The Effect of Using the Electronic Educational Bag on Learning Offensive Skills in Handball among Middle School Students

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Abstract: This study seeks to examine the impact of utilizing electronic educational bags on the acquisition of various skills in the context of physical education lessons for middle school students, specifically focusing on handball. Additionally, it aims to elucidate the significance of these educational bags in facilitating favorable and enhanced outcomes in handball performance among students. The most significant objectives of the study were to develop offensive handball skills using the educational bag. And to determine the efficacy of using the educational satchel to acquire offensive handball skills. To accommodate the nature of this study, the researchers employed an experimental design with two groups, one experimental and the other control, using measurement (pre-test and post-test). The research population consisted of middle school students in Maysan Governorate. Fifth grade prep students at Al-Andalus School made up the research sample, which had a strength of (24) students. They were split into two groups: one experimental group had (12) students, while the other was a control group had (12). Additionally, (6) students were used as an exploratory sample in order to determine the scientific coefficients of the tests used in the research and cognitive testing. The most significant findings showed that learning offensive abilities in handball (the subject of the study) is improved by using the electronic educational bag. And that the electronic educational bag contributed to the experimental group's superior performance compared to the control group in terms of cognitive achievement and fundamental skill performance (the subject of the investigation). The proposed educational program has a beneficial effect on raising the performance level of offensive skill. The control group's level of offensive skill performance (under research) was somewhat improved by the conventional program that was used. The implementation of the instructional bag was suggested as the most crucial change because of how well it helped students learn how to play handball.

Keywords: Electronic, Educational Bag, Offensive Skills, Handball, Middle School.

INTRODUCTION

The present era is characterized by a significant surge in the development of technological advancements related to the educational domain (Doolani et al., 2020). Consequently, there is a growing necessity to effectively utilize these technological innovations in education, with the aim of enhancing the capabilities of both educators and learners (Haleem et al., 2022). It is crucial to acknowledge that the primary responsibility for harnessing the potential of technology lies with human agents, who must actively engage in the development, construction, and adaptation of their skills and knowledge to align with the advancements in educational technology (Chan, 2023). This has given rise to various terminologies, such as electronic instructional packages, which offer tangible prospects for educational advancement (Knox, 2019). The student's engagement with educational experts and the exchange of electronic multimedia experiences and competencies (El-Sabagh, 2021). Ionescu et al. (2020) argue that the emergence of new educational systems in recent years can be attributed to the notable progress in communication and information technology, as well as the widespread availability of electronic knowledge among students in educational institutions. These systems primarily rely on computers and various interactive methods, utilizing CDs and local networks (Šumak, Brdnik & Pušnik, 2021).

