International Journal of Yogic, Human Movement and Sports Sciences 2024: 9(2): 162-168

ISSN: 2456-4419
Impact Factor: (RJIF): 5.18
Yoga 2024; 9(2): 162-168

www.theyogicjournal.com
Received: 19-08-2024
Accepted: 14-09-2024

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The effect of using electronic hypermedia technology on some kinetic abilities and learning basic skills in backstroke swimming for students

Dr. Hasanain Abdul Wahid Shuaila

Abstract
This paper aims to determine how utilizing hypermedia affects certain kinetic skills in swimming for students as well as how using hypermedia affects learning the fundamentals of backstroke swimming. The researcher used an experimental strategy with two groups (control and experimental) and pre- and post-measurements for the students because of its relevance and the nature of the problem. The study community included first-stage students at Al-Mustaqbal University for the academic year 2023-2024, and their number reached (97) students. A sample was selected for research randomly, with 40 students as well as 41.237% of the scientific community overall. To start the investigation, they were split into two groups at random: 20 students each for the experimental group and 20 students for the control group. One of the most important conclusions reached by the researcher was that the experimental group outperformed the control group, which employed electronic hypermedia. This suggests that the software was effective in helping the students learn how to swim backstroke, and that the control group's students benefited from the traditional method, which involved verbal explanation and practicing the practical model.

Keywords: Practical model, determine, electronic hypermedia technology, backstroke swimming

Introduction
Many researches and studies have proven the importance of the practical uses of some tools, materials, devices and various auxiliary exercises, whether individually or together, in learning processes in general and kinetic learning in particular. This importance was evident in helping individuals, teachers and learners alike, to understand and pass the various educational stages and contributed to reducing effort and costs and shortening the time to reach the desired goals of those processes and stages. One of the fields is the sports field. that is interested in using educational media because of its positive impact on the speed of learning and in investing the effort expended in the specified time, and its adoption as a basic axis in learning qualifies players to practice and learn basic skills. Researchers Among the disciplines of sports sciences and physical education have been interested in it because of its importance in teaching and acquiring new kinetic skills for the individual with the least possible effort, as choosing the educational medium is an important part of the learning parts, and its methods have diversified and multiplied throughout these years. Swimming has kept pace with this development and progress, as it has witnessed many changes in learning and teaching methods in various aspects. The use of educational technology in the learning process and the acquisition of fundamental abilities through diversification in the use of its media in order to provide the student the capacity to assimilate the knowledge and the process of selecting the proper kinetic program to fulfill the kinetic responsibility in the most efficient manner and in accordance with the demands of the circumstance he encounters. Swimming movements of various types are considered among those skills or movements whose performance requires the learner to acquire good coordination ability to be able to perform parts or movements of that skill with high coordination, which can be achieved with the help of various educational means, especially the use of exercises specific to coordination and developing the learner's ability to perform more than one movement for different parts of the body at the same time.

Performing the swimming skill in any of its four types (freestyle, breaststroke, backstroke, butterfly) requires the learner to move the head, arms and legs together at the same time and in different directions or kinetic paths according to the type of swimming, which requires a good level of kinetic coordination (neuromuscular) that can be acquired and developed by focusing on the use of general and specific auxiliary exercises as an important part of the educational means that are expressed as "means Direct communication that helps learners acquire knowledge, skills, trends and methods. The research is significant since it presents contemporary hypermedia in developing basic skills in backstroke swimming as an expressive means used by coaches to achieve the best results

Research problem

Most of the movements and skills in various sports, especially swimming movements, are complex movements that depend on learning and mastering them on developing the learner's kinetic ability that helps him link those movements and perform them in the form of an integrated skill to achieve the goal and kinetic duty from them, through the use of various auxiliary means and exercises during the learning stages, especially with beginners in learning, as the individual's learning differs according to the characteristics of the activity he practices, as for most sports that are characterized by competition (especially swimming), it is very important to use appropriate educational methods to achieve good teaching, the pinnacle of achievement is the proper use of skills during study or competition.

