

ASSESSING THE VOLLEYBALL SKILLS OF THE 7TH GRADE STUDENTS FROM THE JUNIOR HIGH SCHOOL STAGE

Hristo Nikolov

Southwest University "Neofit Rilski", Bulgaria, hristo_nikolov@swu.bg

Rositza Chausheva

IV "Dimcho Debelyanov" Primary School, Bulgaria, rosi2010@abv.bg

Abstract: Volleyball is a mandatory sports game included in the physical education program at school and helps to solve the three tasks: educational, rehabilitative and educational. Teaching volleyball in elementary school requires students to have a certain amount of knowledge and a level of development of sports-technical and tactical skills. Assessment is an important mechanism for quality management of the entire educational system and its individual elements, including physical education and sports.

In order for the learning process to be effective, it is necessary for the teacher to receive information about the degree of absorption of the learning content by the students. In this regard, the in-depth theoretical analysis found that in the state educational requirements there is clarity regarding the goals, tasks and content of the curricula, but the evaluation system does not clarify the criteria for evaluating sports and technical skills by type of sport in the and volleyball.

Keywords: competences, evaluation system, learning process, students, volleyball

1. INTRODUCTION

Improving the quality of the education system has multifaceted dimensions on the overall social life. The quality of any activity is directly dependent on the quality of implementation of the goals, tasks and requirements set in it. The processes of verification and evaluation are the basis of every pedagogical activity, of reporting its effectiveness, in this sense, of reporting the effectiveness of training in physical education and sports. The results of the development and assessment of students' competences have both a personal and a wide social significant effect (Nikolov 2025).

All this necessitates a change in the entire educational paradigm: moving the emphasis from the educational process to the educational results; changing the role of the teacher and teaching methods; concentration of attention on the learner; changing the organization of training; changing the dynamics (intensity) of the program; change in assessment methods.

A major problem for improving the educational process in physical education and sports is the creation, experimentation and implementation of new approaches and methods of influence included in the training in physical education and types of sports (including volleyball training) (Petrov 2022).

With the implementation of the curriculum in physical education and sports at the junior high school stage, the training of the basic education degree ends. At the end of this degree, students must achieve general sports education and permanent mastery of sports-technical and tactical knowledge and skills from the studied sports, including volleyball.

In order for the learning process to be effective, it is necessary for the teacher to receive information about the degree of absorption of the learning content by the students. In this regard, the in-depth theoretical analysis found that in the state educational requirements there is clarity regarding the goals, tasks and content of the curricula, but in the evaluation system the criteria for evaluating the competencies by type of sport are not clarified. Also, the training in volleyball at the junior high school stage of the basic educational level lacks scientifically based educational technologies for developing and evaluating the students' competencies (Nikolov 2024).

The problem is current and significant, and this determines the need for the development and testing of educational technology in volleyball training within the educational process of physical education and sports.

The possibilities for mastering one or another type of sport are revealed already in the initial forms of sports activity, i.e. in school physical education (Stefanov 2015). Volleyball is a compulsory study game in school. It combines a variety of motor actions, which are different in coordination structure and intensity, this allows for the development of coordination and conditioning abilities.

Volleyball, like all other sports included in the curriculum of physical education and sports at school, is related to the mastery of knowledge, development of motor abilities and the correct morphological and functional improvement of the human organism. The game itself combines all the positive aspects of team sports – speed and accuracy of movement, bounce, intelligence and, above all, the art of controlling the ball (Wubale, Kebede, & Belay 2023). The complexity of game actions in volleyball requires not only mastering the entire arsenal of technical skills, but also necessarily using it in different conditions and combinations.

The main activity in mastering the game is the assimilation of sports and technical skills. Mastering the basic technical elements equips players with the necessary skills to successfully participate in the game. The elements of the technique are differentiated according to their importance for the methodical solution of motor tasks. In this sense, the foundations of the technique and tactics of sports games, including and volleyball.

In the curricula of physical education and sports, the emphasis in volleyball preparation at the junior high school stage is the technical mastery of the basic volleyball elements. It is expedient for 7th grade students to learn a certain optimal amount of educational content for technical and tactical training in volleyball, reflected in table № 1.