However, in the present century, the concept of e-learning has evolved, with its tools now characterized by internet usage (Saleem, Noori & Ozdamli, 2022). Currently, there are emerging possibilities for leveraging wireless communication technology, particularly mobile technology, which introduces a novel concept of mobile education systems (Bernacki, Greene & Crompton, 2020). According to Han et al. (2022), electronic educational bags have emerged as a contemporary means of transportation in educational institutions and centers, owing to their high efficiency and effectiveness. These bags are designed based on modern principles that have been substantiated by studies on human education and extensive
research on human behavioral development. Notably, one such principle embraced by electronic educational bags is self-education. This principle is facilitated by the inclusion of diverse experiences and activities within the electronic bag (Galan, Beshlei & Perederiy, 2021). The educational resources consist of printed materials, audio tapes, and visual aids such as talking slides (Viterouli et al., 2023). Additionally, there are instructional guides available for both teachers and learners on how to effectively utilize the educational materials provided in the bag. The utilization of videos and animations in educational contexts has become increasingly prevalent in recent years (Ghafer et al., 2023). These visual media tools offer a dynamic and engaging means of conveying information and facilitating learning (Hanif, 2020). According to Liao and Wu (2022), the electronic educational bag is a multifaceted application that offers learners various avenues for learning, thereby enhancing the educational process. The utilization of modern learning methods facilitates the development of learners’ skills, improves their efficiency, and enhances their ability to engage actively during lectures (Yu, Gao & Wang, 2021). The electronic educational bag is a comprehensive educational system that is systematically designed to support student learning (Ionescu et al., 2020). It encompasses a collection of interconnected educational materials with multiple objectives, enabling students to interact with them under the guidance of a teacher (Aladsani et al., 2022). According to Eom (2023), mobile education can be classified as a type of e-learning that relies on wireless devices like mobile phones and smartphones. This approach facilitates the creation of interactive and collaborative learning environments among students and between students and teachers (Qureshi et al., 2023). Such elevated levels of efficiency are not typically attainable through alternative methods. Students can communicate with their teachers by sending inquiries through messages (Essel et al., 2022). One notable advantage of mobile learning is the compact size of the devices used, which greatly facilitates the educational process (Talan, 2020). Moreover, these devices are relatively inexpensive and accessible to the majority of students. Additionally, they are user-friendly, portable, and possess ample storage capacity. Consequently, mobile education has a substantial and favorable influence on the overall educational experience (Mohamed, 2022). One of the factors contributing to the incorporation of mobile phones in education and training processes is the utilization of such devices (Al-Rahmi et al., 2021). The global utilization of mobile devices, including mobile phones, has experienced a substantial rise due to their affordability and widespread availability (Onyema, 2019). This surge in usage has been particularly evident in the realm of education, where mobile phones offer a diverse range of services. As the global communications revolution continues to expand, it has become increasingly accessible for individuals to possess their own mobile devices and leverage the educational benefits they provide (Bernacki, Greene & Crompton, 2020). According to Cheng and Yu (2019), the field of multimedia education technologies is experiencing rapid growth alongside advancements in technology. One such technology is the data show, which has expanded the possibilities for incorporating computers and software into lectures and classrooms. This is due to the various benefits it offers, such as the ability to deliver innovative audio, video, and high-quality animation presentations. Social networking sites, such as Twitter, Facebook, and YouTube, have significantly contributed to the educational process by facilitating students’ engagement with their local and global surroundings (Olowo et al., 2020). These platforms enable students to stay informed about technological, scientific, and cultural advancements worldwide. Consequently, educational institutions actively pursue the integration of these platforms into their teaching strategies (Alam, 2021). The shift from conventional textbook-centered education, which emphasizes rote memorization and indoctrination, to a more interactive form of education based on blogging (Zhao, Jin & Wang, 2022). The utilization of Facebook sites as an integrated system in the educational process and the significance of social networking sites in education and teaching were substantiated by Ansari and Khan’s (2020) study. The researchers emphasized the organization of weekly lessons with online dialogues as a means of leveraging these platforms for educational purposes.

Search Problem:

Technological devices have evolved into ubiquitous tools that are utilized by individuals incessantly throughout the day and night. The user base of these devices has experienced a substantial surge, particularly due to the affordability of both the devices themselves and the accompanying services. This trend is primarily observed in mobile technologies, including mobile phones, laptops, and personal digital devices (Lee & Lee, 2023). The prices of mobile phones have become increasingly affordable, leading to their widespread popularity and significance (Alam, 2021). Once considered a supplementary device limited to a specific demographic, mobile phones have now become an essential tool that is indispensable for individuals across all societal groups. Numerous studies have confirmed that mobile phones are the most utilized technological devices in our possession (Moorthy et al., 2019). According to Dube (2020), the educational process encompasses various challenges, such as the challenges associated with educating and teaching students. These challenges arise from the growing number of learners and the continued use of traditional teaching methods. Consequently, the educational process becomes more time-consuming and demanding, with no guarantee of achieving the desired outcomes (Ruiz Euler et al., 2020). However, the advent of technology, including educational technology or educational technologies specifically, has enhanced the efficacy of delivering and teaching prescribed curricula, whether in theoretical or practical contexts (Hsu & Lin, 2020). According to Ali (2020), education can be accessed in various life circumstances, provided that the necessary conditions for learning are met. The author emphasizes that learning takes place not only within the confines of a classroom, but also in diverse settings. Rudd et al. (2021) argue that physical education, as a discipline encompassing knowledge, regulations, and competencies that necessitate mastery, is in urgent need of leveraging advancements in scientific progress, particularly through contemporary methods and techniques. This
is essential to support educators and learners in attaining their desired objectives, as the existing educational approaches have proven inadequate in achieving the necessary advancements in teaching mathematical skills and fostering educational success. The researchers in their capacity as a handball teacher observed challenges in instructing offensive skills in handball. This is evident in the educational attainment of offensive skills, which can be attributed to the prevalence of conventional teaching methods in this domain. Furthermore, handball is recognized as a sport that requires specific abilities and is challenging to grasp. In order to address this issue, which manifests as a disparity between the learner’s capabilities and the desired level of offensive skills. The researchers recognized the potential of integrating educational technologies, such as electronic devices that learners can utilize both within and outside of the educational context. This includes the use of mobile phones, social networking sites, and data show devices, which serve as tools and mediums that foster learner engagement and motivation towards the learning process. In contrast to the predominant educational approaches, it provides a means to alleviate monotony. This study aimed to investigate the effects of utilizing electronic educational bags on the acquisition of offensive skills in handball, considering it as a form of educational technology that offers time and effort efficiency, as well as enhanced learner engagement. Researchers have discovered that the instructional approach employed, known as the command method, relies solely on the teacher as the primary source of information. In this method, the teacher explains the offensive skills and subsequently demonstrates the model without any active involvement of the learner in the educational context. This approach is incongruent with advancements in educational technology and its utilization. In the contemporary era, enhancing the educational process is a paramount concern. It is widely acknowledged that the integration of educational technology effectively facilitates the attainment of educational objectives.

