

# The Effect of Inverted Learning by the (Edmodo) Platform in Motivation Motor Performance of Some Skills of Artistic Gymnastics for Students

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## Abstract

Inverted learning is one of the newly emerging forms of e-learning that is known as an educational model that aims to use modern technologies and the Internet in a way that allows the teacher to prepare the educational unit through video clips, audio files or other multimedia, for the learners to see at home or anywhere another is to use computers, smartphones or tablets before attending the educational units. The objectives of the research were determined in preparing the motivation measure for the motor performance of the artistic gymnastics for players, as well as identify on the effect of inverted learning by the (Edmodo) platform on motivation performance for some skills of artistic gymnastics for players. Based on these findings, the researchers recommended several recommendations, including (the necessity of adopting inverted learning by the Edmodo platform in the motor performance of the artistic gymnastics for players. Likewise, the need to adopt inverted learning by the (Edmodo) platform to learning some artistic gymnastics skills for players, and also the confirmation to using (Edmodo) inverted learning during educational units in the motor performance motivation in some artistic gymnastics skills for players.

**Keywords:** Edmodo platform, motivation motor, skills, artistic gymnastics

## Introduction

Inverted learning is one of the newly emerging forms of e-learning that is known as an educational model that aims to use modern technologies <sup>1</sup> and the Internet in a way that allows the teacher to prepare the educational unit through video clips, audio files, or other multimedia <sup>2</sup>, for learners to see at home or anywhere using computers, smartphones or tablets before attending educational units, while the unit's time is devoted to discussions, projects and training. The electronic educational platform (Edmodo educational platform) comes at the forefront of the technologies of the second generation of the web, which is witnessing an increasing demand for employment by those responsible for the educational process <sup>3</sup>, this is due to the vitality and enjoyment that it gives to the teaching and learning process, which pushes the learner to interact with the content provided through it, as well as with his peers and his teacher, as well as his participation in a number of motor tasks or duties that gain and develop motor skills, and the artistic gymnastics is considered one of the

individual competitive events or sports that have a huge amount of different skills in different devices, and each device has its own performance characteristic <sup>4</sup>, which distinguishes it from other devices, gymnastics is also an important activity or sport that requires good physical and motor qualities, in addition to good psychological skills and abilities to overcome the state of fear and reluctance to perform skills, especially difficult ones on devices, because it is a game that includes motor chains on different devices, one of the important psychological skills or abilities is the motor performance motivation, which is the most important variable in moving the learner's behavior <sup>5</sup>, and it plays an important and prominent role in achieving the goals of the process of learning the required motor skills and determining the level of its technical performance for it, in addition to clarifying why the learner behaves in a certain manner. Through the foregoing, comes the importance of research in introducing a new method in the process of learning the technical skills of gymnasts for players, which is the inverted learning method with an educational platform

called (Edmodo), in addition to determining the nature of the motor performance motivation that players enjoy by setting a special measure for that to reach the desired goal, which is to reach out to learn the skills of artistic gymnastics in a new and better way.

### Methodology

#### Exploitation experimental Sample :

This sample consisted of (10) players ages (10-12) years who were chosen randomly from the research community who did not participate in the main research sample and from Al-Hilla Youth Club.

#### Sample preparation motor performance motivation measur:

This sample consisted of (40) players who were randomly chosen from the research community who did not participate in the main research sample and it

constitutes a percentage of its amount.

(57.14%) of Al Mahwel Youth Club and Abu Gharq Club ,number (20) players for each club.

The main research sample:

The main research sample of (20) players was chosen from Al-Hilla Youth Club, and they were divided into two groups (experimental and controlling) by (10) players for each group as the first (experimental) group uses the inverted learning strategy by the (Edmodo) platform and the second group (control) uses the curriculum Followed by the coach.

Homogeneity of the sample:

The researcher performed the homogeneity of the research sample in the variables of the total length, time, and mass, as shown in Table (1).

**Table (1). The homogeneity of the research sample shows the variables of the total length, time, and mass**

Variables	Measurement units	mean	Std. Deviation	Mode	Skew ness
age	Year	11.25	0.67	11	0.37
Length	cm	151	3.11	150	0.32
mass	Kg	36.34	1.52	35	0.88

The results of Table (2) show that the value of the skew ness calculated in the variables of the total length, age and mass came smaller than (+1), which indicates the homogeneity of the research sample in all these variables.

#### Equivalence of the two research groups:

To start with one initiation line, the researchers conducted equivalence between the control and experimental research groups in the pre- tests of motor performance motivation and some of the gymnastic skills for players as shown in Table (2).

