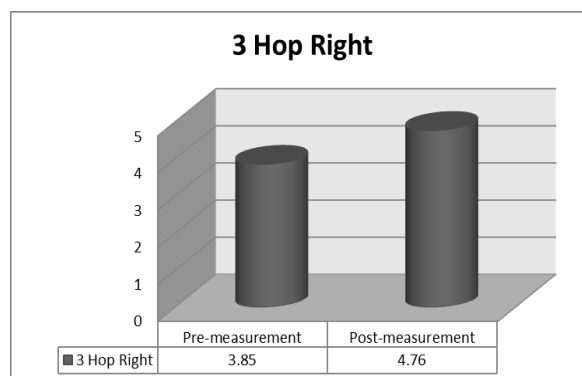
Figure(5) Differences between Pre-measurement and Post-measurement in variable (20M Running)
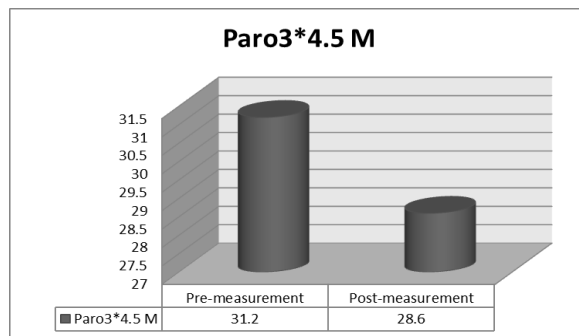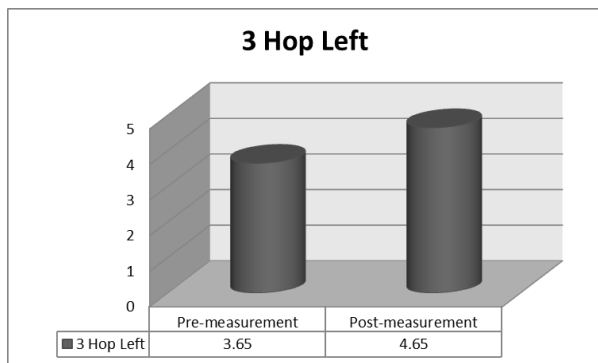


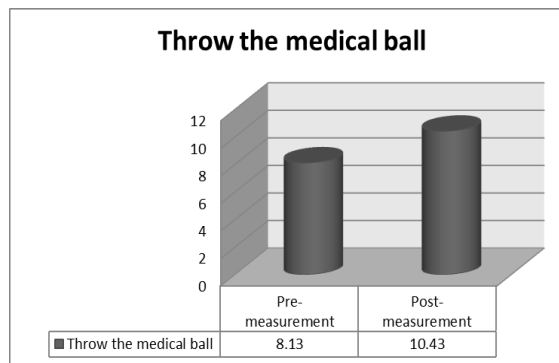Figure(6) Differences between Pre-measurement and Post-measurement in variable (Paro 3*4.5M)



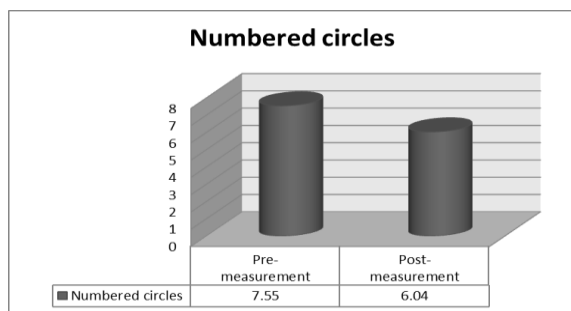Figure(7) Differences between Pre-measurement and Post-measurement in variable (Drape trunk)



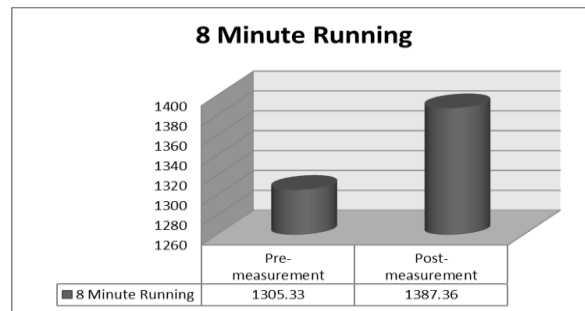Figure(8) Differences between Pre-measurement and Post-measurement in variable (3 Hop Right)



Figure(9)Differences between Pre-measurement and Post-measurement in variable (3 Hop Left)



Figure(10) Differences between Pre-measurement and Post-measurement in variable (Throw the medical ball)



Figure(11)Differences between Pre-measurement and Post-measurement in variable (Numbered Circles)



Figure(12)Differences between Pre-measurement and Post-measurement in variable (8 Minute Running)

## Discussion:

Shows in Table (2) that there are statistically significant differences between Pre-measurement and Post-measurement in variable (Motor Skills Tests) for Post-measurement.

Shows in Table (3) that there are statistically significant differences between Pre-measurement and Post-measurement in variable (Physical Abilities Test) for Post-measurement.

The researchers used the program is characterized by the provision of group competition in a gradual and exciting manner, and provides the opportunity for gradual learning which is suitable for this stage. The most important characteristics of this project are the progress, simplicity and effectiveness of application , and the program used the Mobile learning adds value to the teaching process, which includes two aspects: (cognitive - educational), which is a whole process of the philosophy of distance education, which is based on expanding the educational opportunities for all learners.

The researchers attribute progress in motor skills and physical abilities to the use of mobile learning, As this method of learning enhances the learning process in terms of the existence of several effects were used, and the researchers took into account that the components of the program contain different elements of the videos and pictures of the proper way to perform the skills of Kid's athletics.

## Conclusions:

1. The effect of Kid's athletics education for students using mobile learning in the development of the motor skills (The Ladders -  Jumping squares -  Fortex -  Jump forward) of student's basic education.
2. The effect of Kid's athletics education for students using mobile learning in the development of the physical abilities (Speed - Agility - Flexibility - Explosive power 'arms & legs' - Compatibility - Endurance) of student's basic education.

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