Table № 1. Knowledge and skills of students about the game of volleyball

7th grade		
Educational content - Volleyball		
knowledge	skills	
	sports-technical	sports-tactical
1. Knowing and applying the basic rules		
2. For the studied motor action	1. Head feed	1. Attack
2.1 Head feed	2. Upper face service	1.1 Tactic when performing service
2.2 Upper face service	3. Attack in the direction of intensification	1.2 Defense
2.3 Attack in the direction of intensification	4. Single block	2. Group defense actions when meeting service
2.4 Single block		

Source: Physical Education and Sports Curriculum for Grade 7

In the 7th grade, learning begins with consolidation and improvement of the technical elements studied in the 6th grade. According to the curriculum for this class, the goal is to expand sports education by acquiring knowledge, mastering sports-technical and tactical skills. As a student, he must know the terminology and apply the rules of the volleyball game. Training gradually moves to passing over the head, as well as receiving and passing balls coming to the side of the body. Students are introduced to the technique of performing an upper face serve, attack in the direction of intensification and building a single block.

Training in sports-tactical skills is mainly carried out through group tactical interactions, namely - tactics in serving and group defensive actions when meeting a serve.

The assessment of knowledge, mastered motor and technical skills, together with measurement and control provide the necessary information for managing the sports-pedagogical activity in the Bulgarian school. The main function of evaluation is to transform the values of the studied parameters measured in natural units of measurement into dimensionless, comparable quantities, through a system of evaluation tables and functions (Nikolov 2014).

In the control and evaluation system of the main types of sports, including volleyball, for technical-tactical skills, up to 15 points are assigned, without specifying specific requirements and defining the evaluation methods. In school practice, the assessment of physical performance of students in physical education and sports is based on absolute results according to the respective norms established for each age and gender (Doncheva 2006). But from the analysis of specialized literature that examines the assessment of sports-technical skills, there are no precise and uniform criteria (Manchev 2019). In the absence of uniform criteria, the teacher, in his capacity as a specialist, assesses with his knowledge and capabilities how well the students correctly and skillfully perform the acquired sports-technical skill, i.e. assessment is based on expert assessment by the teacher or is subjective in nature. For this purpose, it is necessary to develop appropriate control tests in the volleyball training process (Nikolov 2015), which allow the objective and precise evaluation of the students of the sports and technical skills they have mastered.

2. MATERIALS AND METHODS

The object-subject relations, already implied in the choice of the subject, are defined here according to their objectivity, obviousness, systematicity, structuredness. Therefore, the **OBJECT** of the specific study is the process of training in physical education and sports in the junior high school stage of the basic educational degree. Reflecting logically and legally the studied scientific essence of the object, in accordance with the scientific and applied significance of the selected and commented fields, the **SUBJECT** of this research is determined to be the development of key competencies in volleyball training and the development of norms for their assessment.

In the context of the declared scientific intentions for the **OBJECTIVE** of the research, the Development and testing of educational technology for the development of key competences for volleyball education in the junior high school stage of the basic educational level and a system for their evaluation is brought out.

In order to achieve the goal formulated in this way, it is necessary to solve the following main tasks:

1. To study and analyze current ideas, concepts and good practices on the problems of volleyball training and opportunities to develop key competencies for its full practice in the conditions of school education;
2. To develop a toolkit for the diagnosis of volleyball game competencies;
3. To develop and approve standards for evaluating volleyball game competencies.

The theoretical-experimental nature of the study implies the use of a wide range of **METHODS**:

1. Theoretical analysis and synthesis of specialized literature and information sources. This method was used for the specification of the theoretical-conceptual stage of the study, as well as for the design of the experimental activity;

2. A sports-didactic experiment is the main method within the experimental-resultative stage of the research, directly related to the application of educational technology for the development and evaluation of the competences of the students in the volleyball game;

3. Testing:

- A) Test to check the acquired knowledge of the volleyball game

For the needs of the research, two written tests were developed to check the level of knowledge about the sports game of volleyball. One of the tests is designated as a preliminary test and the other as a final test. The pre-test was used before the pedagogical experiment (beginning of the school year) to determine:

- the entry level of students' knowledge about the sport game of volleyball before applying the experimental model;
- durability of acquired knowledge in volleyball training.

The final test was applied at the end of the experiment to establish the effectiveness of the applied educational technology for the development of key competencies of the students in volleyball training.

- B) Tests to measure the sports and technical skills of the volleyball game

For the needs of the research, three tests were developed to evaluate the technique of performing basic sports and technical skills of the volleyball game.

1. Pass

Description: The test taker stands behind the end line of the volleyball court with a ball in his hands. Tosses the ball independently and executes successive passes with two hands above the head and with two hands below - direction of movement towards the net on the court. The student is entitled to three attempts.

Evaluation criteria: The student is evaluated on the execution technique of the two main submissions.