Research Objective
The research aims to:
1. Examine the effects of an educational program utilizing the electronic educational bag on the acquisition of offensive handball skills.
2. This study aims to investigate the efficacy of utilizing a mobile application, an electronic booklet, and secret groups on the Facebook social networking site for enhancing the acquisition of offensive skills in handball.
3. Identify the difference between the effectiveness of the educational bag using three technological means and the traditional education followed in the process of teaching handball.
4. This paper aims to provide recommendations and suggestions for researchers, teachers, and sporting coaches to effectively utilize mobile phones, computer programs, and social networking sites, with a specific focus on Facebook, to enhance the educational process.

Research hypotheses
Considering the objectives of the research, the researcher assumes the following:
1. There are statistically significant differences between the average scores of the pre- and post-tests of the control group in teaching offensive skills in handball and in favor of post-tests.
2. There are statistically significant differences between the average scores of the pre- and post-tests of the experimental group in teaching offensive skills in handball and in favor of post-tests.
3. There are statistically significant differences between the experimental group and the control group in the post-tests in teaching offensive skills in handball in favor of the experimental group.

METHODOLOGY
Research Methodology
The researchers employed the experimental method in order to align with the nature of this study, utilizing an experimental design that relies on pre- and post-tests conducted on two distinct groups: a control group and an experimental group.

Research population and sample
Research sample:
The total sample consisted of thirty-four students, and the basic research sample was comprised of twenty-four students drawn at random from the total sample to represent a percentage (70%) of the research community. The basic sample was then divided into two equal groups of twelve students each, with one group serving as a control and the other as an experimental group. Six students were chosen from the total sample to conduct the exploratory study, and four students were excluded due to ineligibility.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Unit of measurement</th>
<th>M</th>
<th>SD</th>
<th>Torsion coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Year</td>
<td>17.23</td>
<td>0.024</td>
<td>0.721</td>
</tr>
</tbody>
</table>

Table 1: Shows the homogeneity of the total research sample in the variables (under study)
Table (1) indicates that all values of the torsion coefficients in the variables under consideration ranged between (0.209-0.721) and that these values are bounded by (24), indicating that the vocabulary is moderately distributed, indicating the seating of the sample.

Means of data collection

Research Tools:
1. Data for learners (age - height - weight).
2. Registration form for the results of skill tests.
3. A reference survey to determine the abilities of offensive skills in handball.

Tests
1. Physical skills.
2. A reference survey to determine the physical tests of handball offensive skills.
3. Form for evaluating the form of technical performance of offensive skills in handball.

Tools and devices used in research:
1. A classroom equipped with a computer and a data show device.
2. Mobile phone device.
3. Medical scale.
4. Dynamo meter.
5. Cube elasticity.
6. Medical Balls.

Program Content
The process of determining the program's content is one of the most difficult and significant processes, and this difficulty is reflected in the selection of the technical and educational steps and training on each of the offensive handball skills, as well as the identification of the tools, teaching aids, and technological techniques used (mobile phone - data projector - one of the social networking sites).

Exploratory study
The purpose of the exploratory study conducted by the researcher was to calculate the scientific coefficients of the research assessments. The study was also conducted during the period beginning on 2022-2-20, on a sample of six students drawn at random from outside the primary research sample. To guarantee and designate all administrative and technical organizational aspects of the research's implementation:
1. Knowing the appropriateness of the time of the educational unit (45 minutes) for the parts of the educational unit.
2. Knowing the appropriateness of the application viewing time software - educational group.
3. How appropriate is the place to apply the content of the tutorial:
4. Testing the tools and devices used in the research and the extent to which they are associated with the sample number.
5. Determine the appropriateness of the content of the educational program for the research sample.
6. Ensure that the tests are easy.
7. Determine when to conduct tests.
8. Ensure the scientific transactions of the test (stability - honesty).