Through the researcher's experience as one of those interested in swimming, he noticed that many swimming lessons did not take into account the extent of the use of modern hypermedia to learn basic skills, the most important and most difficult stage that must be taken seriously, so he decided to use electronic hypermedia for students, because this helps reduce individual differences because each student is different from other students, as he receives the information provided by the teacher quickly, which helps in learning basic skills and thus saving time and energy, it becomes an effective educational program used by teachers to achieve the best results.

Research objective

Research objectives: The study seeks to determine

- The result of using electronic hypermedia on some kinetic abilities in swimming for students.
- The effect of using electronic hypermedia in teaching pupils the fundamentals of swimming the backstroke.
- Identify significant variations in the dependent variables (kinetic capacities and fundamental swimming backstroke skills) between the control and experimental groups.

Research hypotheses

- The pre- and post-measurements of the experimental and control groups show statistically significant differences in the kinetic capacity and performance of basic backstroke swimming abilities, with the post-measurement showing the greatest preference among sample participants.
- The organization conducting the experiment performed better on the post-measurements of kinetic abilities and fundamental backstroke swimming skills than the control group, with statistically significant differences.

Research fields

- Human domain: First-stage students at Al-Mustaqbal University for the academic year 2023-2024
- Time range: December 2, 2023, to April 20, 2023
- The spatial domain: Marina City Indoor Pool - Babylon / Hillah

Search terms

Modern hypermedia

It is a program for organizing and storing information in a non-sequential manner. It is also considered a method for providing individual learning in various frameworks that helps increase the learner's motivation through immediate feedback and increasing his ability to control the learning process. (Abdul Hamid Sharaf. 2010.) [3].

Research methodology and field procedures

Research Methodology

To fit due to the nature of the issue, the researcher used an experimental design that included pre- and post-measurement groups: the experimental and the control.

Community and sample research:

The scientific community included first-year students at Al-Mustaqbal University for the academic year 2022-2023, and their number reached (97) students. The research sample was selected randomly, with 40 students as well as 41.237% of the scientific community overall. They were split into two groups at random, with (20) students in the experimental group and students in the control group order to start conducting the research.

Homogeneity and equivalence of samples:

As the researcher found uniformity for the investigation community to ensure that it is a moderately homogeneous community by finding the skewness coefficients in the following measurements: Age - Length - Weight

The researcher found equivalence in the variables, which are (buoyancy and sliding on the back - standing in the water - backstroke swimming) and kinetic abilities, which are (agility, coordination and kinetic accuracy), and Tables (1-2) illustrate this.

Table 1: Displays the research's homogeneity in terms of age, weight, and height group.

Variables	Measuring unit	Mean	Median	Std. Deviations	Skewness
Length	Cm	162.40	161	4.89	0.86
Mass	Kg	62.27	61	6.03	0.63
Age	Year	17.46	17.50	0.47	-0.26

Table 1 makes it evident that the skewness coefficients in each of the earlier evaluations were within the range of (-0.26, 0.86), suggesting that the research community was rather homogenous in these assessments.

Table 2: Displays the backstroke swimming skill performance equivalency of the basic study sample and kinetic abilities

No.	Tests	Measuring unit	Experimental group		Control group		T- value Calculated	Type Sig
			Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation		
1	Agility	Second	9.269	1.007	9.5	0.994	0.881	Non sig
2	Coordination	Second	16.8	1.316	17.35	1.025	1.779	Non sig
3	Kinetic Precision	Second	10.9	0.650	11.2	1.07	1.293	Non sig
4	Floating and sliding on the back	Degree	2.20	0.56	2.07	0.62	0.58	Non sig
5	Legging strokes	Degree	2.23	0.53	2.17	0.56	0.29	Non sig
6	Right arm movement	Degree	2.10	0.60	1.80	0.70	1.22	Non sig
7	Left arm movement	Degree	1.47	0.58	1.47	0.69	zero	Non sig
8	Arms movements	Degree	1.40	0.57	1.26	0.49	0.68	Non sig
9	Regular breathing	Degree	0.80	0.41	0.53	0.48	1.60	Non sig
10	Backstroke	Degree	2.83	0.52	2.87	0.48	0.21	Non sig

Table 2 makes it evident that all of the values of (T) were less than the tabular value of 2.28 at the significance level of 0.05, suggesting that the data are random differences and the two study groups are equivalent.

