The Effect of an Educational Curriculum According to ADDIE Model in Developing the Accuracy of Spiking Skill in Volleyball for Students

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Abstract

The purpose of this paper isto preparing an educational curriculum according to the ADDIE volleyball model, and identifying an educational curriculum according to the ADDIE model in developing the skill of spiking volleyball for students.The researchers used the experimental method because it fits with the nature of the research problem, and by designing the method of two equal groups (experimental and control) with pre and post-tests.The research community was identified with students of the third stage of the Faculty of Physical Education and Sports Sciences / University of Kufa, which numbered (71) students, and the students who failed and postponed numbering (5) students, were excluded so that the total number was (66) and the sample was chosen by a simple random method with a strength of (37). Students, it was divided into two samples, the first (exploratory sample) consisting of (5) students from section (B), while the (main sample) consisted of (32) students, and divided equally by random lottery method into two experimental groups represented (section / B), and a control group represented (section / c).One of the most important results reached by the researcher is that: The exercises prepared by the researcher according to the ADDIE model greatly helped in developing the accuracy of the skill (spiking) in volleyball for students, and the members of the experimental group that used the ADDIE model in the accuracy of the skill (spiking) in volleyball outperformed the members of the control group in the post-tests.One of the most important recommendations recommended by the researchers is that: The researchers recommend relying on methods and models that take into account individual differences and levels that need to be developed, and conducting similar studies on other individual and collective activities, and on different age groups.

Keywords: ADDIE Model, spiking

Introduction:

The educational unit is the main base of the physical education curriculum. It helps the learner to acquire basic kinetic skills and develop his kinetic performance. It provides him with educational experiences to practice sports activities through different educational methods, which is one of the components needed by any educational curriculum in physical education and sports. It is the teacher's duty to be He is fully conversant in terms of its organization and the rules necessary for its practice. Therefore, the teacher must think about the educational

method that he wants to use or include in the educational unit, because the educational material (kinetic skill), the specific objectives and the characteristics of the learners are what determine the appropriate and effective methods of kinetic learning. Among these methods is the comprehensive educational design, as it is one of the important aspects of the success of the educational process that is achieved through the interaction between the teacher and the learner and the educational process. An educational method takes into account the social interaction and the needs of each learner and their requirements when designing the educational unit, its materials and objectives. During this method, the teacher tries to avoid all obstacles that prevent any learner from learning effectively, while maintaining the high level of educational curriculum requirements.

Among the sports that have received more attention and development is volleyball, which is one of the team games that has spread widely in various countries of the world. All technical and planning, and that the use of such a comprehensive educational design according to sensory modelling does not disrupt nor reduce the role of the teacher in the educational process, but rather works to create a state of mixing between everything new in the process of kinetic learning, and encourage the learner to learn through excitement and suspense and the application of the new thing that differs from the method used in the educational process.

Among the important skills that need time while learning is offensive skills, including spiking, because they are complex skills from several technical stages through which the learner can excel in their performance in formulas and images that fit his own abilities and that distinguish him from other than his peers. This skill is one of the crucial skills that is required in Its performance is that there are special abilities that may not be available to all learners during the educational unit(Hashem, Dahash, and Radhi 2021).

Hence the importance of research in preparing an educational curriculum according to the ADDIE model, which is one of the technological innovations that have appeared in educational institutions that are used to develop the educational process, raise the efficiency of performance and increase its effectiveness, and this is what we find important that can be applied in the field of learning mathematical skills in order to increase the efficiency of the individual or the skilled player from using modern educational technology that contributes to the assimilation of the learned skill.

Research problem:

Through the researchers' review of many research studies and their presence in the educational process, they noticed that there is a large number of students (learners) in the third stage who face difficulties in mastering the motor performance of the skill of spiking because it is one of the difficult and complex skills and they need a great time to learn this skill and master it correctly from In terms of accuracy, fluidity and proper timing, the researchers believe that the reason for this is the lack of teachers' use of modern educational models, including the (ADDIE) model, and this is what makes learning these skills require a great deal of time. In order to excite the learner and continue the development in performance, researchers have reached the desired goal through the optimal use of educational aids in the field of sports and reduce the effort and time spent by the teacher or coach, as well as to

increase the learner's information better, as well as learning the skill of spiking in volleyball, so the researchers wanted to go into this experiment.

Research objective:

- Preparing an educational curriculum according to the ADDIE volleyball model,
- Identifying an educational curriculum according to the ADDIE model in developing the skill of spiking volleyball for students.