**Table (2). Shows parity between the control and experimental research groups in the pre- tests of motor performance motivation and the technical performance of the artistic of Arab jump the ground and stand on the shoulders on the parallel and the start of the small-course rallying on the high bar device device in Artistic gymnastics.**

N	groups	Variables	Measurement units	mean	Std. Deviation	Calculated value (t)	Type of significance
1	control	motor performance motivation	mark	65.13	3.98	0.59	non Sig
	experimental			66.21	3.76		
2	control	Performance artistic of Arab jump	mark	3.56	1.17	0.49	non Sig
	experimental			3.33	1.22		
3	control	Artistic performance to stand on shoulder of parallel	mark	2.87	0.82	0.44	non Sig
	experimental			3.02	0.91		
4	control	Artistic performance of the small-course rallying on the high bar device	mark	3.21	1.32	0.65	non Sig
	experimental			3.56	1.44		
Table (t) value (2.1) at the significance level (0.05) and under the degree of freedom (18).							

The results of Table (2) show the calculated values of (t) in the pre-test, as the results showed that all calculated (t) values were smaller than the tabular value of (2.1) at the level of significance (0.05) and under the degree of freedom (18), which indicates There were no significant differences between the two groups, and this indicates their equivalence in all research variables.

The preparation of paragraphs of the motivation performance measure:

Preparing the initial formula for the motive performance scale paragraphs requires several procedures, starting with the process of collecting paragraphs and preparing them and determining the way

to formulate them, and finally preparing instructions and understanding the paragraphs from the respondents, and after the researcher was informed of special studies and scientific research in the field of motor performance measurement the researcher prepared a questionnaire for the paragraphs of this measure formed Of (48) items <sup>(1)(2)</sup>, depending on several metrics in this area. The researcher presented this questionnaire to a group of experts and specialists in the fields of (tests and measurement, motor learning, and artistic gymnastics) to determine the validity of its paragraphs on the research sample, and after sorting out the relevant forms, Was used (Chi-square) test of good conformity to accept the paragraphs of the scale, as shown in Table (3).

**Table (3). Shows the calculated values of (Chi-square) and the type of significance for the motivation motor performance measure in artistic gymnastics**

measure	The number of paragraphs	agree	dis agree	Chi-square	Type of significance
motivation performance motor	34	9	0	9	Sig
	14	0	9	0	non Sig

The results of Table (3) show that the calculated values of (Chi-square) for (34) are greater than the tabular value of (3.84) at the level of significance (0.05) and under the degree of freedom (1), as a result of which these paragraphs are accepted, while ( 14) paragraph rejected because its calculated (Chi-square) values are smaller than its tabular value of (3.84) at the significance level (0.05) and under the degree of freedom (1).

**Exploratory experiment for measure:**

The researchers applied the measure to an exploratory sample consisting of (10) randomly chosen players representing the Babylon Youth Club on April 12/4/2020, at ten o'clock in the morning in the conference hall of the Babylon Youth Forum and the conduct of this experiment was to achieve several objectives: -

- 1- Clarity of the paragraphs of the motor performance measure and the clarity of its instructions.
- 2- Identify the time taken to answer the paragraphs of the measure.
- 3- Identify on the obstacles that the researcher may face during the procedures of implementing the measure.

Apply the motor motivation measure to the preparation sample:

Paragraphs of kinetic motivation scale were applied to the sample for preparation for statistical analysis, selection of valid ones, and exclusion of invalid ones based on the discriminatory ability law ( in two ways the two party groups and the internal consistency) for each

of them, as well as to extract two indicators that validate the scale and its stability, by the preparation sample of (40) players for the period on April 19/4/2020 at ten o'clock in the morning and collectively at the Mahawil Youth club and Abu Gharq club with the presence of the assistant team, according to the instructions for this scale and as follows:

**Measure instructions:**

- 1- Write full name in the form.
- 2- Answer all paragraphs and not being leave any paragraph unanswered.
- 3- Read each paragraph carefully, then choose the appropriate answer.
- 4- Paragraphs are answered according to three alternatives that are (always, sometimes, rarely). The way to answer is by choosing the appropriate alternative from among three alternatives by placing a sign (√) in front of the appropriate alternative.
- 5- Not to put more than one sign (√) or choose more than one alternative.

**Correct the measure:** The correction of the scale is represented by the correction key consisting of the grades (1,2,3) for the positive paragraphs and vice versa for the negative paragraphs. Thus, the scale grades range from (34-102) degrees, and with a hypothetical mean of (68) degrees.

**Statistical analysis of the paragraphs of the motor performance motivation measure:**

**First: the two party groups (discriminatory ability):** To extract the discriminatory ability of the scale paragraphs, the researcher after the process of collecting and unloading the data, conducted the process of arranging the grades for the scale in an ascending order from the lowest degree to the highest degree <sup>6, 7</sup>, as 33% of the higher scores were chosen for the scale

and 33% of the lower scores were in the measure, this indicates the ability of the chosen scale to distinguish between players, (Preparation sample) of (40) players, A test (t) was conducted between the two groups, the number of each group (13) player, for the purpose of knowing the differences between the two groups, as shown in Table (4).