Devices and tools used in the research

Devices used in the research measurements

- A stammered that measures height using a scale and weight (cm - kg)
- Dynamometer to measure leg muscle strength (kg)
- instruments employed for the study measurements
- Tape quantify for lengths (cm)
- Hand grips.
- Stopwatch.
- Float boards.

Tests used in the research

Evaluation of the level of skill performance

The subjects' respective skill levels in the two research groups (control and experimental) in backstroke swimming was evaluated by a jury committee consisting of five faculty members. The grade was determined out of ten grades in both the before to and following measurement. Then the investigator found the average of the jury grades for each student, and the grades were distributed as follows:

- Floating and sliding on the back (10) degrees
- Legging strokes (10) degrees
- Right arm movement (10) degrees
- Left arm movement (10) degrees
- Arm movements (10) degrees
- Breathing (10) degrees
- Backstroke (10) degrees

Kinetic Abilities Tests

A test for running in the shape of (8): (Ali Jawad Saloum Al-Hakim. 2004) [4-5]

- The test's objective is to measure coordination.
- Instruments: Two high jumping posts with a distance of (2 m) between them, a crossbar placed on them at the height of the middle of the tester, a stopwatch.
- Performance Description.
- The tester stands on the right side of one of the posts, and he sprints when he hears the start signal in the shape of (8), where the tester makes two turns.
- Calculating the scores: The time in which the tester completes two turns is recorded.

A test for running around the circle: (Raed Abdul Amir. 2006) [8]

- The test's objective is to assess agility.
- Instruments: Whistle, stopwatch, whiteboard.
- Performance Description.
- On the ground, draw a circle with a diameter of two meters. The tester stands at one of the beginnings of the circle's diameter and after hearing the starting whistle, the tester runs along the extension of the semicircle, passing through the diameter of the circle, and then continues running along the extension of the curve of the second semicircle, also passing through the diameter of the circle, arriving at the starting point, noting that running the two halves of the circle is considered running the circle once.
- Calculating the scores: The time the tester covers when running the circle twice in a row is recorded.

Hand shooting test on overlapping rectangles: (Raed Abdul Amir 2006) [8]

- **Test purpose:** Measuring arm accuracy.
- **Tools:** Tennis balls, a wall with a floor in front of it, draw three overlapping rectangles on the wall with the lower edge of the large rectangle raised from the floor by (180) cm, draw a line on the floor (3) m away from the wall.
- **Performance requirements:** The tester fires five balls (in a succession) at the rectangles in an attempt to strike the tiny rectangle while positioned below the beginning line. The tester is permitted to shoot with either hand.

Calculating scores

- If the ball hits the small rectangle inside the rectangle or on the lines designated for it, the tester is given three scores.
- If the ball hits the middle rectangle inside the rectangle or on the lines designated for it, the tester is given two scores.
- If it hits the large rectangle inside the rectangle or on the lines designated for it, the tester is given one score, and if it hits outside the rectangles, the tester is given zero scores.

Exploratory experiment

On Sunday, December 2, 2023, at precisely nine in the morning, a sample that wasn't included in the study sample was used in an exploratory experiment conducted by the researcher. Counting to five pupils. This experiment's goal is to list every challenge the researcher can encounter carrying out the primary experiment. Using the Pearson correlation coefficient, the researcher retested after seven days to determine the stability coefficient and establish the validity of the experiments. Additionally, the study discovered the

objectivity and honesty coefficients. Which had high scientific foundations.

Main research procedures

Pre-tests

Pre-tests were carried out by the researcher for the most important physical and kinetic abilities on Sunday (19/2/2023) at exactly (9) am in the Marina City indoor pool for the groups under control and the experimental group.

