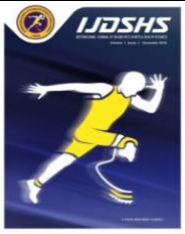

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RESEARCH ARTICLE

The Effect of Using the Wheatley Educational Model According to Cooperative Groups to Reflective Thinking and Learning the Basic Skills of Freestyle Swimming for Students

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Abstract
The research aimed to identify the effect of the Wheatley model according to cooperative groups in reflective thinking and learning the basic skills of freestyle swimming for students. As for the research hypothesis, it was represented by the presence of statistically significant differences between the post-tests of the two groups (experimental and control), and the research population was determined by the intentional method of third-stage students in College of Physical Education and Sports Sciences, University of Sulaymaniyah. As for the research sample, it was randomly selected by lottery from Division (A) and consisted of (32) students. It was divided into two groups: the experimental group, which consisted of (14) students, and the control group, which consisted of (14) students. The skill tests for free swimming were relied upon to reach the results after treating them with appropriate statistical means. The researcher concluded that the Wheatley educational model according to the cooperative groups had a positive impact on reflective thinking and learning the basic skills of free swimming for the third stage students of the College of Physical Education and Sports Sciences in University of Sulaymaniyah. The researcher recommended the need to use the Wheatley educational model according to cooperative groups in learning the basic skills of freestyle swimming for different stages and age groups. The researcher also recommended the need to use the Wheatley educational model according to cooperative groups in teaching various other activities and sports.

Keywords
Wheatley Model, Cooperative Groups, Reflective Thinking, Freestyle Swimming Skills

INTRODUCTION

The educational process today, as a result of the tremendous development in various fields of science and the educational field in particular, is characterized by its importance, as the fundamental idea in the educational process depends on the extent of capabilities, ability, readiness, and the necessary amount of time that the learners need, as it is the main focus of the learning process (Abbas, & Malih, 2021), through developing the capabilities of the abilities of the learners, which is the first and last goal in this process, which requires comprehensive and accurate attention in the availability of various educational positions that serve the process of learning and providing opportunities to achieve the optimal performance of different sports skills, through which the ability of the teacher reflects the skill or movement parts and its components, and (Ismail, 2022) highlighted the importance of the teaching process as a key component.

It is one of the cornerstones of the educational process, which is how people's conduct is changed for the better and how information, beliefs, customs, and other behavioral patterns are acquired. By doing this, we can increase the value of physical education and make use of all the procedures and tools at our disposal to help create a generation that is aware and capable of successfully leading the educational process. In achieving the goals of the educational process.

There are many models and educational strategies that were used in learning basic sports

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skills and are still being used, as the success rate in skill and physical performance varied, so experts and researchers sought to find methodsapproaches and models that support learning in a way that is appropriate with students' capacities as well as the educational process and all sporting events (Hatem & Abdul Hussein, 2024). Scientific and skillful and providing the appropriate atmosphere to highlight their abilities and potentials, the educational models, strategies and methods used by the teacher serve as an organization of the educational situation and direct it in order to achieve the educational objectives with the least time and effort. The Wheatley model, which is focused on the cognitive components of learning, is one of the models, teaching tactics, and methods that have evolved. It makes the learner effective, involved, and positive (Yawer & Saadoun, 2023).

The student and his cognitive style. This paradigm makes the student employ a variety of information, knowledge, and thought processes that are all included in one strand, with a focus on mental processes and how to handle them. Through it, the student solves a variety of issues related to his education or attempts to finish a knowledge picture that needs certain details to be finished. This has been confirmed by (Abdel Karim, 2022), which holds that the capacity of the educational process is one of the key components that determines its success. The mental abilities of students, since thinking is the highest mental process, and reflective thinking is considered a comprehensive method that leads the learner to link meanings and ideas, discover ideas, and give meanings so that the learner can discover and think, and teaching the basic skills in freestyle swimming begins with one path, which is learning the basic principles and skills and mastering them (Sarıca, O. & Gencer, 2024).

