

THE EFFECT OF USING ELECTRONIC EDUCATIONAL TECHNOLOGY «VIDEO TECHNOLOGY» ON LEARNING DRIBBLINGS IN BASKETBALL

Mouloud Kenioua¹, Hocine Berkat¹

¹ Institute of Physical Education and Sport University of Ouargla, Algeria, moukenioua@gmail.com.

<https://doi.org/10.29038/2220-7481-2021-02-133-138>

Abstracts

Topicality. The video technology become one of the modern electronic learning methods used in the field of physical education and sports **Research Purpose.** The current study aimed to use video technology as one of the modern educational methods and the extent of its impact on learning and acquiring the skill of dribbling in basketball among intermediate school students. **Methods.** The participants of the main study consisted of 26 students from an intermediate education institution. Measurement tools can be divided into two parts, the first is the scientific research tools such as personal interviews with experts, tests, questionnaire form for determining the most appropriate test to assess the skilful performance of dribbling, a test for evaluating the skill of dribbling and scientific observation. The second is the means and devices used that included: a laptop computer, a visual display device, a device for measuring height and weight, in addition to sports supplies and video tapes. **Research Result.** The results of the current study showed that the educational program followed influenced the development of students' dribbling skill in basketball. The use of video technology enhanced learning the skill of dribbling in basketball among students. **Conclusion.** It has become necessary to use video tapes and various new electronic techniques such as includes virtual reality (VR), augmented reality (AR) in the physical education lesson, because of their importance in the learning process, and link the sense of hearing and sight in order to gain time and effort, and enhance the motivation of students.

Key words: effect, video technology, dribbling skill, basketball, physical education lesson.

Мулад Кеніюа, Хочіне Беркат. Вплив використання електронних освітніх технологій «відеотехнологій» на засвоєння навичок дриблінгу в баскетболі. Актуальність дослідження. Відеотехнології стають одними із сучасних електронних методів навчання, що широко використовуються в галузі фізичного виховання та спорту. **Метою дослідження** є виявлення впливу відеотехнологій як одного із сучасних освітніх методів навчання та визначення ступеня їх впливу на навчальний процес й набуття навичок дриблінгу в баскетболі учнями загальноосвітньої середньої школи. **Методи дослідження.** Учасниками дослідження стали 26 учнів загальноосвітнього навчального закладу. Засоби вимірювання включали дві групи: перша – науково-дослідницькі засоби, зокрема особисте проведення співбесід з експертами, тестування, застосування різноманітних форм анкетування для визначення найбільш прийнятних тестів для оцінки результатів дриблінгу, тестування з метою оцінки навичок дриблінгу, а також наукове спостереження; друга група – пристрої, зокрема портативний комп'ютер, візуальний дисплей, пристрої для вимірювання зросту та ваги досліджуваних, а також спортивний інвентар та відео техніка. **Результати дослідження** продемонструвати вплив навчальної програми на розвиток в учнів навичок дриблінгу в баскетболі. Використання учнями відеотехнологій покращило їхні навички ведення м'яча в баскетболі. **Висновки.** Під час занять із фізичної культури стало необхідним використання відео- та аудіоприсроїв й інших електронних носіїв, зокрема включення віртуальної реальності (ВР), доповненої реальності (ДР) у зв'язку з їх важливістю в навчальному процесі та встановленні зв'язку між органами слуху й зору, що дало змогу виграти час та підвищити мотивацію учнів.

Ключові слова: вплив, відеотехнології, навички дриблінгу, баскетбол, заняття з фізичної культури.

Мулад Кеніюа, Хочіно Беркат. Влияние использования электронных образовательных технологий «видео технологий» на усвоение навыков дриблинга в баскетболе. Актуальность исследования. Видео технологии становятся одними из современных электронных методов обучения, широко используются в области физического воспитания и спорта. Целью исследования является выявление влияния видео технологий как одного из современных образовательных методов обучения и определение степени их влияния на учебный процесс и приобретение навыков дриблинга в баскетболе учащимися общеобразовательной средней школы. **Методы исследования.** Участниками исследования стали 26 учеников общеобразовательного учебного заведения. Средства измерения включали две группы: первая группа – научно-исследовательские средства, в частности личное проведение собеседований с экспертами, тестирование, применение різноманітних форм анкетирования для определения наиболее приемлемых тестов для оценки результатов дриблинга, тестирование для оценки навыков дриблинга, а также научное наблюдение; вторая группа – устройства, в частности портативный компьютер, визуальный дисплей, устройства для измерения роста и веса испытуемых, а также спортивный инвентарь и видео техника. **Результаты исследования** продемонстрировать влияние учебной программы на развитие у учащихся навыков дриблинга в баскетболе. Использование учениками видео технологий улучшило их навыки ведения мяча

в баскетболе. **Выводы.** Во время занятий по физической культуре стало необходимым использование видео и аудио устройств и других электронных носителей, в том числе включение виртуальной реальности (ВР), дополненной реальности (ДР) в связи с их важностью в учебном процессе и установлении связи между органами слуха и зрения, что позволило выиграть время и повысить мотивацию учащихся.

