

THE INCREASE OF PHYSICAL EDUCATION LESSON EFFICIENCY BY DEVELOPING PUPILS' IMAGINATION AND CREATIVITY

V. TUDOR¹

Abstract: *This research approaches some modalities able to significantly increase the physical lesson efficiency, due to the pupils' voluntary involvement into the instruction process. Their consented participation is determined by the autonomy they are invested with, by their responsible roles and by the fact they are allowed to freely express their imagination and creativity potential. Teacher's scientific strategies and methodologies can build up teenagers who want, can and enjoy performing activities specific to physical and sports education in their daily life, which contributes to their body harmonious development.*

Keywords: *autonomy, imagination, creativity, initiative, self-organization, self-directing, self-evaluation.*

1. Motivation for the research topic selection

By selecting this topic, we meant to open the following research directions:

- a.) stimulating pupils' interest, inclination, desire and option to act consciously, responsibly and creatively in the physical education lesson, as well as studying the psychological impact of subjects' active participation upon the activity in its whole;
- b.) investigating the possibilities to optimize the physical education lesson by identifying the benefits resulted from the stimulation of subjects' initiative, imagination and creativity;

- c.) determining pupils' stable concerns with the successful approach and fulfillment of certain leisure activities proposed by the teacher;
- d.) determining pupils' stable concerns with the approach of certain simple elements or global exercises under the play form in pupils' recreational activities, by keeping to the physical education lesson rules and orientations.

This paper aims at quantifying the results of some activities involving pupils' high degree of active and creative participation in the physical education lesson.

¹ UNEFS Bucharest.

2. Hypothesis of the research

To reach this study objectives, we started from the basic hypothesis of our scientific approach, namely: *by using some scientifically substantiated strategies and methodologies to stimulate creativity in the physical education lesson, the specific objectives will be achieved much easily and at a higher qualitative standard, which implicitly means to build up a teenager who wants, can and enjoys performing activities specific to physical and sports education in his daily life.*

3. Objectives of the research

- a.) Identifying and valorizing a wide range of stimulation forms able to reveal pupils' creativity, imagination, originality and authenticity, by developing some activities where the teacher, relying on a scientific programming, allow the pupils a high well-quantified and directed degree of autonomy.
- b.) Identifying the possibilities to form and develop self-organization, self-directing and self-evaluation capacities specific to the physical education lesson autonomous activity and their valorization in pupils' extracurricular and leisure activities.
- c.) Selecting and using the positive valences provided by the approach of some strategies for the improvement of pupils' creativity, imagination and

originality, in order to stimulate their interest and get them accustomed with some permanent routines able to preserve their harmonious physical development, to make them respect some life programs, to use physical exercises and different sports in their leisure activities and in their daily life, as recreation means.

- d.) Getting some results and formulating some conclusions related to the number of lessons, the periods of time or the development level of those capacities, competences and attitudes allowing the pupils to participate in activities with a high degree of creative and original involvement;
- e.) Prospecting the formative valences of the exercise competitive character extending, of the contest with different practical achievement forms and modalities and of the relation between this extension and the physical education lesson length

4. Research sample

The research sample included pupils in grades 9th and 10th at the "Mihail Kogalniceanu" Theoretical High School of Snagov, teacher Bogdan Florea. The sample structure was determined by the following criteria: pupils' grade, number and gender.

Table 1

Experimental sample

GRADE	SPECIALIZATION	NUMBER BOYS	NUMBER GIRLS
9 th	TOURISM	12	18
10 th	TOURISM	14	17
TOTAL NUMBER OF PUPILS		26	35

Table 2

Control sample

GRADE	SPECIALIZATION	NUMBER BOYS	NUMBER GIRLS
9 th	MATHEMATICS INFORMATICS	14	13
10 th	MATHEMATICS INFORMATICS	19	13
TOTAL NUMBER OF PUPILS		33	26

5. System of tests applied to the sample

To conduct this research, we selected tests able to provide the most useful information about the experiment samples in each test initial and final phases.

5.1. Creativity test for the exercise selective influencing

The test aims at getting results which reflect pupils' capacity to create, invent, imagine and put into practice new, original sets of exercises for harmonious physical development. This test started from the idea that the body segment liberty of moving and the possibilities to combine their movements, but also elasticity, posture, muscular tonus, physical and psychical condition, the health general state, all of them register particular progresses by using some exercises that complexly influence the harmonious physical development, these ones being discovered, invented or adapted by the pupils themselves.

