

ensure the efficiency of the instructive-educational process.

At present, the increase of the quality of the instructive-educational process in the secondary stage in the discipline "physical education", aims at the improvement of the traditional methods, but also the introduction of modern educational methods and techniques. The methods involve sporting events because the teaching style must be adopted according to the pupils' personality. In the opinion of a number of authors (Bocoş, 2002, Cerghit, 2006, Grimaischi, 2008, Raţă, Carp, 2013), designing a didactic approach different from the traditional one gives to each teacher the opportunity to use his own experience using modern methods in an interdisciplinary approach.

Competence training through interactive teaching-learning-evaluation methods is a subject of great importance for postmodern pedagogy, including in the field of physical education, in which it is imperative to organize the educational process at all levels of education in an interactive manner (Goras-Postică, 2008, p. 9).

According to the literature, the fundamental condition for the school performance is the consciousness of learning, but the conscious learning competences of the children are gradually and hardly formed. Thus, in the context of the addressed problem, we consider that a way to make the educational process more efficient is the application of interactive methods in the teaching-learning framework, in order to develop the cognitive, psychomotor and affective competences of the pupils.

The purpose of the research is to make the process of training physical education competences of the secondary pupils more efficient by interactive methods.

The importance of the process of training the competences of the secondary pupils lies in the need to use interactive methods for the purpose of continuous training of the physical education competences in the gymnasium stage and the establishment / selection of concrete methods for each content of the curriculum proposed for learning.

The practical significance is the results of the research, which can serve as a methodical material for the specialists in the implementation of the interactive methods for the purpose of efficiency and objective evaluation of the pupils' competences, of the creative and intellectual potential of each pupil practicing the physical exercise.

2. Materials and methods

The research conducted by us in the Secondary school Bucovat, Strasenii, during 2014-2018, focused on pedagogical aspects regarding the system of training methods specific to the educational process at the level of the gymnasium classes, the particularities of the use of interactive methods in the physical education lessons and, respectively, the classification of the main groups of interactive methods, such as:

- a) Interactive group teaching and learning methods: mutual teaching / learning method, Mosaic method, small group learning method, team tournament

method, and pair change method, Cube.

- b) Methods of fixing / systematization and verification of knowledge: cognitive map or conceptual map, family tree, spatial registration, "Causes and consequences", "Cobweb", "Graph T", "Two colours".
- c) Problem-solving methods by stimulating creativity: "brainstorming", problem-solving, group interviewing, case study.
- d) Group research methods: the topic or the group research project, the team experiment, the group portfolio.

In accordance with the purpose and objectives of our research, some of the methods we have applied have been widely applied in the training process, as follows:

The Venn diagram was applied to compare pupils with two elements: ideas, concepts, events, objects, etc. Both the common and distinct features of the two compared elements are highlighted. It is in the form of two intersected circles. In the first circle we note the features of the first term of the comparison, in the second circle we note the features of the other term of the comparison, and in the intersection area we note the common elements of the two terms. The Venn diagram was used to help pupils to systematize their knowledge, to differentiate between much more similar information. In this way, pupils' knowledge, sooner and more appropriately acquired, preserves their precision in time. In the topic "First aid in the event of trauma", this method is recommended to find the similarities and differences between sprain and strain. We also used this method on "Physical Culture and Stress" topic, where pupils had to find the similarities and differences between physical and mental symptoms of stress.

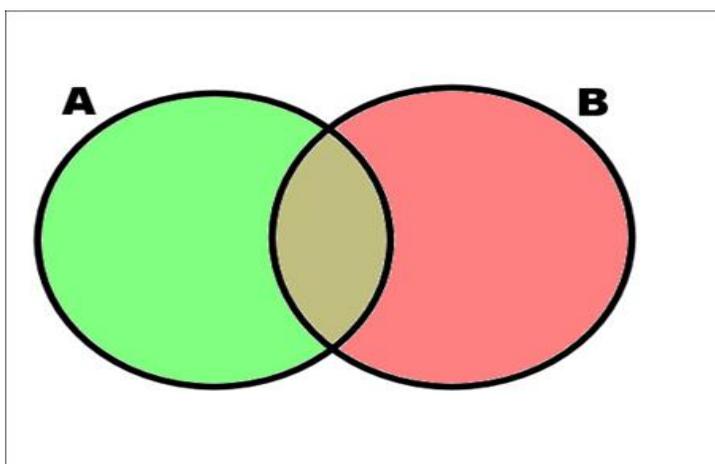


Figure 1. *The Venn diagram*

The R.T.Q (Respond-Throw-Question) method, ball throwing play, has been used in most cases for reflection, where feedback was aimed. For example, the play of the name of sports notions in grades V-VII.