This is why it has become Like all games and events that must go through many independent variables in their performance, therefore, choosing the appropriate model that achieves the goal with the least time and effort is one of the basic matters that has become obligatory for teachers and tutors to use, organize the teaching steps, and choose the best one that is appropriate to the type of skill, effectiveness, and performance environment, in addition to working to increase the learners' motivation toward learning (Hamoudi& Malih, 2012).

The research's significance stems from its utilization of contemporary models that stay up to date with advancements in the field of education, teaching and education, which gives the learner an effective, positive and active role in the educational process and the learning process, and also helps them develop their mental and thinking processes so that they are able to solve the problems they face and find effective solutions that suit the desired problem. solve it, in addition to helping those in charge of the educational process, including male and female teachers, in transferring some of the learning tasks and duties to the learners, and working in small cooperative groups that gives them motivation and motivation, and conveying the impact of learning among the learners through discussion and topics, and conveying the impact of learning from individuals helps in acquiring the artistic performance of the basic skills in freestyle swimming for the students (Yawer, 2024). Learners of the skills to be learned, which may help them interact positively with the educational environment, take into account individual differences, and respond to the requirements for the skills to be learned, due to the specificity of freestyle swimming, as it is considered one of the difficult sports practiced in an environment that is considered frightening for students who are not good at swimming (Rashid & Neamah, 2024).

The researcher noted that there are many efforts being made by teachers and researchers in order to raise the level of learners, which aims for them to reach positive results in the teaching and learning process. Several developments have emerged in the systems of teaching methods and learning methods to get rid of the traditional style of learning, which has led to a reconsideration of some. Traditional models, strategies, and methods, and choosing modern models and strategies that may be positive and appropriate for teaching the skills to be learned and progressing in, therefore, through the researcher's observation of the educational units, and being one of the specialists in this field, he found that there is a clear weakness in learning some basic swimming skills. This reason is due to the lack of use of modern models, strategies and methods that are compatible with the ages and level of the learners. Because swimming needs more privacy than other sports and games, as it is practiced in a water environment that is different from the environment in which other sports are practiced, in addition to the difficulty of teaching

the basic skills of freestyle swimming, from this standpoint, the researcher sought to use the Wheatley model according to cooperative groups and to identify its effectiveness in learning some Basic freestyle swimming skills for students.

Research objectives

Using the Willy model to prepare instructional units in accordance with cooperative groups.

Identify the effect of Wheatley's model according to cooperative groups on students' reflective thinking.

Identify the effect of the Wheatley model according to cooperative groups in learning some basic freestyle swimming skills for students.

Research Hypothesis

There are no statistically significant differences in the reflective thinking test between the experimental and control groups.

There are no statistically significant differences in the post-tests of basic freestyle swimming skills between the experimental and control groups.

MATERIALS AND METHODS

Research Methodology

In solving a research problem, selecting an appropriate approach is crucial to aligning with the study's objectives. In this case, the researcher chose the experimental method, using two equal groups with pre- and post-tests to assess the effects of an intervention. This approach is well-suited for studies aiming to establish cause-and-effect relationships, as it allows for controlled comparisons between groups and over time. The experimental method ensures the validity and reliability of the findings, making it a robust choice when the research problem involves testing hypotheses and measuring changes due to specific interventions (Abdul Zaid, 2018).

The Research Community and its Sample

The research population consisted of 63 students from the College of Physical Education and Sports Sciences at the University of Sulaymaniyah, enrolled in the third stage for the 2023–2024 academic year. Using a lottery, Section (A), with 32 students, was selected. These students were then divided into two equal groups: 14 in the experimental group and 14 in the control group, while 4 students were assigned to an exploratory experiment. The research sample represented 50.793% of the total population.

This study followed ethical standards and received approval. Participant provided informed consent, with the volunteer form covering research details, risks, benefits, confidentiality, and participant rights. The research strictly adhered to the ethical principles of the Declaration of Helsinki, prioritizing participant's rights and well-being in design, procedures, and confidentiality measures.

