Original Article

The Effect of Using Infographics on Teaching the Long Jump Event to Students in The Preparatory Stage

Mr. Yasser mounir raslan¹, Prof. Dr. Essamuddin Mutuli Abdullah², Prof. Dr. Azza Mohammad Al-Amri³, Assis. Prof. Mohammed Shahat Abdeladin⁴.

¹ PhD Candidate, Faculty of Physical Education, University of Sadat city.
² Professor of Curricula, physical education and sports, Department of Curriculum, physical education and sports, Faculty of Physical Education, University of Sadat city.
³ Professor of Athletics, Department of Athletics Theory and Applications, Faculty of Physical Education, University of Sadat city.
⁴ Assistant Prof., Department of Curriculum, physical education and sports, Faculty of Physical Education, University of Sadat city.

E-mail address: Dr.yasser.raslan@gmail.com
Doi: 10.21608/JAT.2024.306393.1023

Abstract

The author, being a physical education teacher, noticed that there are traditional teaching methods in teaching physical education to students in the preparatory stage, and the author wanted to use modern technology “infographics” in teaching the long jump. From here lies the importance of the research in designing a technical program to teach the event in a modern manner and keeping pace with technological development in teaching methods. The author used the experimental method. The research aims to identify the effect of using infographics on teaching the long jump event to students in the preparatory stage. The sample was chosen intentionally “from first-year middle school students at Al-Zaytoun Middle School,” and the author used the statistical program to address the data. The most important conclusions were that the educational program using infographics has a positive impact on learning and the level of performance of the long jump event in athletics, with statistically significant differences in the post-measurement of the experimental group. The research procedures were first to present the infographic to experts in the field of curricula and teaching methods, and there was consensus on its validity. Animated infographic for the event “under research,” and secondly, testing the program on a pilot study consisting of 20 students with the aim of identifying the extent of their response during the presentation of the program, and thirdly, identifying the clarity and suitability of the effects and the clarity of the models.

Keywords: Infographics, long jump, Preparatory Stage

Introduction

Infographics are considered one of the most effective and attractive visual means currently for displaying information, as they combine ease and speed in presenting data and communicating it to the recipient (Hussein, 2016). The term infographic is an Arabization of the English term "info-graphic," which essentially combines the terms "information," signifying information and facts, with "graphic." The term "infographic" also implies "pictorial," thereby referring to pictorial data, also known as information designs. Infographics, in general,
transform complex data and information into visually appealing drawings that enable clear and captivating comprehension without extensive textual reading, fostering effective visual communication among all parties involved. Sender and receiver. (Shaltout, & Muhammad Shawqi., 2019)

The art of infographics has appeared with its various designs to add a new visual form to collect and display information or convey data in an attractive way to the reader. Infographic designs play a crucial role in altering learners' perceptions of complex information, and they serve as a valuable tool for educational administrators. They present the curriculum in a fresh and captivating way. The importance of infographic technology and its advantages are evident in organizing ideas in a useful way, showing complex relationships in a visual way, comparing information in an effective way, making data meaningful with analogies and examples, and representing ideas and words with pictures in an exciting way instead of using only words. Infographic technology sets itself apart through its emphasis on effects. Its visual ability to deliver instruction, as well as its ability to transform information and data from boring numbers and letters into interesting pictures and drawings, help students learn quickly. (Shaltout, & Muhammad Shawqi., 2019)

One of the advantages of using infographics in the educational process is their ability to convey complex information in a clear and accessible manner. This approach caters to the tendency of many stakeholders to learn through visual representation. Infographics facilitate a holistic understanding of the information presented and highlight relationships between concepts, thereby promoting knowledge integration within a specific field. Additionally, they connect knowledge across various disciplines, encouraging both teachers and students to focus on conceptual understanding rather than mere memorization. This method also adds an element of engagement and enjoyment to the teaching and learning experience (Sharia, 2019).

Infographics combine information with graphic design to enable visual learning. This merging process helps present complex information in a way that is easier and faster to understand. As a result, it is considered a type of educational graphics and can include any other type of graphics or even educational images. In other words, the infographic combines the infographic then organizes the data into easily comprehensible and visually appealing information. Studies have discovered that 90% of the information that we can remember is based on visual influence. (Hussein, 2016).

Through his knowledge and observation, the researcher saw the lack of use of this method by physical education teachers in teaching the stages of long jump competitions in a manner that is appropriate to their importance, which led to a decline in the use of this method, as well as the lack of availability of educational means that contribute to learning this method according to sound scientific foundations. This is one of the most important stages of the long jump and speed in the 50-meter sprint competitions, which prompted the researcher to study this problem
by using the infographic technique in teaching the stages of the long jump and speed to improve the event level of students. We need to understand the extent to which students in the second cycle of basic education learn the long jump event through infographics. The study aims to identifying the impact of infographics on teaching the long jump event to students in the second year of basic education.

**Hypotheses**

There are statistically significant differences between the pre- and post-tests for the experimental group Infographics Aspects of learning the events of long jump and athletics among students in the second cycle of basic education.

**Material and Methods**

**Approach:**
The researcher used the experimental method because it suits the nature of the research.

**Participants:**
The research community included 110,000 students in the first year of middle school at Al-Zaytoun Middle School who are enrolled in the 2023–2024 academic year.

**Procedures:**

1. **Data collection tools**
   - Personal interview.
   - Content and document analysis.
   - Data registration forms.
   - “Under Research” Events Evaluation Form.
   - Testing the level of cognitive achievement “under research.”.