→ Test description and content

The test is conducted under the usual conditions and aims at selectively influencing the locomotor apparatus during the lesson, by specifying that the workout lasts longer and special preparation steps are required.

The tested pupils started with a preparatory period when they understood all the principles necessary to achieve and apply a set of exercises for the harmonious

physical development. Relying on these fundamental exercises, pupils learned how to use the movements of their own body segments so that the space trajectory and orientation suggest them a new exercise. The synchronization of these new exercise elements with an appropriate execution rhythm, according to the orders and counting, leads to better results.

→ Test applying methodology

The group organizing sequence in the beginning of the lesson is followed by the drawing of lots to see the pupils' testing order. The teacher prepares slips of paper with figures from 1 up to the number corresponding to the total active group of pupils, but also a special worksheet where he puts down pupils' names and the rubrics, some of them being evaluation criteria:

- ↪ testing order number (resulted from the drawing);
- ↪ creativity when the work formations are changed;
- ↪ creativity in relation to the selection of some exercise initial and final positions;
- ↪ degree of originality, creativity and complexity when choosing and combining the exercise elements;
- ↪ degree of awareness related to the importance of creating some original exercises and to the involvement into this action;

- ↯ correctness and fluency when performing the exercise;
- ↯ rhythm adaptation by counting, according to the group level and potential;
- ↯ posture and general impression about the exercise performing;
- ↯ proper use of the relaxation breaks and corrections after the exercise completion;
- ↯ level of cooperation and communication with the group;
- ↯ teacher's final mark as a testing result and an observation rubric where he describes the exercise and makes special remarks;
- ↯ average score of the marks given by the pupils in their individual sheets.

5.2. Test for motricity games

The test places the subjects in the situation of creating and putting into practice a motricity game with invented new elements, although they mostly use the principles of some games learned within the physical education lessons or the extracurricular activities. Subjects have to explain the game rules, to lead and perform it together with their mates.

The test is announced and each pupil is asked to imagine at home his own game, then his original ideas and those of his group colleagues are valorized as the results generate a really original and authentic game.

→ *Test applying methodology*

The test starts with the explanation of rules and continues with the drawing of lots for making up groups of 4 pupils and settling their testing order. All the pupils are present at the drawing that uses slips of paper with their names written on. Slips are drawn out, arranged 4 in a row and each composed group is given an order number.

Then other slips with the group order numbers written on them are extracted and the teacher puts down the group testing order. Subsequently, slips are opened and the first group is made up; as for the other pupils, they perform, guided by one of their colleagues, a set of gymnastic exercises for the harmonious physical development, the attention being focused on the identification of errors made by the pupil who leads this activity. The leader will be replaced every two performed exercises. Meanwhile, the group of pupils who will be tested decides the game structure and progress, explains them to the teacher and when this one is sure that all the security conditions are met they prepare the means and supplies necessary to start the game.

Each group has 3 minutes to create the game and give it a name and 1 single minute to prepare it. The group preparatory activity is supported by the teacher and by other pupils with effort restrictions or who can't effectively participate in the lesson activities for different reasons that are not health-related. Then the group will shortly explain the game created by its members and the game is initiated. Pupils must do this within 3 minutes. The teacher keeps the time and intervenes only if necessary, for instance to prevent some possible injuries or if the game activity is blocked.

6. Experiment content and progress

The experiment was conceived and conducted in two stages. Initially, we aimed at getting some information and data as accurate as possible, by exploring pupils' ideas, conceptions and options related to the way of organizing and carrying out the physical education lesson activities and by applying a

purposely conceived questionnaire for high school pupils in grades 9th and 10th, in the beginning of the school year 2008-2009, in October. The collected data were analyzed and synthesized, the obtained results helping us to shape some directions needed for us to approach the experiment plan and strategy.

The preparatory stage was included into a cycle of lessons programmed for the next two months. In this stage, both the experimental and control samples got accustomed with the activities specific to the special tests they were to pass, but in parallel the experimental sample started to get accustomed with the activities involving pupils' highly creative and imaginative participation.

In the following period, the control sample continued the lessons according to the planning, with topics addressed to the development of motor qualities, but also focused on a certain acquisition level of motor skills and abilities, by using practicing methods under the teacher's direct leadership.

In this stage, the experimental sample performed the same activities as the control sample, but we introduced into the thematic sequences planned in the yearly schedule of the learning units some preparatory activities requiring pupils' imaginative and creative participation; depending on their options, we worked with open groups directed by a representative or leader.