Determine Skills

Freestyle swimming skills were determined by relying on books, references, and previous studies that scientifically and clearly defined freestyle swimming skills, which are (body position, leg strikes, arm strikes, breathing, coordination). The researcher adopted a form for evaluating the skill performance of free swimming prepared by (Yawar, 2016). The evaluation form included the five skills related to freestyle swimming, where the evaluation scores were divided according to the importance and difficulty of performance for each skill: body position skill (16), leg strikes score (16), arm strikes (24), breathing (20), compatibility (24), and the total score for the form is from 100 degrees, and the performance was evaluated by a group of experts and specialists in freestyle swimming, to ensure that the evaluation was accurate. The researcher also adopted skill tests for freestyle swimming that were approved through sources, references, and my colleges.

Regular breathing test 10/second (Salary, 1998),

Abdominal buoyancy test (Saeed,2004),

Flow test (front slip) (Al-Samarrai, 1998),

Technical performance test, 25 m freestyle (Salary,1998),

Scale of Reflective Thinking

The researcher reviewed many sources, references, studies and previous research, to choose the scale of reflective thinking, which aims to identify the degree of reflective thinking of students in the College of Physical Education and Sports Sciences for the swimming subject, so the researcher adopted the scale prepared by (Al-Fahdawi, et al., 2024). The scale consists of three domains, namely (perseverance and determination, goal-oriented determined strength, and self-talk support for thinking). The scale consists of 25

items, and the items were distributed among the three domains, with (9) items for the first domain, and (8) items for the second domain. And (8) paragraphs for the third field. A three-scale scoring method (always, sometimes, never) was adopted, and weights were given (1.2.3.) for the positive items and (3.2.1) for the negative items. A panel of professionals with expertise in measurement, assessment, and sports psychology were shown the scale. The study also confirmed the scale's stability to bolster its legitimacy, and the value of the reliability coefficient reached (0.86), which indicates that the scale has a high reliability rate.

Exploratory Experience

A miniature version of the fundamental experiment is the exploratory experiment. On Monday, February 15, 2024, an exploratory experiment was carried out on four pupils to assess reflective thinking prior to the kids entering the swimming pool. After the scale was given out, it was responded. Then the researcher began The work team conducts skill tests in the college swimming pool. The exploratory experiment's goals included determining whether the tests could be used and confirming their validity, as well as learning about the researcher's challenges and roadblocks, the workflow, the process for taking notes and information, and the assistant work team's comprehension of how to administer the tests and distribute them so that everyone knew what to do when the main tests were being conducted.

Equivalence of the two Research Groups

For the experimental and control groups, the researcher ran an equivalency test. In order to ensure that the two groups are homogeneous and equivalent and that all students are at the same level, the researcher administered two educational units and then conducted an equivalency test. This allowed the students to start from the same starting point, as indicated in the table (1).

Table 1. It displays the T value, standard deviation, and arithmetic mean that were determined for the two study groups.

Variables	Experimental group		Control group		t value	sig level	sig type
	Mean	Std. Deviation	Mean	Std. Deviation			
Regular breathing 10/s	6.673	1.888	5.877	2.128	0.727	0.07	Non sig
Floats	10.745	3.812	11.454	3.768	0.987	0.221	Non sig
Flow	5.762	2.373	5.779	3.225	0.685	0.655	Non sig

Preparing Educational Units for the Wheatley Model

The researcher created the instructional modules, and the experimental and control groups' participants underwent the same protocols and learned at the same times. The experimental group's kids were taught using the Wheatley model, while the control group was satisfied with the teacher's approach. The educational program was implemented on February 22, 2023, with two educational units per week, for a total of (14) educational units, and for (7) weeks. The time of the educational unit reached (90 minutes). Under the researcher's guidance, the teacher carried out the instructional units. The application of steps was one of the instructional modules. Wheatley's educational model, which consists of the following steps: (Zayer, et al.,2017)

Task

Small groups

Participation

The Educational Unit was Divided Into Three Sections

Preparatory Section

It includes educational procedures, general warm-up, and physical exercises, with a time limit of (15) minutes.