- movement – 1 point;
- taking a submission position - 1 point;
- damping the movement of the incoming ball – 1 point;
- giving direction to the ball – 1 point;
- correct positioning of the hands when serving - 1 point.

The points obtained from the three attempts are summed up, and the maximum number of points that the student can receive is 15.

2. Attack in the direction of intensification

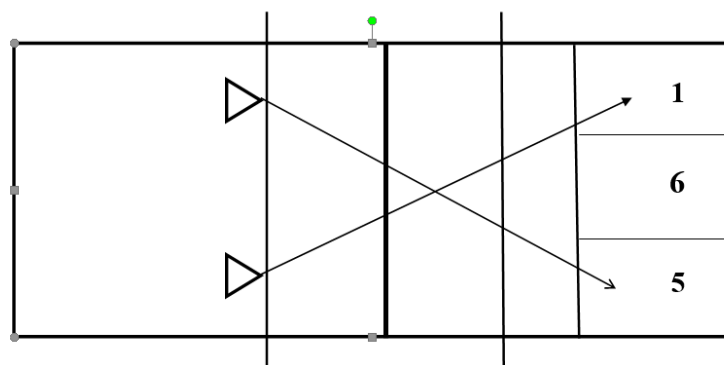
Description: The test taker from zone 4 with a volley approach (from zone 2 for students with a strong left hand) attacks a ball tossed or passed by a partner in the direction of zone 5 (on zone 1 for students with a strong left hand) (fig. 1). A total of three diagonal attacks are performed.

Evaluation criteria: The student is evaluated on execution technique and accuracy of attack:

- approaching the ball (intensification) – 1 point;
- correct bounce - 1 point;
- hitting the ball – 1 point;
- correct landing - 1 point;
- accuracy - 1 point.

The points obtained from the three attempts are summed up, and the maximum number of points that the student can receive is 15.

Figure 1: Performance of a sports-technical attack



Source: Authors

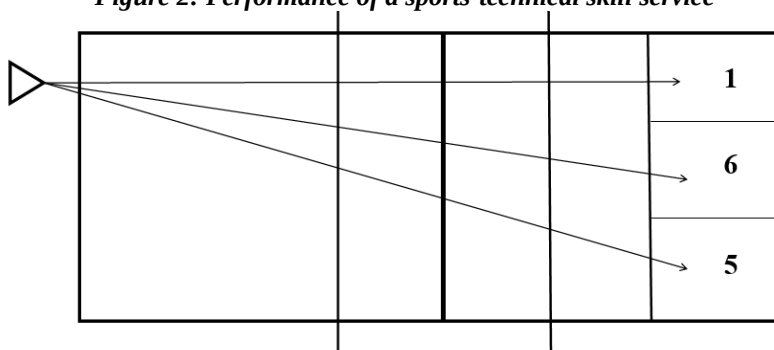
3. Service

Executing a serve in a designated area of the volleyball court. The opposite half of the court is divided into two equal parts by a line parallel to the middle. The second half, bounded between the end line and the one that bisects the pitch, is divided into three rectangles corresponding to zones 5, 6 and 1.

The test taker performs an upper face serve in Zone 5, then a serve in Zone 1 and a serve in Zone 6. Three opening strokes are made in designated zones.

Evaluation criteria: The student is evaluated on execution technique and service accuracy (fig. 2).

Figure 2: Performance of a sports-technical skill service



Source: Authors

- correct starting position – 1 point;
- correct tossing of the ball – 1 point;
- correct hit on the ball – 1 point;
- correct accompanying hand movement – 1 point;
- accuracy - 1 point.

The points obtained from the three attempts are summed up, and the maximum number of points that the student can receive is 15.

4. Mathematical-statistical methods for processing and analyzing the results of the experimental work give us the opportunity for diagnosis and assessment of the condition and the verification of the hypothesis.

➤ variational analysis – it processes the information from the conducted experiment. This analysis determines the following parameters: the arithmetic mean [X] and the standard deviation [S];

➤ correlation analysis – this method compares the correlation coefficients between one or more pairs of sample variables to establish statistical interdependencies between them;

➤ T-criterion for testing hypotheses - it is used to examine the reliability of differences between the arithmetic mean of two samples or two groups of subjects.

5. Research contingent

The students are divided into an experimental and a control group. The experimental group was composed of 60 students from the 7th grade of the 1st elementary school "St. St. Cyril and Methodius" city of Gotse Delchev. The

control group was composed of 60 students of the 7th grade from the IV Primary School "Dimcho Debelyanov" in the city of Blagoevgrad.