Honesty coefficients for the skill tests under research:
The coefficient of validity of the tests (the validity of differentiation) was calculated by applying the test to (12) students divided into two groups, a distinct group (6) students and a non-distinguished group (6) students, who are the sample of the exploratory study.

Table 2: Shows the significance of the differences between the tests of the two distinct and non-distinct groups in the variables of the study.
It is evident from the preceding table that there are statistically significant differences between the featured and non-featured groups in the tests of special physical abilities in favor of the distinguished group, as all the calculated values of (T) are greater than their tabular value at a significance level of 0.05, indicating the validity of these tests in measuring what they were designed to measure.

Stability coefficients for the skill tests under study:
The stability of the tests was calculated by administering the test and reapplying it (test retest) with a 7-day interval on the exploratory study sample of six students, as shown in Table (3). Both tests were administered at the same time and under the same conditions.

Table 3: Shows the stability coefficient between the first application and the second application of the skill tests under study.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Unit of Measurement</th>
<th>First application</th>
<th>Second application</th>
<th>Correlation coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shooting accuracy</td>
<td>Numbe</td>
<td>5.43</td>
<td>2.08</td>
<td>5.28</td>
</tr>
<tr>
<td>Passing and receiving</td>
<td>Numbe</td>
<td>13.82</td>
<td>2.67</td>
<td>13.34</td>
</tr>
<tr>
<td>Plump</td>
<td>Numbe</td>
<td>3.66</td>
<td>1.54</td>
<td>3.49</td>
</tr>
</tbody>
</table>

Tabular value (v) at significance level 0.05 = 2.22

The preceding table demonstrates that there is a statistically significant correlation between the averages of the first and second applications in the skill tests, as all the calculated values of (t) are greater than their tabular value (t), indicating the stability of the tests.

Steps to carry out the research:
After identifying the basic variables and tools used, the researcher performed the following:

1. Conducting pre-test on 28-2-2022, and the measurements include height, weight and age for each student, and a session was held before the test to explain the concept and purpose of the test.
2. The start of the implementation of the proposed educational program on 6-3-2022 for a period of (10) weeks and consists of (20) educational units at (2) educational units per week, and the details of the educational unit are as follows 10 minutes watching the software before the start of the unit through alternatives to the electronic educational bag - 5 minutes warm-up - 10 minutes physical preparation - 17 minutes skill application - 3 minutes at the end).
3. The dimensional measurements were carried out on 10/5/2022 in the same previous sequence and compared to the pre-test using the necessary statistical methods.

Statistical treatments used.
Researchers were using the appropriate statistical method for research and suggest in their findings through previous studies and research the following:

1. Arithmetic means.
2. Standard deviation.
3. Percentage.
4. Test coefficient (T) calculation significance differences.
5. Convolution.
6. Pearson's correlation coefficient.

Presentation And Discussion of Results
First, presentation and discussion of the results of the first hypothesis

Table 4: Shows the arithmetic mean, standard deviation, and value (T) between the pre- and post-tests of the control group in the skills tests.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Unit of Measurement</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shooting accuracy</td>
<td>Numbe</td>
<td>5.29</td>
<td>7.75</td>
<td>1.81</td>
</tr>
<tr>
<td>Passing and receiving</td>
<td>Numbe</td>
<td>6.17</td>
<td>8.33</td>
<td>1.74</td>
</tr>
<tr>
<td>Plump</td>
<td>Numbe</td>
<td>16.45</td>
<td>19.08</td>
<td>3.66</td>
</tr>
</tbody>
</table>

Tabular value (v) at significance level 0.05 = 2.20

It is evident from Table (4) that there are statistically significant differences in favor of the control group's dimensional measurement in learning offensive handball skills, as all calculated values of (T) are greater than their tabular value at the 0.05 level of significance. The observed disparities in the pre- and post-tests are ascribed by the researcher to the impact of the electronic educational bag on the acquisition of offensive skills in handball among students in the control group, which can be attributed to the process of skill learning, practice, and training. The findings presented align with the research conducted by Alkhateeb and Al-Duwaire (2019) as well as Tabieh et al. (2021). These
studies similarly concluded that the conventional approach to education, which emphasizes the significant role of the teacher and their instructive guidance, yields positive outcomes in the educational process. Thus, the first hypothesis of the research is fulfilled, which states that (“There are statistically significant differences between the average scores of the pre- and post-tests of the control group in teaching offensive skills in handball and in favor of post-tests”).