The curriculum that the researcher suggested using electronic hypermedia according to the educational software

The researcher prepared educational software according to electronic hypermedia, where the researcher followed preliminary steps to design the software according to electronic hypermedia, as the educational software for learning backstroke swimming is the main axis around which the current research revolves. A specialist in educational technology produced the proposed software using one of the ready-made application programs, which is the Author ware 7 program. The steps for preparing the software included reading, reviewing, figuring out the general goals for the software, determining the purposes of the software, the features and proficiency level of the pupils, and the content of the software. When determining the content, the researcher used many references, research, and studies that were interested in preparing the computer educational software in addition to references, research, and academic studies in backstroke swimming so that the content could be, the software included two types of educational activities (for the experimental group), one type performed by the teacher and the other performed by the learner In order to fulfill the goals of the software, and in light of determining the educational activities according to the characteristics of the hypermedia, the researcher organized the content of the software into two parts: the introduction and the educational content. After completing the preparation of the program in its initial form, the researcher by conducting a pilot test of the software.

Exploratory experiment of educational software according to electronic hypermedia on students:

The researcher conducted an exploratory study on (10) students who are not part of the core study sample beginning on February 18, 2023, to determine the suitability and validity of the educational program to be applied to the basic sample. The results of this experiment resulted in the following:

1. The suitability of the software to the learners' abilities and the extent of their understanding and comprehension of it.
2. Replacing some unclear images and images that do not fit the educational text.
3. Correcting some linguistic errors that require modification and correction.
4. Providing the software with some video clips that were not present about the usage keys.

Final image of the educational program proposed by the researcher using electronic hypermedia according to educational software

Present the components of the computer to the learners and introduce them to the program and its purpose and present some of the main and sub-frames of the program as well as introduce the learners to how to work through the program by explaining the types of interactions included in the program as well as the available means, in addition to observing the students during learning and guiding them and following up on the progress and correcting errors and assigning the students to perform the required activity practically in the swimming pool and guiding them and observing the practical performance and guiding each student towards the correct performance through the practical program in the swimming pool through the following:

- Using the educational program in the classroom in each educational unit.
- Performing the required educational exercises in the swimming pool for each educational unit.
- Answering the evaluation test questions at the end of the time period to learn the skill.

The educational program was implemented on Monday 20/2/2023 until Wednesday 19/4/2023, At a weekly charge of two instructional units for Monday and Wednesday. How long the instructional program lasts curriculum was ninety minutes. divided into (the preparatory section, which included watching the educational program using hypermedia for 25 minutes, a general warm-up for 5 minutes, a special warm-up for 10 minutes, and the main section included the practical application of the program for 45 minutes, and the concluding part for 5 minutes as in Appendix No. (1)

The following factors were considered by the researcher:

- The place where the software is displayed should be in the same place designated for the practical application of backstroke swimming.
- The availability of the Data-Show device in the application place so that students can see during the practical performance of backstroke swimming, thus the researcher avoids the student leaving the swimming pool to see the part where the student has a deficiency (feedback).

Post-tests

On Thursday, April 20, 2023, at precisely nine in the morning, the researcher administered the post-tests to the control and experimental groups at the same location as the pre-tests, following the conclusion of the program implementation phase.

Statistical methods

After completing the application, the researcher collected the results accurately, tabulated them and processed them statistically, the (SPSS) program was used for the subsequent statistical processing:

- The mathematical mean.
- Variation in standard.
- The median.
- The coefficient of skewness.
- Test (T).
- The correlation coefficient, or "Pearson's"

Results and discussion

Results

Table 3: Significance of the variations in the measures taken before and after the experimental group regarding their fundamental backstroke swimming skills

Skill variables	Arithmetic mean (pre)	Arithmetic mean (post)	Arithmetic mean of difference	standard deviation of differences	T-Value
Floating and sliding on the back	2.20	7.50	5.30	0.84	24.09
Legging strokes	2.23	7.30	5.07	0.92	20.28
Right arm movement	2.10	6.97	4.87	0.87	21.17
Left arm movement	1.47	6.63	5.17	1.10	17.83
Arm movements	1.36	7.50	6.13	1.12	20.46
Breathing	0.80	6.73	5.93	1.13	19.77
Backstroke	2.83	7.13	4.30	0.82	19.55

The "t" value in tabular form at 0.05 significance level = 2.145. Table 3 makes it evident that there are statistically significant variations in the experimental group's backstroke swimming skill performance in the pre- and post-tests, with the latter demonstrating a greater degree of performance.