Research hypotheses:

- That there is an effect of the educational curriculum according to the ADDIE model in developing the skill of spiking a volleyball for students.

Research fields:

- Human field: represented by third-year students in the Faculty of Physical Education and Sports Sciences - University of Kufa,
- Time field: (1/11/2021) to (30/3/2022)
- Spatial field: The sports hall of the Faculty of Physical Education and Sports Sciences

Research methodology and field procedures:

Research Methodology:

The researchers used the experimental method because it fits with the nature of the research problem, and by designing the method of two equal groups (experimental and control) with pre and post-tests.

Community and sample research:

The research community was identified with students of the third stage of the Faculty of Physical Education and Sports Sciences / University of Kufa, which numbered (71) students, and the students who failed and postponed numbering (5) students, were excluded so that the total number was (66) and the sample was chosen by a simple random method with a strength of (37). Students, it was divided into two samples, the first (exploratory sample) consisting of (5) students from section (B), while the (main sample) consisted of (32) students, and divided equally by random lottery method into two experimental groups represented (section / B), and a control group represented (section / c).

Devices, tools and means used in the research:

Means of data collection:

- Arabic and foreign sources and references.
- Personal interviews.
- Tests and measurements.
- Special forms for recording the results of the tests for the players.

Tools and devices used:

- The legal volleyball court.

- Number 10 cones.
- Rings with a diameter of (50 cm) number (10).
- An electronic device for measuring height and weight.
- Flying balls (10) of a type (Molten).
- Polish (1) Dell laptop.
- Whistle (2) type (Fox).
- Measurement requirement in centimeters.

Field Research Procedures:

Tests and measurements used in the research:

Accuracy test of spiking skill in volleyball (Taha. 1999):

- Objective of the test: measuring the accuracy of spiking skill in volleyball.
- Toolsused a legal volleyball court, (5) legal volleyballs, and a colored tape to divide the opposite court, as shown in Figure (1).
- Performance specifications: The tested player performs the spiking skill from the center (4), as the coach prepares the balls for him from the center (3), and the tested player performs the skill.
- Performance conditions:
- Each tested player has five consecutive attempts on Zone A.
- Each tested player has five consecutive attempts on Zone B.
- The preparation must be good in each attempt, and the laboratory is given the degree of the area in which the ball is located.
- Register :
- (4) Points for each spiking that the ball falls on the (A) or (B) area.
- (3) Score for each spiking that the ball falls on the planned area.
- (2) Points for each spiking that the ball falls on area (a) and (b).
- (Zero) for every spiking you fall off the field.
- The total score for each area is (20) degrees, where the maximum score for the two areas (A) and (B) is (40) degrees.

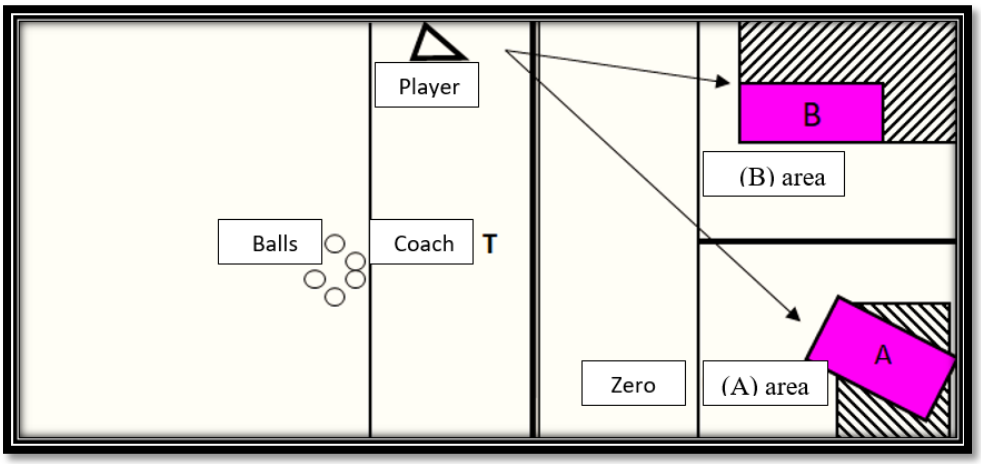

Figure (1)

Shows the accuracy test of spiking skill in volleyball

The exploratory experience of the tests used in the research:

The researchers conducted the exploratory experiment of the tests used on (3/1/2022) on a sample of (8) students in the Faculty hall, at ten o'clock in the morning.