Ключевые слова: влияние, видео технологии, навыки дриблинга, баскетбол, занятия по физической культуре.

Introduction. The rapid technological revolution that the world is experiencing today contains means, techniques and methods whose importance is not limited to serving-man and his job practices, but also has an effective role in increasing his knowledge and raising the level of his capabilities and skills [1]. As it covered all areas of life, including the sciences of physical education and sports [2]. Among these technologies is «video technology», which is considered one of the modern electronic learning methods used in the field of physical education and sports[3]. Video technology facilitates the acquisition and teaching of physical education skills [4; 5]. Video modelling combines visual and auditory requirements that require seamless viewing by learners, followed by an attempt to perform the skill in a similar way [6]. For the modelling to be effective, it is important to carefully structure the content, set certain conditions, and be appropriate to the learners' abilities, and they must be motivated to practice [7]. Basketball is one of the collective games that fall within the school subjects for intermediate stage pupils, for which it is necessary to learn their skills and be familiar with their scientific and technical aspects. This matter is the responsibility of the physical education teacher, who works to find appropriate methods, and techniques for pupils [8]. Among the best ways to acquire basketball skills of all kinds is by learning through models, such as pictures, notes, and video technology [9].

In light of the above, it is clear that the current study aims to use video technology as one of the modern educational methods. Video technology contributes to the development of skills, improves the level in a short time, and thus is useful for students and teachers as well; Meaning facilitate the achievement of the educational goals. To achieve the desired goal, the study hypotheses were as follows:

HYP. 1 There are statistically significant differences in learning the skill of dribbling between the results of the pre and post-tests of the experimental and control group and in favor of the post test.

HYP. 2 There are statistically significant differences in learning the skill of dribbling in the post-test results between the experimental and control group and in favour of the experimental group.

Research Material and Methods. The participants of the study consisted of 39 students, divided into three classrooms from an intermediate education institution in Ouargla city Of the male gender (The peculiarities of the region do not allow for a study of girls), the average age of students is 12,10 years; Where the exploratory study consisted of 10 participants, As for the main study, the number of individuals was 26, 13students participated as an experimental group and 13 others as a control group. They were chosen randomly. 03 individuals who were completely exempted from studying due to special circumstances. 03 individuals who were permanently exempt due to special circumstances.

Instruments. Measurement tools were the scientific research tools such as personal interviews with experts, tests, questionnaire form for determining the most appropriate test to assess the skilful performance of dribbling, a test for evaluating the skill of dribbling and scientific observation. Some means and devices were also used that included: a laptop computer, a visual display device, a medical device for measuring height and weight, in addition to sports supplies and video tapes.

Basic Skill Test. A questionnaire form was used to determine the most appropriate test for evaluating technical performance; this form was presented to a group of experts in the field of basketball, who agreed to control dribble test (Table 01).

Table 1

Dribbling Tests in Basketball

Skill	Test	Percentage
Dribble	Control dribble test	85,71 %
	Zigzag dribbling of the ball	34,29 %

Table No. (1) shows that most of the survey sample members agreed on the use of Control dribble test, where the percentage reached 85,71 %, while the percentage of those who chose the Zigzag dribbling of the ball was 34,29 %.That is why the first technique was chosen.

Description of Control Dribble Test. The pupil moves around the five cones placed within the free-throw area, where the play takes three attempts with the right hand and three with the left hand, in addition to recording the time the score is calculated from the sum of the last two attempts (figure 01).

Designing the Technical Performance Evaluation Form. To evaluate the technical performance of each pupil, it is necessary to design a form for the skill of dribbling (Control dribble test). The form contains five criteria, the first criterion is controlling the ball while dribbling without continuing to look, the second is the ability to change direction, change speed when dribbling, the third is the exchange of dribbling with the right and left hand, the fourth is to work on covering the ball during passage, and the fifth is focusing on time during the dribbling.

The psychometric properties of the measuring tools in the current study are characterized by a high degree of validity, objectivity and reliability, the Cronbach alpha coefficients were between 0,89 and 0,91.