**Table (4). The Coefficient of Discernment for each of the paragraphs of the motive performance measure in the artistic gymnastics applied to the preparation sample**

Paragraph number	Calculated value (t)	Paragraph number	Calculated value (t)	Paragraph number	Calculated value (t)	Paragraph number	Calculated value (t)	
1	3.97	10	4.11	19	4.19	28	3.78	
2	3.11	11	3.56	20	3.78	29	3.92	
3	3.05	12	4.13	21	3.87	30	4.54	
4	3.91	13	3.98	22	4.22	31	4.25	
5	4.12	14	4.43	23	4.56	32	3.95	
6	4.25	15	4.56	24	3.89	33	3.87	
7	4.09	16	3.78	25	4.11	34	4.75	
8	3.78	17	3.65	26	4.09			
9	3.63	18	3.44	27	3.67			
Table (t) value (2.06) at the significance level (0.05) and below the freedom degree (24)								

The results of Table (4) show that the motivation performance paragraphs in the artistic gymnastics of (34) are distinguished, which indicates their acceptance of all, depending on the fact that the calculated values of (t) came greater than the tabular value of (2.06) at the level of significance (0.05) and below the degree Freedom (24).

the extent of homogeneity of the vertebrae in its measurement of the measured behavioral phenomenon. To find this parameter, a simple correlation coefficient (Pearson) was used between the score of each vertebra and the overall score of the scale for all members of the preparation sample, which amounted to (40) players, as shown in table (5).

**Second: coefficient of internal consistency:** The internal consistency coefficient is used to determine

**Table (5) Correlation coefficient values (R) calculated between the degree of each paragraph in the total degree of the motivation performance measure in artistic gymnastics.**

Paragraph number	Calculated value (R)	Paragraph number	Calculated value (R)	Paragraph number	Calculated value (R)	Paragraph number	Calculated value (R)	
1	0.31	10	0.39	19	0.34	28	0.35	
2	0.37	11	0.44	20	0.37	29	0.37	
3	0.33	12	0.39	21	0.37	30	0.44	
4	0.39	13	0.33	22	0.38	31	0.44	
5	0.36	14	0.44	23	0.34	32	0.39	
6	0.34	15	0.31	24	0.37	33	0.35	
7	0.35	16	0.37	25	0.38	34	0.37	
8	0.37	17	0.37	26	0.31			
9	0.44	18	0.38	27	0.37			
Table (R) value (0.304) at the significance level (0.05) and under the degree of freedom (38).								

The results of Table (5) show the correlation coefficient values calculated between the degree of each paragraph in the total degree of the motive performance motor measure in the artistic gymnast came greater than the tabular value of (0.304) under the level of significance (0.05) and at the degree of freedom (38), which indicates the significance of the correlation, so all paragraphs were accepted

The scientific foundations of the motor performance motivation measure for artistic gymnastics

**Validate the measure:** In order to verify the validity of the scale, the researcher used two types of validity:

**Face validity:** This type of validity is achieved when presenting the measure to a group of expert and

specialists, they are number (9), they specialize in the fields of (motor learning, artistic gymnastics, educational and psychology sport since ), then the questionnaire forms were collected, data are emptied and statistical work performed, as shown in table (4).

**Construct Validity:** This type of validity has been proven by extracting the discriminatory ability of the measure, as shown in table (5).

**Stability of measure:** Extract the results of the stability of the measure, the researcher used two methods are:

**Test method and retest:** The scale was applied to the sample of the exploratory experience, which was (10) players randomly chosen from the Babil Youth

club on April 22/4/ 2020, at ten o'clock in the morning in the artistic gymnastics hall, then re-apply the scale after (7) days have passed since the first application, that is, on 29/ 4/2020, at ten o'clock in the morning in the artistic gymnastics hall as well, after collecting and unloading the data, the researcher extracted the value of the simple correlation coefficient (Pearson), that reached (0.89) which is a high stability that can be adopted in the application of the test, and thus the scale became ready for application.

### **Conclusions**

Based on the research results reached within the limits of the research community, the following conclusions have been reached: For inverted learning by the ( Edmodo) platform an important role in enhancing the motivation performance of the sports artistic gymnastics for players. Diversity in providing skills to players using new tools represented by the (Edmodo) platform. The motivation performance motor boost has been enhanced and some of the artistic gymnastics skills have been learned to the players. Inverted learning by the( Edmodo) platform, it provided an element of suspense and excitement, which led to the development of desire and motivation among players to learn some skills in artistic gymnastics.

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**Conflict of Interest:** None to declare.

**Ethical Clearance:** All experimental protocols were approved under the University of Babylon and all experiments were carried out in accordance with

approved guidelines.

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