The initial test applying provided us a concrete image about the pupils' level of preparation, capacities, competences, attitudes, but also data about their creativity and inventiveness at the testing moment. The obtained values are presented in the centralizing tables that emphasize the differences between the samples and grades, by realizing thus a first identification of the experimental sample.

After the initial test applying to both of the samples, we started the so-called experimental period, where the lesson was conceived and structured so that it includes

activities with a high degree of imaginative and creative participation, while the control sample continued the lessons normally designed and structured, as planned.

Experimental stage

For the grades 9th and 10th of the experimental sample, lessons were conceived starting from the pupils' option criterion, by taking into account the continuity criterion, but also that one allowing a progressively increased degree of imaginative and creative participation during all the experiment period.

- * Using self-organization, self-directing and self-evaluation in all the lesson activities and sequences.
- * Using open mobile groups for a better regulation of communication means, mutual help, goal orientation and democratic leadership.
- * Encouraging the leader election on objective value criteria, in parallel with the creation of the opportunity for each pupil to become a leader by turns.
- * Encouraging any initiative, the activity new and original forms, the composition of exercises, practicing forms and games, by transforming some lesson topics into pupils' homework.
- * Encouraging the creative thinking, spontaneity, imagination, authenticity, decision making and motivation at any moment of the lesson.

a.) Teacher-pupil alternatively leading the lesson

At each moment of this lesson, the teacher organizes and leads the activity, by giving examples of work formations, exercises, practicing variants, work methods and explains the principles according to which they

can be approached and diversified. He encourages and supports pupils to get organized, to lead and evaluate their own actions, by providing them the opportunity to freely express their ideas, imagination and creativity. As a prerequisite, pupils' activity derived from the teacher's must contain the difference or differences that turn(s) it into a new, an original one. Then the teacher easily transforms the contest between his exercises, his examples and the pupils' into their own contest, by intervening only if necessary.

b.) *Competitive lesson on groups and with presented topics*

We resorted to this type of lesson because we had noticed two main orientations in pupils' concerns: the former refers to the group forming on the basis of common affinities and initiatives; the latter is related to contest, to the desire of competing, to creativity when pupils have to prepare at home some announced topics. To keep the detailed accounts and to control the activity, we used a teacher's guide sheet including descriptions, observations, information, remarks, scores recorded at any moment of the lesson; this guide is useful before, during and after the lesson.

Sequential description of the competitive lesson structure and content on groups and with presented topics

I. Group organizing. Pupils line up or make up original report formations, then the captain reports. Each team performs a short attention exercise with front and formation changing. The teacher evaluates the groups in his guide sheet according to the following criteria:

1. Attention and posture,
2. Creativity and originality,
3. Cooperation, fluency and timing, by giving 0, 1, 2 or 3 points for each criterion plus 1 official point.

II. Body preparing for the effort. It progresses under the successive orders of a representative from each group, democratically nominated and not necessarily the team captain. The teacher evaluates each group, through its representative, in his guide sheet according to the following criteria:

1. Conformity to progressivity and fluency,
2. Creativity and originality,
3. Use of orders, space and self-security steps, by giving 0, 1, 2 or 3 points for each criterion plus 1 official point.

III. The locomotor apparatus selective influencing. For this moment of the lesson, each group occupies a delimited space and under the leadership of a new representative, democratically nominated, it performs gymnastic exercises within a set of exercises for the harmonious physical development, made up of minimum 10 exercises. By keeping to these basic principles, creativity or inventiveness is encouraged and when the set of exercises is completed, each group evaluates itself through a mark from 1 to 10. The teacher evaluates each group in his guide sheet according to the following criteria:

1. Correctness and originality of the exercise approaching order, its form and efficiency.
2. Correctness and originality of the work formations, orders, breaks, observations, corrections and cooperation within the group.
3. Self-evaluation objectiveness, by giving 0, 1, 2 or 3 points for each criterion plus 1 official point.

IV. The lesson thematic stage. Each group prepares its space, court, supplies and settles all the security steps to prevent injuries.

Each group has already prepared at home variants of the sports topic selected in the previous lesson. The teacher checks, by consulting his guide sheet, whether the groups are still focused on their favorite sport, as well as each one's composition and leader. The organizing of work formations, the way of selectively approaching some technical elements or structures of elements, all these are imagined, decided, created by the pupils in each group. This thematic sequence first part lasts 10 minutes. Then the groups organize, lead and evaluate the activity progress in some thematic bilateral games or in contests, mini-competitions, competitions, by fully obeying to the rules.