Homogeneity of the Study Sample

For the purpose of achieving homogeneity in the study sample, the variables of height, weight, age and assessment of evasive skill were used, then statistical treatment of the torsion coefficient was carried out. (table 02 nad03).

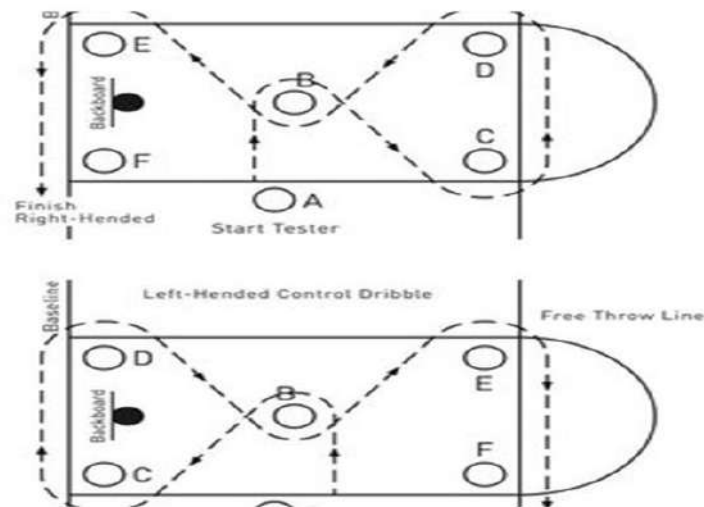


Figure 1. Control Dribble Test

Table 2

The Homogeneity of the Control Group

N°	Variables	Measuring Unit	Mean	Standard Deviation	Mediator	Torsion Modulus	Sign
01	Height	Cm	171,2	4,36	171	0,010	Homogeneous
02	weigh	Kg	66,90	4,83	67	0,190	Homogeneous
03	Age	Year	12,10	0,788	12	0,530	Homogeneous
04	Dribbling Skill evaluation	Degree	3,430	0,473	3,50	0,356	Homogeneous

Table 3

The Homogeneity of the Experimental Group

N°	Variables	Measuring Unit	Mean	Standard Deviation	Mediator	Torsion Modulus	Sign
01	Height	Cm	173,4	3,618	173	0,291	Homogeneous
02	weigh	Kg	68,05	5,423	68	0,253	Homogeneous
03	Age	Year	12,05	0,990	12	0,940	Homogeneous
04	Dribbling skill evaluation	Degree	3,13	0,636	3,20	0,014	Homogeneous

It is evident from table No. (02) and (03) that the study sample (control and experimental group) was homogeneous in the variables of height, weight, age, and dribbling skill. As the values of the torsion coefficients were less than (± 1).

Equivalence of the Study Sample. The values of the differences between the control and experimental group appeared not significant; whereas, the calculated (t) values are less than the tabular value (1,043) at the significance level (0,05) (table 04).

Table 4

Equivalence of the Study Sample

N°	Variables	Measuring Unit	Control Group		Experimental Group		Calculated Value (T)	Sign
			Mean	Sd	Mean	Sd		
01	Height	Cm	171,2	4,36	173,4	3,618	1,736	Not sign
02	weigh	Kg	66,90	4,83	68,05	5,423	0,707	Not sign
03	Age	Year	12,10	0,788	12,05	0,990	0,170	Not sign
04	Dribbling skill evaluation	Degree	3,430	0,473	3,13	0,636	1,690	Not sign

The tabular (t) value (2.043) at the level of significance (0.05).

Program Implementation. Pre-tests for the study sample (control and experimental) were conducted at the educational institution in Ouargla with the help of three teachers of physical education; as the circumstances were appropriate about time, place and tools used.

The control group worked according to the physical education curriculum set by the Ministry of Education (Algeria), on the other hand, the experimental group worked according to the modified program (with the video technology).

The work of the experimental group is determined by the presentation of a set of videos at the beginning of the educational part of the lesson; as each videotape contains the technical axis, the skill axis, and the safety and security axis. These axes are displayed by using data show for a period ranging between 10–15 minutes. The learning unit consists of 8 educational units (8 lessons), for one session per week (60 minutes). To facilitate the process in a smooth manner is necessary:

- the control group is taught the skill of basketball dribbling
- The experimental group is taught the skill of basketball dribbling
- Explain the skill clearly to help the two groups in identifying the correct form of the skill
- Show the videos of the experimental group (in the educational part of the lesson)
- When the experimental group encounters any difficulties, the physical education teacher intervenes to explain, clarify and solve the problems
- The physical education teacher works to follow up when the two groups perform the skill
- The physical education teacher works to monitor and observe when the two groups perform the skill

After completing the application process using video technology on the experimental group, the post-tests were conducted.