The main section: It includes (60) minutes, distributed as follows:

The educational aspect: (20) minutes. The teacher works to distribute the students into small cooperative groups consisting of (3-5) students. In this aspect, the lesson and the new concept are prepared by the teacher, then the skill is explained well and in detail, and the model is presented by the teacher. Or a student who masters the skill well. In this aspect, the steps of the Wheatley model are applied through the stages of the model as follows:

The first stage: Tasks: This includes distributing tasks among the students and between the cooperative groups, such as determining the type of exercise and the type of assistance from the colleague within the cooperative groups. As well as

asking some questions by the teacher in the form of a dialogue between him and the students

The applied part: its duration is (45) minutes. It includes the following

The second stage: Small groups: In this stage, educational tasks are accomplished by applying exercises according to cooperative groups, exchanging ideas, correcting errors within one group, repeating skill-specific exercises, and using more than one sense by looking and listening to the teacher's directions, motor performance, and continuous follow-up from Before the teacher.

The third stage: Participation: After all the groups have presented the tasks and duties assigned to them, the groups turn into one group and present ideas, inquiries, and their opinions. Here, the teacher works to crystallize ideas, correct concepts, and establish and deepen the students' correct understanding, by asking questions and presenting ideas. This is done in This stage requires the group students to explain the results based on their previous theories. The teacher intervenes at this stage to move the students to a sound understanding consistent with scientific theories.

The final section: It lasts for ten minutes and consists of relaxing techniques, sauna entry, and a suspenseful water game.

Posttests

After completing the application of the educational units to the members of the two samples (control and experimental), the researcher conducted the final tests on April 4, 2024. The researcher was keen to conduct a reflective thinking test for the students before they entered the swimming pool to conduct the post-tests. The researcher also photographed the students' tests, the 25/m freestyle test, for the purpose of determining the skill tests of this test according to the evaluation form approved by the researcher and presented it to three experts. Each learner's score was calculated using the approved freestyle swimming performance evaluation form by extracting the arithmetic mean.

Statistical Methods

After the researcher conducted the tests and collected the data and for the purpose of analyzing it statistically, the researcher used the ready-made statistical package (SPSS) (v19) to analyze the data and process it statistically.

RESULTS

Table 2. Displays the T value, standard deviation, and arithmetic means for the free swimming technical performance for the experimental and control groups at the post-test.

Variables	Experimental group		Control group		t valuen	Sig level	Sig type
	Mean	Std. Deviation	Mean	Std. Deviation			
Body position	12.685	1.742	9.773	2.507	4.6840	0.000	Sig
Leg strikes	13.798	1.663	10.489	1.685	6.751	0.000	Sig
Arm strikes	16.795	2.609	13.368	2.165	4.125	0.000	Sig
Breathing	14.657	2.548	11.110	2.250	3.978	0.000	Sig
Coordination	16.544	1.995	13.593	1.732	5.457	0.000	Sig
Deliberative thinking	67.875	3.542	55.750	3.592	8.956	0.000	Sig

DISCUSSION

When comparing the experimental and control research groups' performance in the free swimming skills (body position, leg strikes, arm strikes, breathing, and compatibility) and looking at the (T) value calculated for each variable under investigation, it is evident that the experimental group performed better than the control group. In particular, the experimental group placed first in the skills (body position, leg strikes, arm strikes, breathing, and coordination). Table (2) makes it evident that there are significant differences in favor of the experimental group. The control group came in second. The researcher attributes the emergence of these results to the application of the Wheatley model according to the cooperative groups, which had a major role in the superiority of the experimental group and the development of the learning process, since learning is this. The model provides the opportunity for all students to learn in small cooperative groups that work to share tasks among everyone, stimulate the learners, give solutions, investigate and explore the learner, and

motivate the learners to stimulate their ideas, each according to their level, reach the correct knowledge, and confirm the correct answers (Yauer & Alfarage, 2021). As well as the emergence of the spirit of participation and positive interaction and the student's appreciation for himself and his colleagues in the cooperative group, as the student's interaction with his colleagues and communication with them gives a clear picture of his awareness, understanding and cooperation (Zaid & Neamah: 2021).