2. **Infographic design "under investigation”:**

   Scientific basis of the design: It consists of identifying and selecting scientific material on the subject of teaching the long jump event in athletics, which is presented to provide learners with knowledge and experience.

3. **Technical method:**

   It consists of writing educational text for infographic technology and determining the material production requirements, verbal aspects, and non-verbal aspects that the infographic includes.

4. **Application:**

   - The infographic was presented to experts in the field of curricula and teaching methods, and there was consensus on the validity of the infographic for the event "under research".
The program was tested on a pilot study sample consisting of (15) students with the aim of identifying the extent of their response during the presentation of the program.

**Statistical Analysis**

1. Arithmetic mean.
2. Standard deviation.
3. Correlation coefficient.

**Results**

(There are statistically significant differences between the cardiac and post cardiac measurements for the experimental group. Infographic Aspects of learning long jump events in athletics among students in the second cycle of basic education)

**Table 1. The significance of the differences between the means of the pre- and post-measurements in cognitive achievement. And the event performance of the experimental group (N=20)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>measuring unit</th>
<th>Pre-measurement</th>
<th>Post measurement</th>
<th>The difference between the two means</th>
<th>Calculate d &quot;T&quot; value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>S</td>
<td>±A</td>
<td>S</td>
<td>±A</td>
</tr>
<tr>
<td>Long jump event</td>
<td>Getting closer</td>
<td>10 degrees</td>
<td>1.40</td>
<td>0.50</td>
<td>6.15</td>
</tr>
<tr>
<td></td>
<td>Upgrade</td>
<td>10 degrees</td>
<td>1.50</td>
<td>0.51</td>
<td>5.85</td>
</tr>
<tr>
<td></td>
<td>Aviation</td>
<td>10 degrees</td>
<td>0.45</td>
<td>0.51</td>
<td>4.65</td>
</tr>
<tr>
<td></td>
<td>Landing</td>
<td>10 degrees</td>
<td>1.50</td>
<td>0.51</td>
<td>6.20</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>40 degrees</td>
<td>4.85</td>
<td>0.88</td>
<td>22.85</td>
</tr>
</tbody>
</table>

Cognitive achievement test

|                | 19 degrees | 5.00 | 0.65 | 12.40 | 1.05 | 7.40 | 30.21 |

The tabular “T” value when the real function (n) - 1 = (19), and the significance level (0.05) = 1.927

For the event “under investigation” for the experimental group It is clear from Table (1) and Figure (1) that there are statistically significant differences at the significance level (0.05) between the pre- and post-measurements of the control group in cognitive achievement and the level of event performance for the event “under investigation” in favor of the post-measurement in all variables, where the value ranges from (T) is between (19.35) as the smallest value and (71.62) as the largest value. The researcher attributes the progress in the cognitive aspect to the inclusion and integration of the cognitive content of the infographic technique through a comprehensive explanation of the technical aspects of the event “under research” in addition to some articles of the law. The organized and coordinated presentation of all the knowledge and information related to the event “under research” and the method of presenting the knowledge content were easy, simple, and free of filler knowledge that would not benefit the learner.
Figure (1): explains the significance of the differences between the means of the pre- and post-measurements in cognitive achievement and event performance.

This result is consistent with what (Muhammad, 2014) stated: that learning is more effective by employing infographics, as infographics can be integrated into school curricula and used effectively in educational situations by designing them in a way that attracts the learner’s focus and attention and encourages him to learn in a way that is appropriate to his abilities and progress. The course has a new style. (Muhammad Shouki Sheltot. (2014)

The researcher attributes these significant differences between the averages of the pre- and post-measurements in the event level and the cognitive achievement of the event “under research” for the experimental group to the fact that the role of the teacher in explaining as well as presenting the information and knowledge that is taught during the class and directing the students during performance contributed, and practice and repetition then providing feedback and correction in a way contributed. Positive in creating a clear picture and helping the student to have a degree of knowledge and a good opportunity to learn, which has a positive role in cognitive achievement and improving the event level of those events.

These results are consistent with what was indicated by Zainab and Ghada (2008 AD) that the teacher making a model with an explanation of the event and displaying a picture of it is considered one of the best ways to develop the performance of the event, and that the degree of students’ performance of the event depends on the teacher’s ability to explain. The precise accuracy of the parts of the event in terms of the correct positions of all parts of the body during the learning process. Zainab Ali Omar, Ghada Jalal Abdul Hakim. (2008)

The researcher also attributes the differences that occurred in the experimental group between pre- and post-measurement in teaching the event “under research” to their use of the infographic technique, as infographics helped simplify the event in terms of technical steps and make it easy to understand due to their reliance on visual effects in conveying information, not just written
information. As well as the good model presented through the infographic. Thus, the hypothesis is validated, which states: “There are statistically significant differences between the pre- and post-tests of the experimental group, the infographic, in learning the long jump event in athletics among students in the second cycle of basic education.”

**Conclusion**

The educational program using infographics has a positive impact on learning and the level of performance of the long jump event in athletics, with statistically significant differences in the post-measurement of the experimental group.

The educational program in the traditional style, “verbal explanation and performance of the scientific model,” has a positive impact on learning and the level of performance of the long jump event in athletics, with statistically significant differences in the post-measurement of the control group.

**Recommendations**

1. Using the educational program using infographics to learn the event of long jump in athletics in schools.

2. Increase interest in employing and using visual stimuli in the educational process, especially in relation to teaching the long jump event in athletics.

**Reference**