Table 5

The Parts of the Lesson and the Time Specified for Each of the Educational and Learning Unit

		Parts of the Educational Unit	Time of Educational Unit	Time of Learning Unit	
01		Preparatory part (15minutes)	Introduction	05 minutes	40 minutes
			Warm up	10 minutes	80 minutes
02		The main part (40minutes)	Educational side	15 minutes	120 minutes
			Practical side	25 minutes	200 minutes
03		The closing part	Stretching	03 minutes	24 minutes
			Discussion	02 minutes	16 minutes
04		Total		60 minutes	480 minutes

Results. HYP.1 There are statistically significant differences in learning the skill of dribbling between the results of the pre and post-tests of the experimental and control group

Through table (06) it is evident that the arithmetic mean value reached (3,43) with a standard deviation (0,437) for the study sample in the pre-test, while the arithmetic mean value in the post-test reached (4,09) with a standard deviation (0,611), as for the calculated value of (T), it was (3,946), which is greater than the tabular value. This indicates the existence of significant differences between the pre and post-test in favour of the post-test in the skill of dribbling.

HYP.2 There are statistically significant differences in learning the skill of dribbling in the post-test results between the experimental and control group

The mean values and standard deviations of the experimental group in the pre-test and post-test (table 07) were (3,13; 4,645; 0,636; 0,967) respectively. As for the calculated value of (T), it is greater than the tabular value. This indicates that there are significant differences between the pre and post-test in favour of the post-test.

Table 6

Value of (T) Calculated in Pre-Test and Post-Test of the Study Sample

Pre-Test		Post-Test		Calculated Value (T)
Mean	Sd	Mean	Sd	
3,43	0,473	4,09	0,611	3,946

The tabular (t) value (2,09) at the level of significance (0,05).

Table 7

Value of (T) Calculated in Pre-Test and Post-Test of Experimental Group

Pre-Test		Post-Test		Calculated Value (T)
Mean	Sd	Mean	Sd	
3,13	0,636	4,645	0,667	5,837

The tabular (t) value (2,09) at the level of significance (0,05).

After comparing the arithmetic means of the post-tests between the control and the experimental group (table 08), it became clear that the calculated value of (T) amounted to (5,550), which is greater than the tabular value (2,09 at the level of significance 0,05). This indicates that there are significant differences in favour of the experimental group.

Table 8

Differences between e Control and Experimental Group in Post-Test

Group	Mean	SD	Calculated Value (T)
Control	3,230	0,620	
Experimental	4,645	0,667	

The tabular (t) value (2,09) at the level of significance (0,05).

Discussion. The results of the current study showed that the educational program followed influenced the development of pupils' dribbling skill in basketball, the reason is that the program contains selected exercises in a scientific manner consistent with the level of members of the sample (control and experimental group), and is based on health practice. Lazam [10] indicated that learning and practicing a skill within a kinetic duty leads to increased experience and improved skill performance. Setting clear goals in light of certain behaviours or levels of performance would provide an effective educational program [11]. The process of explanation and presentation is one of the practical applications that contribute to achieving the learning process [12]. Also, the conditions of exercise such as time and place have a major role in motor and skill learning [13; 14]. A program that takes individual differences [15; 16], and the capabilities of individuals [17] into consideration, is a program through which the established goals can be achieved. The results of the present study agree with the results of the study of Abboud et al [18] and study of Haider [19].

The use of video technology had a positive effect in learning the skilful performance of the skill of dribbling in basketball among pupils. Repetitive viewing and voiceover have a benefit in understanding movement. Blair [20] noted that video technology speeds up the achievement and enhances performance, it also contributes to raising the motivation and self-efficacy of pupils during the educational and training process [21; 22]. Slowly display of movement or skill aids accurate assimilation [23]. Likewise, the visual perception after viewing gives the pupil a strong impetus towards imitation and an attempt to actualize the skill [24; 25].

Conclusion. The video technology that was applied was characterized by effectiveness, and contributed to raising the level of learning among students in the skill of dribbling, as well as helped to shorten time and reduce effort, as it worked as an introductory exercise that facilitates learning complex skills, in addition to raising the level of desire and motivation towards achievement. It has become necessary to use video tapes and various electronic techniques in the physical education lesson, because of their importance in the learning process, and link the sense of hearing and sight in order to gain time and effort, and enhance the motivation of pupils.

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Стаття надійшла до редакції 23.05.2021 р.