Table 4: Significance Considering the variations pre- and post-measurements in the control group in the fundamental abilities of backstroke swimming

Skill variables	Arithmetic mean (pre)	Arithmetic mean (post)	Arithmetic mean of difference	Standard deviation of differences	T-Value
Floating and sliding on the back	2.07	5.53	3.47	0.73	17.35
Legging strokes	2.17	5.37	3.20	0.82	14.55
Right arm movement	1.80	5.60	3.80	0.74	19
Left arm movement	1.47	5.30	3.83	1.11	12.77
Arm movements	1.26	5.10	3.83	0.67	21.35
Breathing	0.53	4.90	4.37	1.22	13.24
Backstroke	2.87	5.80	2.93	0.87	12.74

At the significance level of 0.05, the tabular "t" value is 2.145. Table 4 demonstrates that there are statistically significant differences between the control group's pre- and post-measurement ability levels performance in backstroke swimming as opposed to post-measurement.

Table 5: Importance of the variations in the experimental and control study groups' following measurements in the basic skills of backstroke swimming

Skill variable	Experimental group		Control group		Arithmetic mean of difference	T-Value
	Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation		
Floating and sliding on the back	7.50	0.98	5.53	1.14	1.97	4.90
Legging strokes	7.30	0.70	5.37	0.86	1.93	6.51
Right arm movement	6.97	1.16	5.60	1.18	1.37	3.10
Left arm movement	6.68	1.28	5.30	0.98	1.38	3.20
Arm movements	7.50	0.98	5.10	0.93	2.40	6.66
Breathing	6.73	0.75	4.90	0.71	1.83	6.63
Backstroke	7.13	0.81	5.80	0.92	1.33	4.06

The "t" value in tabular form at 0.05 significance level is 2.048. Table 5 makes it evident that there are statistically significant variations in the backstroke swimming performance level between the two post-measurements of the experimental and control study groups, with the experimental group's post-measurement showing the highest level of performance.

Table 6: Significance of the differences in kinetic abilities between the pre- and post-measurements for the experimental group

Tests	Measuring unit	groups	Pre-test		Post-test		T-Value Calculated	Type Sig
			Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation		
Agility	Second	Experimental	9.269	1.007	5.54	0.956	5.78	Sig
Coordination	Second	Experimental	16.8	1.316	9.53	0.955	8.82	Sig
Kinetic Precision	Degree	Experimental	10.9	0.650	16.53	3.95	10.76	Sig

At the significance level of 0.05, the tabular "t" value is 2.145. Table 6 makes it evident that there are statistically significant differences, favoring the post-measurement, between the experimental group's kinetic abilities measured before and after.

Table 7: The significance of the differences in kinetic abilities between the pre- and post-measurements for the control group

Tests	Measuring unit	Groups	Pre-test		Post-test		T-Value Calculated	Type Sig
			Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation		
Agility	Second	Control	9.5	0.994	8.03	1.236	5.78	Sig
Coordination	Second	Control	17.35	1.025	15.11	2.936	8.82	Sig
Kinetic Precision	Degree	Control	11.2	1.07	13.71	2.953	10.76	Sig

The tabular "t" value is 2.145 at the 0.05 significance level.
Table (7) makes it evident that there are statistically significant differences in the control group's kinetic skills between the pre- and post-measurements, favoring the post-measurement.

Table 8: The significance of the differences between the control and experimental groups' post-kinetic ability tests is displayed

Tests	Measuring unit	Experimental group		Control group		T-Value Calculated	Type Sig
		Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation		
Agility	Second	5.54	0.956	8.03	4.236	3.20	Sig
Coordination	Second	9.53	0.955	15.11	4.936	6.48	Sig
Kinetic Precision	Degree	16.53	3.95	13.71	0.953	5.06	Sig

At the significance level of 0.05, the tabular "t" value is 2.145.
Table 8 makes it evident that the experimental group has seen statistically significant alterations in comparison to the control group following post-measurements.