The teacher evaluates each group in his guide sheet, by giving 3 marks, from 1 to 10, for the thematic sequence first and second parts, while the third mark is granted for the topic originality in its whole.

V. Body recovery after the effort. It progresses by turns under the leadership of each group representative; meanwhile, the teacher updates the results and reckons the average score of the marks obtained in each lesson stage.

VI. Remarks, conclusions, observations, the next lesson designing and homework formulating. The teacher draws the general conclusions issued from the lesson progress and suggests steps to improve some activities in the lessons to come. Then he comments the results, by announcing the winning group. Finally, the groups make new options on favorite sports and the teacher formulates the homework that is addressed to the development of some motor qualities and particularly that can be performed in the very next lessons within the group.

7. Results and their interpretation

The creativity tests imagined, created and applied by us in this experiment mainly aim at getting some results as accurate as possible and also measurable, which reflect pupils' inspiration, creativity, originality, initiative, decisional courage, cooperation and communication levels, through exercises for the harmonious physical development and through motricity games under the form of attractive stimulating contests. The major direction we had in view when creating these two tests was the adaptation to the physical education and sports discipline particularities, that is why we conceived a specific testing system, as close as possible to the realities of the usual lesson activity.

▪ *Creativity test for gymnastic exercises*

All the sample pupils took part in this test, their order being determined after the drawing of lots; by reckoning their marks registered in the teacher's guide sheet, we obtained the average scores on grades.

▪ *Creativity test for motricity games*

All the sample pupils took part in this test, they being distributed on groups made up after the drawing of lots, this giving us the possibility of composing mixed groups, where boys and girls cooperated within a team. By studying and correlating the values of all the points and marks registered in the teacher's guide sheet and by consulting pupils' worksheets, we obtained the final score for each group; then we calculated their arithmetical mean and we obtained the final scores of each sample.

The results of these creativity tests are presented in the centralizing table no. 3.

Table 3

TESTED GRADES	CREATIVITY TEST FOR GYMNAS TIC EXERCISES				CREATIVITY TEST FOR MOTRICITY GAMES			
	EXPERIMENTAL SAMPLE		CONTROL SAMPLE		EXPERIMENTAL SAMPLE		CONTROL SAMPLE	
	INITIAL TEST (average scores)	FINAL TEST (average scores)	INITIAL TEST (average scores)	FINAL TEST (average scores)	INITIAL TEST (average scores)	FINAL TEST (average scores)	INITIAL TEST (average scores)	FINAL TEST (average scores)
9 th	6.87	8.90	6.90	7.10	6.21	8.75	6.70	6.55
10 th	7.50	9.05	7.75	7,30	7.44	8.80	7.76	7.95

8. Conclusions

- This paper theoretical-scientific approach and strategy was “pupil-focused”, but within the lesson as a basic form of the teaching process organization. Inventiveness and the permanent creation of new forms able to avoid monotony, stereotypy and to satisfy the lesson functionality criteria proved to be essential.
- The creation of a particular, interesting and stimulating atmosphere able to determine the development of pupils’ most important personality traits can be very efficiently achieved by using games, contests, competitions, mini-competitions. Such an attractive emulating climate stimulated the development of pupils’ creativity, inventiveness, spontaneity, responsibility, initiative, perseverance, will, respect and cooperation within groups and teams, as well as their fair-play, all these totally confirming this research hypotheses.
- In the special creativity tests, pupils got results reflecting an obvious superiority at the increase ratio level (the registered progress) in both of the grades composing the experimental samples.
- Pupils’ attention during all the activities carried out within the lesson requiring a high degree of imaginative and creative participation was increased, they noticing the exercise details and correctness; at the same time, some established principles and rules were easily and more accurately respected, this being revealed by the individual sheets.
- Activities performed within the experimental lessons with an increased degree of imaginative and creative participation started to make the object of pupils’ extracurricular concerns. The new and constantly improved exercises for the harmonious physical development, as well as the motricity games based on new rules and supposing different means and roles were “shifted” to pupils’ leisure activities, together with the already known sports games, but the exigencies related to the respect of some rules became higher. The percentage of pupils included into the experimental samples, who obtained good and very good results in the football, handball, volleyball and athletics school competitions significantly increased.
- The work system applied to some groups and teams within the experimental lessons had double beneficial effects:
 - ✓ first of all, it created a particular emulation around some moments such as drawing of lots, member