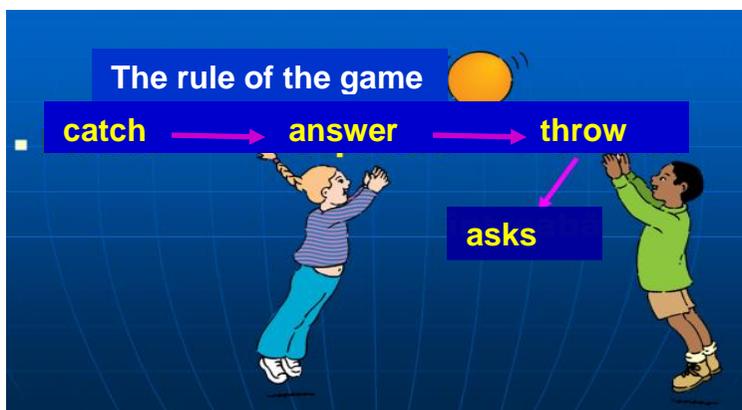


Figure 2. *The R.T.Q (Respond-Throw-Question) method*

The clustering's an interactive method applied in the process of forming and assessing cognitive competences in the themes of "Gymnastics, gymnastics branches", "Testsfor identifying the physical and functional training level", "The motor skills of the human", "Application-oriented exercises", "healthy lifestyle", etc., for the nomination and arrangement of information around the basic category, which places the concept of reference in the centre, and around it will be placed the related concepts and derivedideas. The cluster technique enables each pupil to participate actively, individually, in pairs or in groups. This method requires pupils to brainstorm in relation to a core-concept representative for the lesson, where their knowledge revolves around it.

Cube is an active method that allowed students to take complex approaches to a subject or situations, assuming exploration from multiple perspectives. There is a cube on whose faces the following tasks (one on the face) are marked: *it* describes, compares, analyses, associates, applies, and argues. The topic or theme to be explored is announced Example: Choosing your own tactics of attack and defence in basketball. Six groups of pupils are formed, each of them will examine the subject in terms of a single requirement on one of the sides of the cube: Describe: the proposed tactics, etc. Compare: what does the 2,3,4 tactics proposed by colleagues are similar? How does it differ from ... Analyse: specify from what stages it is composed? Associate: What makes you think about? Apply: what is the use for this? Argue: pro and con and list relevant arguments in the spirit of your statement. We use the "Cube" method also in the evocation, proposing six factsheets from the previous topic and inviting six eagers to throw the die and answer the question on the corresponding figure.

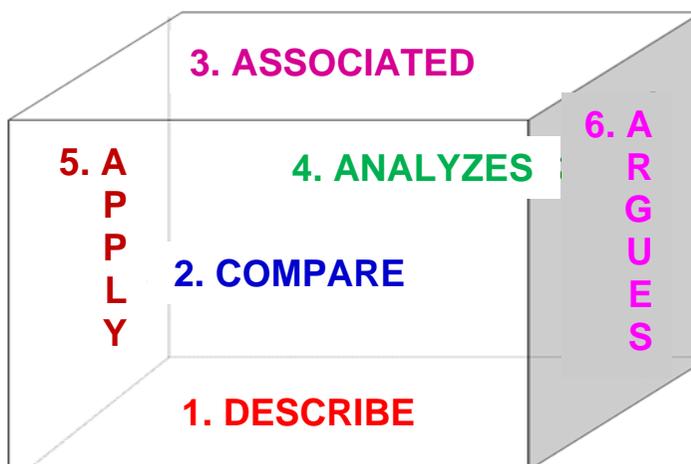


Figure 3. *Cube - active method*

The method of the five exercises. The class is divided into five groups, counting from one to five, after which they are given a sheet with a question: examine an information note about physical exercise; explain the role of physical exercise; exemplify by your own experience the need to practice physical exercise; exercise a complex of physical exercises; perform a physical exercise.