3. RESULTS

The results of the final sports-didactic test for checking the knowledge and skills of students from the experimental and control groups are presented in a table (Table № 2. and № 3.)

Table № 2. Distribution of results by knowledge criterion

Knowledge test							
Indicator Group	Finding stage			Final stage			$X_2 - X_1$
	X_1	S_1	V_1	X_2	S_2	V_2	
Experimental group	8,97	1,46	16,28	11,70	1,64	14,02	2,73
Control group	9,09	1,27	13,97	7,87	2,13	27,06	-1,22
$X_{\text{exp}} - X_{\text{ctrl}}$	-0,12			3,83			1,51
t_{emp}	0,449			10,84			
P_t	0,95			0,95			

Source: Authors

When comparing the test results, a significant difference can be clearly seen in the mean values of the experimental and control groups, respectively, for the sixth, seventh and eighth grade students. The measured difference in the average number of points of the experimental and control group students is statistically significant in favor of the experimental group. The empirical value of the Student's criterion for the students of the seventh grade is $t_{\text{emp}}=10.84$, and the tabular value at the level of significance $\alpha = 0.05$ is $t_{\alpha} = 1.98$. It can be seen that $t_{\text{emp}} > t_{\alpha}$ ($10.84 > 1.98$) – significant differences in the total number of points).

Table № 3. Seventh grade student test results

Tests for sports and technical skills							
Indicator Group	Finding stage			Final stage			$X_2 - X_1$
	X_1	S_1	V_1	X_2	S_2	V_2	
Experimental group	19,02	2,17	11,41	34,01	4,33	12,74	14,99
Control group	19,54	2,43	12,44	24,79	2,60	10,47	5,25
$X_{\text{exp}} - X_{\text{ctrl}}$	-0,52			9,22			9,74
t_{emp}	1,93			10,5			
P_t	0,95			0,95			

Source: Authors

When analyzing the results of the testing (table no.) of the students of the seventh grade, it can be seen that the average values of the experimental group at the ascertaining stage is 19.02 points, and at the control stage 19.54 points. In the final stage of the study, a significant difference was reported in the average number of points for the two groups. The corresponding gains in total for testing in the experimental group were 14.99 points and 5.25 points in the control group. The difference of 9.74 points is statistically significant. The differences between the two groups, verified by Student's t test, were significant ($P_t > 0.95$). Therefore, the increase is statistically significant and the changes found in the samples are due to the methodology we have described.

4. DISCUSSION

The obtained results of the sports-didactic experiment allowed us to derive criteria for evaluating students' competencies in volleyball training. Norms were determined using the percentile method with cutoff values calculated for the 5th, 25th, 50th, 75th, and 95th percentile. As it provides a five-level evaluation of those who have successfully completed the tests. The proposed idea for a complex assessment of the results of the educational and educational work in volleyball should be implemented in the following way - the maximum total of points that a student can collect from the three tests for sports and technical skills is 45, and the maximum total of points for the test for theoretical knowledge is 15. The formation of the final annual evaluation of volleyball students is realized from the total sum of points from the motor tests and from the test for theoretical knowledge.

Table № 4. shows the distribution of points for forming the final annual grade in volleyball for seventh grade students.

Table № 4 Normative table for volleyball assessment of seventh grade students

Point attitude	Assessment
> 37	Low grade
38 – 42	an average grade
43 – 50	good grade
51 – 55	very good grade
56 – 60	excellent grade

Source: Authors

5. CONCLUSION

The study of specialized literature showed that there is a lack of sufficiently scientifically based methods for teaching volleyball in the seventh grade in the junior high school stage of the basic educational level. Part of these developments are aimed at volleyball education at the secondary level of education, in the conditions of a higher school and at the problems of high sportsmanship.

The identification of key competences and the derivation of norms for control and evaluation is an essential point that is considered in the scientific development. Its provision guarantees students the achievement of the necessary level of competences such as unity of knowledge, skills and participation in sports and motor activities. In this regard, the competencies formed in the training lead to the improvement of the motor activity of the students and the achievement of a certain level of sports education.

The tabular presentation of the obtained results gives us reason to claim that the increase in the level of acquired knowledge among seventh-grade students in the junior high school stage of the basic education level is a consequence of the developed methodology for training in volleyball and in the course of the development of key competencies in training of the students from the experimental groups.

From the analysis of the sports-didactic experiment, it can be concluded that the increase in the level of learned skills among seventh-grade students is a consequence of the developed methodology for volleyball training. The approved standards for assessing the degree of assimilation of sports and technical skills can be used in practice for ongoing control and for forming the final annual assessment in physical education and sports.

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