The purpose of the exploratory experiment for the tests is as follows:-

- Ensuring the validity of the playing field and the tools used and their suitability for the tests.
- Knowing the sample's readiness to perform the tests and measuring the time of the tests used.
- Knowing the suitability of the exercises for the members of the research sample and the possibility of their application.

Main Experiment Procedures:

Pre-tests:

The researchers conducted tribal tests on the research community for the two groups (control and experimental) for the study variables 10/1/2021.

Preparing and applying the educational curriculum according to the (ADDIE) model:

After reviewing the vocabulary of the curriculum for students of the third stage at the Faculty of Physical Education and Sports Sciences - University of Kufa, the educational curriculum is prepared according to the (ADDIE) model and the experiment was applied to the students of the experimental research group on 14/1/2022, in the closed sports hall of the Faculty of Physical Education And Sports Sciences - University of Kufa, at the rate of one educational unit each week, with a duration of (90 min), and it continued until the end of the experiment on (1/2/2022) and applied the educational curriculum according to the model (ADDIE) teacher of the subject

The educational curriculum was applied according to the (ADDIE) model, with an educational unit per week for a period of (8) weeks, in the Faculty of Physical Education and Sports Sciences / University of Kufa. After that, the teacher begins to apply the educational part of the main section for a period of (20 minutes), in which the steps of the educational curriculum are applied according to the (ADDIE) model, which the researchers prepared according to the following steps:

1- Analysis stage:

The importance of the analysis stage lies in determining the basis of the problem, which is not necessarily a phenomenon. Therefore, the stage focuses on analyzing several aspects in order to answer a number of questions to reach the real problem and how to solve it.

The analysis stage clarifies the educational problems and objectives, and defines the learning environment in addition to the knowledge and skills that the learner has. The questions addressed in the analysis stage include the following:

- Who are the learners and what are their characteristics?
- What is the required new behavior?
- What types of learning constraints are there?
- What are the delivery options?
- And other questions.

The analysis phase includes several tasks, starting with analyzing the content, analyzing the learners, and analyzing the technology to be used.

With regard to content analysis, the content is obtained, whether it is a course or a study unit, (spiking skill in volleyball), for example, and it must be ensured that the content is complete, that is, that it has objectives, that the explanation covers the objectives, and that there are evaluation questions that measure the extent of the content. Check goals.

2- Design stage:

The design phase is concerned with learning objectives, assessment tools, exercises, content, topic analysis, lesson planning, and media selection. The design phase must be systematic and specific, meaning a logical and organized method that identifies, develops, and evaluates a set of specific strategies to achieve the objectives of the curriculum.

At the end of what the analysis stage has reached, the educational designer begins the design stage, in which he designs the educational curriculum for the course or the educational object, for example (spiking skill in volleyball), in an integrated schematic manner. In the next stage, as well as procedural goals and how to measure the achievement of these goals.

At this stage, the designer (the teacher) begins to set the structure of the content and divide it according to the objectives, such as learning (the skill of preparing in volleyball) and also writing the educational curriculum.

3- Development stage:

At this stage, what has been learned is converted into outputs of the educational process that the learner can use, and it includes several steps that increase or decrease according to the nature of the produced material. They may include:

- Designing the curriculum content elements (the skill in question).
- Inclusion in the curriculum of videos, animations and images of the skills in question
- Designing educational activities to develop the skills under study
- Preparing tests and evaluation methods.

These elements are brought together at the end according to the curriculum to be tested and modified before the start of the next stage.

In the development phase, ADDIE One designers and developers create and assemble the characteristics of the content described in the design phase, for example (spiking skill in volleyball). If the plan includes e-learning, the programmers develop or integrate technology, blended or practical learning. At this stage, the instructional designer works on It should be attractive, easy to use, and educationally strong, according to the specifications specified in the design, and depending on the outputs of the development stage.

4- Application stage:

Here begins the actual use of the outputs of the development stage, where at this stage the educational material is presented to the learners, which was determined before in the design stage to learn the skill of preparation in volleyball, for example.

Statistical methods: The search data was processed through the Statistical Package for the Social Sciences (SPSS).