Second: Presenting and discussing the results of the second hypothesis.

Table 5: Shows the significance of the differences between the average scores of the pre- and post-measurements of the experimental group in the offensive skill variables in handball.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Unit of Measurement</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shooting accuracy</td>
<td>Numbe</td>
<td>5.34</td>
<td>1.24</td>
<td>9.41</td>
</tr>
<tr>
<td>Passing and receiving</td>
<td>Numbe</td>
<td>6.25</td>
<td>1.55</td>
<td>10.72</td>
</tr>
<tr>
<td>Plump</td>
<td>Numbe</td>
<td>15.45</td>
<td>3.36</td>
<td>22.70</td>
</tr>
</tbody>
</table>

Tabular value (v) at significance level 0.05 = 2.20

It is evident from Table (5) that there are statistically significant differences in favor of the post-test of the experimental group in the level of skill performance of offensive handball skills, as all calculated values of (T) are greater than their tabular value at a significance level of 0.05. The researchers attribute the differences between the two pre and post-tests to the effect of the electronic educational bag on learning offensive skills among students of the experimental group. The significance of the electronic educational bag and the positive influence of mobile applications on the enhancement of booklet skills and the utilization of learning resources in the educational context have been substantiated by Alshurideh et al. (2021) and Jayathirtha and Kafai (2019). Consequently, the second hypothesis has been validated (There are statistically significant differences between the average scores of the pre- and post-tests of the experimental group in teaching offensive skills in handball and in favor of post-tests).

Third: Presentation and discussion of the results of the third hypothesis.

Table 6: Shows the arithmetic mean, standard deviation, and value (T) between the post-tests of the experimental and control groups in skill tests.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Unit of Measurement</th>
<th>Experimental</th>
<th>Control</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shooting accuracy</td>
<td>Numbe</td>
<td>9.41</td>
<td>1.59</td>
<td>7.75</td>
</tr>
<tr>
<td>Passing and receiving</td>
<td>Numbe</td>
<td>10.72</td>
<td>1.25</td>
<td>8.33</td>
</tr>
<tr>
<td>Plump</td>
<td>Numbe</td>
<td>22.70</td>
<td>3.45</td>
<td>19.08</td>
</tr>
</tbody>
</table>

Tabular value (v) at significance level 0.05 = 2.07

It is evident from Table (6) that there are statistically significant differences in favor of the dimensional measurement of the experimental group in learning offensive handball skills, as all calculated values of (T) are greater than their tabular value at the 0.05 level of significance. The researchers attribute the differences between the two tests to the impact of the electronic educational bag on the acquisition of offensive handball abilities among the experimental group’s students. The progress observed in the experimental group students’ post-tests of skill research variables can be attributed to the use of an electronic educational bag during the educational program. This tool facilitated the efficient delivery of scientific material to students and enhanced their engagement through elements of excitement and suspense. In contrast, the control group did not have access to this tool. The aforementioned statement aligns with the findings of Alshar’e et al. (2022) and Khasawneh (2021), an electronic educational bag refers to a comprehensive educational system that has been systematically designed to facilitate student learning. It encompasses a collection of interconnected educational resources with diverse objectives, enabling students to engage with them under the guidance of a teacher. El-Sofany and El-Haggag (2020) and Eom (2023) assert that mobile education is a variant of e-learning that relies on wireless technologies, specifically mobile phones and smart phones. This mode of education facilitates various hypotheses for interactive and collaborative learning experiences among students, as well as between students and teachers. Such a level of efficiency is not easily attainable through alternative methods. From the above, we find that the third hypothesis of the research, which states that (There are statistically significant differences between the experimental group and the control group in the post-tests in teaching offensive skills in handball in favor of the experimental group) may check.

CONCLUSIONS

The educational program using the electronic educational bag has a positive impact on raising the level of performance to learn offensive skills in handball for students.

Recommendations
1. The necessity of using educational tools (using the electronic educational bag) to teach fundamental offensive handball skills and other related skills.
2. Developing the electronic educational bag to impart knowledge and enhance handball skill performance.
REFERENCES