Discussion

Table (5-4-3) makes it evident that the experimental group's and the control group's pre- and post-measurements, as well as the post-measurements between them, show statistically significant changes that favor the group doing the experiment. The investigator notes this result to the proposed program using hypermedia, which helped provide students with a large amount of information that contributed to correcting a large amount of students' errors, and thus the results of the experimental group's skill performance in backstroke swimming improved well. Given that using electronic hypermedia in the classroom increases the learner's ability to comprehend and retain information, what is included in the information elements (Sanaa Abdel Rahman Abdel Maati. 2013) [9]. And that the functions of human memory related to verbal and logical information can be linked together in the form of a working network (Muhammad Salih Al-Baqali. 2020) [6].

It can be said that hypermedia is a reflection of some functions of human memory, as hypermedia is a suitable tool for displaying basic knowledge that enables the learner to build knowledge to make meaningful connections between the ideas that are in his perception, and here the learner can think in a non-linear way and achieve the attention processes to compose and integrate information that are not achieved through the traditional methods followed (Raed Abdul Amir. 2006) [8]. Studies confirm that electronic hypermedia works to attract the attention and arouse the interests of the learner and help him acquire experiences and make them lasting and then achieve his learning goals (Mustafa Salah Al-Din Hamid. 2011) [7]. It is also clear that in the control group's fundamental backstroke swimming skills, the post-measurement is preferred due to statistically significant differences between the pre- and post-measurements.

The investigator explains this result by stating that the traditional method, which depends on verbal explanation and the performance of the practical model of the fundamental skills that must be learned, cannot be disregarded. A series of exercises were given, ranging in difficulty from easy to difficult and in complexity from simple to complex, and the students practiced performing the skill again while the teacher corrected their mistakes and provided guidance. This allowed the students to learn in a way that was consistent with the technical performance of the skill. As a result, it makes the skill performance more effective of swimming backstroke. The investigator explains the experimental group's superior performance compared to the control group by the performance level of backstroke swimming to the software prepared using hypermedia technology, which took into account the level, abilities, tendencies, and needs of beginners and the individual differences between them, as hypermedia works to stimulate the learner's senses while emphasizing the learner's ability to control the system and his active and effective interaction, and from this interaction the learner can adapt to the program material according to his own learning speed and special abilities, and thus it keeps pace with all the differences between learners" (Ali Jawad Saloum Al-Hakim. 2004) [4-5]. Table (8-7-6) shows us the existence both the pre- and post-measurements revealed that the experimental group's kinetic skills differed significantly from those of the control group as well as in the two post-measurements. Additionally, the agility test revealed significant development in the experimental groups post-test. According to the study, the workouts are to blame for this. that were applied using hypermedia and contained exercises that included (running, jumping, rolling, and running with a change in direction) founded on the suspense concept Instead of making the pupils feel bored, the enthusiasm increased their ambition and desire to perform and hone this skill. "A good curriculum for physical education and sports sciences includes a broad framework that provides all students with the opportunity to learn and participate in various sports, whether individual or selected social games." (Saleh, Abbas Ahmed. 2000) [1] Regarding the compatibility test, there were notable variations in the compatibility development that favored the post-test of the experimental group. The researcher determines that this growth is due to pupils' preference for complicated kinetic abilities at this level, such walking and hopping alternating with sprinting and leaping. Each of which has to be somewhat compatible. Abdul Hamid Sharaf confirms this by stating that neuromuscular compatibility starts to improve at this point, so there's no reason why the student can't be given some challenging movements that call for nerve and muscle compatibility, which contributes to the neuromuscular compatibility's improvement." (Sharaf, Abdul Hamid. 2005) [2] The researcher used water workouts to aid boost the

development of compatibility, based on this.

There were notable variations in the experimental group's kinetic accuracy development in favor of the post-test, either in the kinetic accuracy test or elsewhere. The researcher attributes this evolution to the kids' capacity to acquire kinetic abilities throughout time as a result of growth and maturation processes. This is corroborated by Shafiq Falah Hassan, who stated that "training was successful and useful and contributed to the child's kinetic development if it comes at the right time, which is the time when the learner is ready in terms of maturity to benefit and receive" (Shafiq Falah Hassan 1989) [10].