Results and discussion:

Table (1)shows the arithmetic means and standard deviation in the results of the two tests, pre and post-tests for the control group for the variables under study.

variables	Measuring unit	Pre-test		Post-test		T value calculated	Level Sig	Type Sig
		Mean	standard deviation	Mean	standard deviation			
Accuracyofspiking	Degree	9	0.816	13.8	0.788	11.529	0.000	Sig

Table (2) shows the arithmetic means and standard deviation in the results of the pre and post-tests of the experimental group for the variables under study.

variables	Measuring unit	Control		Experimental		T value calculated	Level Sig	Type Sig
		Mean	standard deviation	Mean	standard deviation			
Accuracyofspiking	Degree	10.7	0.674	13.8	0.788	9.931	0.000	Sig

Table (3) shows the arithmetic means and the standard deviation in the results of the post-tests of the control and experimental groups of the variables investigated.

variables	Measuring unit	Pre-test		Post-test		T value calculated	Level Sig	Type Sig
		Mean	standard deviation	Mean	standard deviation			
Accuracyofspiking	Degree	9.5	0.707	10.7	0.674	6	0.000	Sig

Discuss the results:

Through what was presented in Tables (1 and 2), we notice that there are significant differences in the tribal and remote tests in favor of the members of the control and experimental groups and in favor of the post-tests. And the dimension, including repetition and feedback, as they had an effective role, and the researchers attribute the reason for the moral difference for the members of the experimental group to the fact that the use of the ADDIE method helped to break out of the traditional pattern that depends on the trainer during the learning and development process because in this method the dependence is entirely on the learner from Where the acquisition and understanding of information and the presentation of ideas and the application of those ideas during the educational unit, for example, in the skill of the wall of the experimental group, an idea or group of ideas was presented, represented in activating information and acquiring information in the stages of the model completely, including targeted exercises in learning or developing the skill, these ideas and exercises prepared from Before researchers help increase understanding of information and performance in a better and accurate way to reach levels High performance of the skill researched and effectively, As well as the use of exercises in the educational unit according to a chronological gradation that takes into account the steps of the model followed by the researchers, taking into account the individual differences of the students as well as to master the skill at different levels, and if the difficulty of the exercises is gradually increased, it preserves the technique of the skill and develops many solutions, for example, when players hit both Hands together and on the opposite side. This diversification of exercises helped to increase the jump first and extend the arms completely. Some may imagine the ease of this performance, but such exercises are concerned with increasing the jump and increasing the level of accuracy, which led to the development of skill, in addition to that this solution increased the students' motivation and enthusiasm This helped the students to create an atmosphere of freedom, to act, to express an opinion, and to get out of what it was because the one who jumps more and raises her hands above the other is the best. Expressing an opinion by putting forward ideas and relying on the ideas of others to build a new idea. The researchers also attribute the reason to the fact that the vocabulary of the curriculum used in student education, The ADDIE model helped students to enjoy the high efficiency of performance through information and knowledge about those skills and different and diverse directions, which led to their enjoyment of high efficiency of the skill of spiking in order to be able to perform the skills accurately and at the same time gain their confidence and responsibility.This is in line with what was stated that self-efficacy is "a set of capabilities and the resulting knowledge, skills and attitudes that an individual possesses and practices and enables him to perform his work, roles and responsibilities" (Al-Khayyat and Dhibab. 1996).

Also, the moral difference that occurred between the members of the control and experimental group in the post-tests of the skills under study and in favor of the members of the experimental group, the researchers attribute to the nature of the presentation of the educational material, whether it is written text, still and moving images, or video clips, which enables the student to use more than one sense in the learning process.This has contributed in an influential way to the diversity of sources of knowledge and the increase in opportunities for good learning, and this improvement in the accuracy of the skills investigated came as a

result of moving away from the norm in teaching by using the ADDIE model (which has a role in making the learner the focus of the educational process and his performance is organized and arranged according to the steps of the model In addition to the use of various positions, and the continuous guidance of the supervisors who supervise the performance of these exercises, which helped reduce the mistakes that the learner might make in his performance of the exercises during the educational unit.The researchers also attribute this to the time of using the model that he prepared, which had a significant impact on making the kinetic learning process more effective and positive through that model, which provided the student with the opportunity to be an active element in the educational process, and this is what was indicated "when implementing Curricula according to the time allocated effectively, the general performance of the student improves a lot, and then provides a better level of performance (Al-Hila. 1999).

Conclusions and Recommendations:

Conclusions:

Based on the research results that were reached within the limits of the research community, the following conclusions were reached:

- The exercises prepared by the researcher according to the ADDIE model greatly helped in developing the accuracy of the skill (spiking) in volleyball for students.
- The members of the experimental group that used the ADDIE model in the accuracy of the skill (spiking) in volleyball outperformed the members of the control group in the post-tests.

Recommendations:

- The researchers recommend the use of new models for the purpose of developing team game skills.
- The researchers recommend relying on methods and models that take into account individual differences and levels that need to be developed.
- Conducting similar studies on other individual and collective activities, and on different age groups.

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