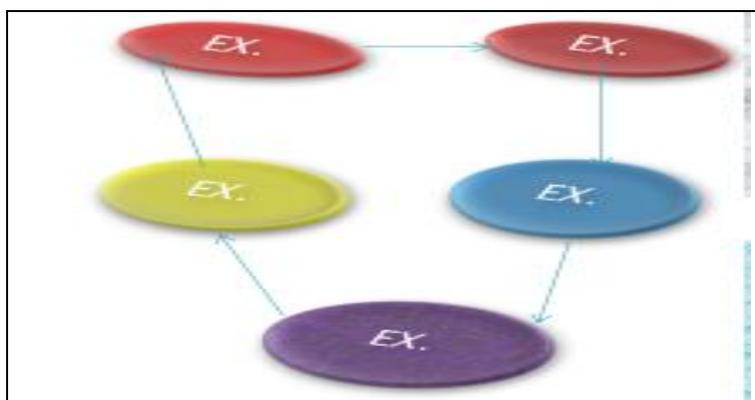


Figure 4. *The method of the five exercises.*

The poster is another active-participative method used to analyse more deeply a situation, a process, an event, in a synthesized form of the oral structures, accompanied by images.

During the research, we used the poster as a method of fixing, strengthening or evaluating knowledge, stimulating the creative potential and originality of pupils' thinking, emotionally involving them, freeing them from the stress that emerges in the traditional forms of assessment (homework).



Figure 5. The poster as a method of strengthening or evaluating knowledge

Learning by pupil-pupil cooperation is more effective than individual learning, because in terms of interaction between pupils, a final product is found in active participation, creativity, feelings of acceptance and sympathy.

3. Results and Discussions

Based on the study of the specialized bibliography, the practical experience accumulated in the instructive-educational work with the pupils, as well as the research, we have succeeded in demonstrating that the use of active-participatory methods accelerates knowledge acquisition, abilities training and motor skills, motor capacities, contributing to the development of all psychic processes.

The results of the scientific researches [1,4,5,6], as well as the approaches taken by us by applying interactive methods in order to train the students of the gymnasium classes in the physical education activities have allowed us to achieve the cooperative learning of the technical and tactical elements from athletics, sports games, gymnastics, to exploit the creative, intellectual and physical potential of each pupil.

Thus, during the research achieved in 2014-2018, based on the rational use of interactive methods in physical education lessons, we noticed a dynamic of the school results of the secondary pupils: the level of cognitive competences has increased from 7.66 to 8.86 points (Figure 6). The indices of physical development and training, increased by a general average score of 8.65 in 2014 and respectively 9.20 by the end of the study year 2017-2018. (Table 1, Figure 2).

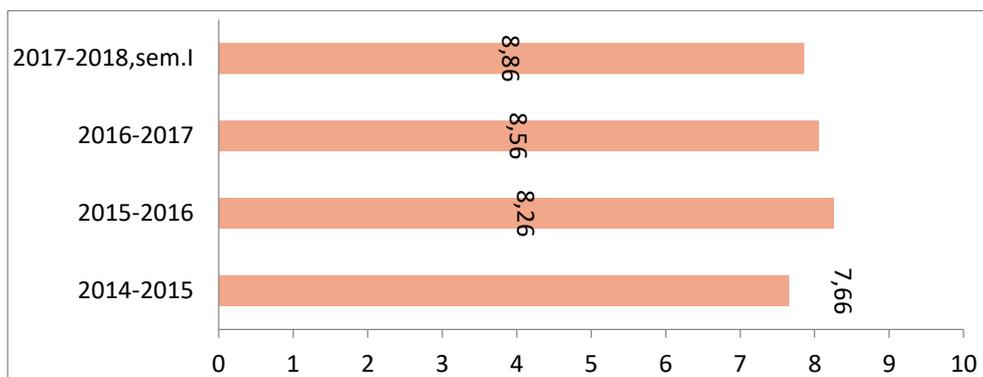


Figure 6. The level of cognitive competence training of pupils in secondary Schools based on the average score

Table 1. Evolution of the stage of manifestation of the psychomotor competences recorded by the 8th grade pupils during the 4 year of study (based on the average score)