Conclusions and Recommendations

Conclusions

- The experimental group outperformed the control group that used electronic hypermedia, this shows how well the program works and how it affects learning. Backstroke swimming.
- The students in the control group learned how to swim backstroke more effectively thanks to the traditional technique, which involved verbal explanation and practicing the practical model.
- The experimental group fared better in kinetic abilities than the control group, and the teaching program created with hypermedia technology helped accommodate for individual variances among pupils.

Recommendations

- The necessity of using electronic hypermedia technology in learning backstroke and other swimming at the physical education and sports sciences colleges. Providing a sufficient number of computers in the scientific laboratories in the departments of sports sciences and physical education to be used in education and teaching.
- Establishing a digital media hall especially in the swimming pools in the departments of sports sciences and physical education that includes swimming software and allows the student to learn in a way that suits him with guidance from the teacher.
- Conducting more experimental research using other technological techniques and comparing them with electronic hypermedia and choosing the appropriate method from them to achieve the highest possible level in learning the various kinetic skills.

References

1. Abbas Ahmed Saleh. Methods of teaching physical education. 2nd ed. Baghdad: University of Baghdad, Dar Al-Kutub for Printing and Publishing; c2000. p. 191.
2. Abdul Hamid Sharaf. Physical and kinetic education for normal and disabled children between theory and practice. 2nd Ed. Cairo: Al-Kutub Publishing Center; c2005, p. 93.
3. Abdul Hamid Sharaf. Teaching methods using programmed technologies. 1st Ed. Amman: Wael Publishing and Distribution House; c2010, p. 333.
4. Ali Jawad Saloum Al-Hakim. Tests, measurement and statistics in the field of sports. Al-Qadisiyah University, Al-Tayf Printing; c2004, p. 154.
5. Ali Jawad Saloum Al-Hakim. Tests, measurement and statistics in the sports field. Al-Qadisiyah University, Al-Tayf Printing; c2004, p. 154.
6. Muhammad Salih Al-Baqali. Learning step by step. 1st Ed. Algeria: Dar Hassan for Publishing and Distribution; c2020, p. 102.
7. Mustafa Salah Al-Din Hamid. Swimming between learning and education. 1st ed. Cairo: Dar Al Fikr Al Arabi; c2011.
8. Amir RA. The percentage of contribution of body measurements and kinetic abilities in selecting gymnastics buds at the age of (4-5) years [master's thesis]. University of Babylon - College of Physical Education; c2006, p. 207.
9. Sanaa Abdel Rahman Abdel Maati. Training and teaching methods for swimming. Alexandria: Dar Al Maaref for Publishing and Distribution; c2013, p. 1.
10. Shafiq Falah Hassan. Fundamentals of evolutionary psychology. 1st ed. Beirut: Dar Al-Jeel; 1989. p. 185.

Appendix No 1

Model of an educational unit

According to the program prepared using electronic hypermedia

Day: Wednesday

Educational unit: Second

Date: 22/2/2023

Skill objective: The learner performs the skill of floating on the back in the correct manner

Unit Components	Time	Performance (Activity)
Watch the tutorial using hypermedia	25 minute	Back floating
General warm-up	5 minute	▪ Running and doing physical exercises to prepare the body.
Specific warm-up	10 minute	▪ (Standing with open arms – Centered) Alternately turn the head to the sides. ▪ (Standing) Alternately swing the arms forward and high behind. ▪ (Standing – Crossing the arms high) Push the arms behind. ▪ (Standing with open arms – Centered) Alternately bend the trunk to the sides. ▪ (Half-standing) Hold the instep of the leg behind with the opposite hand. ▪ (Sitting on all fours) Throw the legs behind while opening them.
Practical application of the program (main part)	45 minute	**This step is performed through the following gradual exercises** ▪ Back facing the wall of the bath, leaning the trunk backwards to hold the edge to reach the position of floating on the back and performed with support from the partner. ▪ Leaning the trunk backwards to reach the position of floating on the back with support from the partner from the shoulders. ▪ Leaning the trunk backwards to reach the position of floating on the back holding the two float boards on the sides of the body. ▪ From the position of floating on the back, return to the standing position by moving the arms forward and down with bending the legs towards the body while moving the head forward and when the legs are extended, standing occurs on the bottom of the bath.
Final	5 minute	Cooling down exercises - lining up and saluting – leaving.