Which increases progress towards achieving one common goal for the learning group together, because the reward is for everyone and not for the student alone, and the positive orientation towards the academic subject, eliminating dependence on the teacher, and relying on themselves with the help of the teacher when needed (Al-Qat, 2000).

This strategy also led to an increase in the competence of the students and increased the students' continuation of performing applied activities, which is represented by the role of the teacher while applying the exercises, correcting errors, giving directions, evaluating the level of performance, moving from one exercise to another (Ali, & Malih, 2022), and linking the skills on a regular basis. In addition to the exercises that improved the students' performance and enabled them to perform the skills stably and smoothly, since the more the exercises and movements given are appropriate and appropriate to the students' level and are characterized by sufficient strength and appropriate speed, the more stable and consistent the performance will be (Rashid & Neamah, 2024).

The educational units prepared by the researcher also contributed to activating reflective thinking by arriving at an integrated picture of the tasks included in the educational units and taking practical steps to transform the picture of the situation into an actual practical application (Abu Dhaheer, 2016).

When preparing the educational units, the researcher intended to direct the students' thinking towards achieving the goals of learning swimming skills according to a clear and accurate scientific methodology that adds a new meaning to the information, knowledge and skills that the students possess (Al-Sahat,2016).

reflective thinking helps the student to acquire many skills in all fields (Al-Khalili, 2015), including the field of mathematical skills. Hashim, (2002) confirms that "learners' ability to perform increases by providing them with individual and collective verbal, visual and motor information directly from the teacher, and that learners learn by looking at other learners, and they perform correctly and correct errors. This provides students with the opportunity to sufficient to express their potential, abilities, and inclinations towards performing skills and exercises through cooperation among themselves (Rashid, 2022)

(Al-Yawar,2021) also confirms that direct education and exercise for learners and verifying information through analysis by learners and investigation helps learners focus on basic and important information and have a good influence through cooperative groups.

From what was shown to us in Table (2), it is clear to us that there are statistically significant differences in the post-tests between the experimental groups and the control group in reflective thinking and learning basic skills in freestyle swimming for students.

Conclusions

The Wheatley model according to cooperative groups has a positive impact on students' reflective thinking. The Wheatley model, according to cooperative groups, has a positive impact on learning the basic skills of freestyle swimming for students. The effectiveness of the educational units prepared by the researcher using the Wheatley model according to the cooperative groups. The steps of the model helped learners correctly understand the information and build a correct cognitive structure through observation and interpretation. The effective role of cooperative groups in learning the basic skills of freestyle swimming.

Recommendations

The researcher recommends the need to use the Wheatley model according to cooperative groups in teaching other age groups free swimming skills.

The researcher recommends the necessity of using the Wheatley model according to cooperative groups in teaching basic skills for different activities and sports such as (basketball - football - volleyball - wrestling – etc). The researcher recommends the need to emphasize students' work in the form of cooperative groups that develop the cognitive and social aspects and correct understanding of information through research and investigation of information through the tasks they

are assigned. The necessity of using the Wheatley model according to small groups to increase the cognitive achievement of learners . The researcher also recommends the necessity of identifying the level of reflective thinking for most groups and ages.

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Conflict of Interest

There is no personal or financial conflict of interest within the scope of the study.

Ethics Committee

This study followed ethical standards and received approval from the Mustansiriyah University Social Sciences Ethics Committee Commission

Author Contributions

Research Design: F.A.Y; Statistical analysis: F.A.Y; Preparation of the article: F.A.Y.; Data Collection- Performed by F.A.Y

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