Grade, year	Shuttle running 3x 10m (sec)	Stand long jumping (cm)	Hanging on the fixed bar, pull- ups(b) from support lying on	Lifting the trunk vertically from dorsal lying position	Standing on the gymnastic bench,
	Average	Average score	Average score	Average	Average
Vth ,2014-2015	8,6±0,13	9,2±0,14	8,4±0,13	9,1±0,14	7,8±0,14
VIth ,2015-2016	8,8±0,14	9,3±0,13	8,7±0,14	9,2±0,13	8,1±0,13
VIIth ,2016-2017	9,1±0,15	9,4±0,13	8,8±0,12	9,4±0,14	8,4±0,12
VIIIth ,2017-2018	9,3±0,14	9,5±0,12	9,2±0,13	9,5±0,15	8,8±0,14

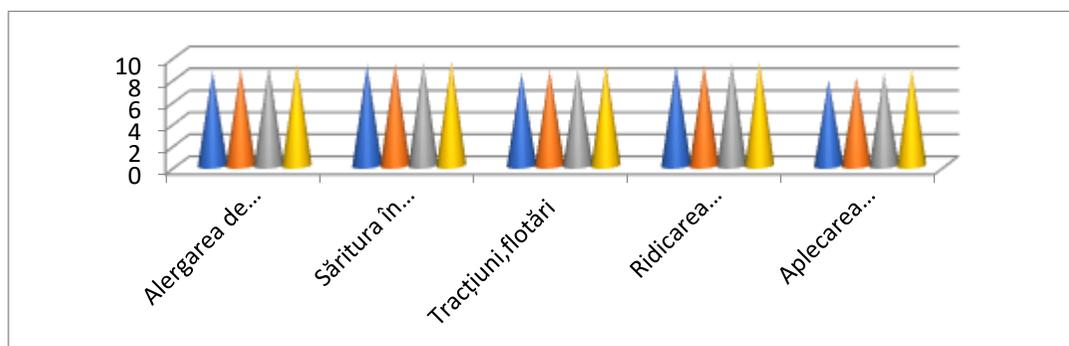


Figure 7. Evolution of the manifestation stage of the psychomotor competences

Successful application of the described interactive methods allowed us to influence quantitatively and qualitatively the level of acquiring the physical education skills of pupils in gymnasium classes during 2014-2018.

4. Conclusions

We have emphasized the advantages of the used interactive methods that contribute to: the development of critical thinking, the increase of the efficiency of the lessons, the stimulation of the interest and curiosity of the students for the profound knowledge of reality, the cultivation of the investigation spirit, all of which lead to a higher motivation of learning, a personal experience of the action and by appealing to the pupil's ability to think and act, to develop their imagination and to create.

It is very important that through the informed and professional recourse to interactive methods, their contribution to competences training is originally capitalized, which will lead to the achievement of multiple curricular objectives.

References

1. BOCOȘ, M. (2002). *Instruire interactivă*, Cluj-Napoca: Presa Universitară Clujeană, 312;
2. BOIAN, I. (2006). *Educație fizică. Manual pentru clasa a IX-a*, Chișinău: Știința, 136;
3. CARLATEANU, T., COJOCARU, O., & GORAȘ-POSTICA V. (coord.) (2008). *Formare de competențe prin strategii didactice interactive*: Centrul Educațional Prodidactica, 204;
4. DRAGOMIR, P., & BARTA A. (1998). *Educație fizică, Manual pentru clasele a XI-a, a XII-a și a XIII-a, a școlii normale*, București: Didactică și Pedagogică;
5. GRIMAIȘCHI, T. (2008). *Didactica modernă a educației fizice. Ghid pentru profesori*, Chișinău: RECLAMA, 32;
6. GRIMAIȘCHI, T. (2011). *Educație fizică. Ghid de implementare a curriculumului modernizat pentru treapta primară și gimnazială*, Chișinău: LYCEUM;
7. RAȚĂ G., & CARP I. (2013). *Principii și metode didactice specifice educației fizice și sportului*, Bacău: Alma Mater, 176;
8. SCARLAT, E., & SCARLAT, M. B. (2011). *Tratat de Educație fizică*, București: Didactică și Pedagogică;