- transferring, leader electing, score registering, nominating the winners;
- ✓ its second effect was particularly important to the development of some relationship and communication capacities. The support given to colleagues in the important moments, the respect for each group component's ideas and work, but also for the democratic principles, the energy and will orientation towards the common success, the adaptation when members were replaced, the efficient and civilized communication represented some of the directions aimed and achieved to a great extent within this type of organizing lessons based on pupils' increased degree of autonomy.
 - The group leader and the work team nominations were democratically elected by drawing of lots and by the "rotation" method, namely the leader was nominated by turns. The initial situation, when a reduced number of pupils (especially in grades 9th) expressed their desire to become leaders was explained by their lack of experience, their timidity and their stress induced by the responsibility extended to a whole group or team. But being supported by the teacher or by a group counselor, pupils realized they could lead groups and teams with very good results.
- 9. Proposals and practical solutions**
- Pupils' imaginative and creative participation in physical education lessons has to be not only gradually applied, but also carefully quantified and controlled, starting with very simple forms of self-organization, self-directing and self-evaluation.
 - Teachers must plan some special preparatory periods in the beginning of the school year, mainly of the curricular cycle; if strategies are focused on pupils' imaginative and creative participation in the lessons, its degree will be much increased.
 - We think that the high degree of autonomy in pupils' activities is particularly efficient and can be better adjusted within the lessons requiring capacities, behaviors and attitudes already built, but that have to be developed, improved.
 - The use of motricity games within the activities based on contest, competitions, mini-competition creates special conditions that facilitate pupils' moments of imaginative and creative participation in the physical education lessons.
 - Pupils' moments of imaginative and creative participation in physical education lessons can be easily achieved when activities are organized on groups and teams.
 - These groups must be mobile and open, in order to provide the opportunity of creating lots of relationships and a diversity of options.
 - The group leader may be elected by voting, by drawing of lots or nominated by using the "rotation" system. The ways of nominating or electing the leader will be simultaneously used, depending on the aims.
 - The teacher must specially prepare the technical-material facilities, the modalities of registering data and results, the steps necessary to secure and prevent injuries.
 - The guide sheets including numerous data and characteristics of the activity may correctly orient the teacher when he designs activities including pupils' moments of imaginative and creative participation in the lessons to come.

- Teacher's interventions in the activities involving pupils' high degree of imaginative and creative participation must be very short and only if self-regulation doesn't occur, the leader can't manage or the aimed objectives are obviously left away.
- The teacher must act tactfully and skillfully, by encouraging the unsuccessful pupils and by suggesting the ways to solve some situations, but without imposing and by giving up the severe criticism.
- For the fluency adjustment and the creation of a competition framework when performing activities with pupils' imaginative and creative participation in the physical education lesson, the teacher may recommend the pupils some homework meant to prepare the activities for the next lesson.
- The teacher may create and use, in the lessons involving the pupils' high degree of imaginative and creative participation, the subjects' simply structured worksheets, where they put down options, ideas, proposals, noticed aspects. These sheets help the teacher to "recover" many details otherwise difficult or even impossible to perceive during the lesson.
- The lesson breaks or organizational moments may be used for short discussions on sports topics or the teacher may encourage their organizing as contests directed by him or by the pupils willing to do this.

References

1. Alexandrescu, I.: *Personalitate și vocație*, Iași: Ed. Junimea, 1981.
2. Cârstea, Ghe.: *Contribuții la ameliorarea procesului de educație fizică și sportivă școlară în condițiile unor activități autonome ale elevului și profesorului*. Lucrare de Doctorat, ANEFS, București, 1993, p. 18, 21, 22.
3. Dincă, M.: *Teste de creativitate*. București: Ed. Paideia, 2001.
4. Dragnea, A.; Tudor, V. și colab.: *Educație fizică și sport - teorie și didactică*, București: Ed. FEST, 2006.
5. Epuran, M.: *Pshihologia educației fizice*. București: Ed. Sport-Turism, 1976.
6. Oprescu, V.: *Factorii individuali și formativi ai vocației și creativității*. București: Ed. Scrisul Românesc, 1989.
7. Piaget, J.: *Psihologia inteligenței*, București: Ed. Științifică, 1965.
8. Piaget, J.: *Psihologia copilului*. București: Ed. Didactică și Pedagogică, București, 1965.
9. Roco, M.: *Creativitate și inteligență emoțională*, Iași: Ed. Polirom, 2001, p. 11, 12, 13.
10. Roșca, A.: *Creativitatea generală și specifică*. București: Ed. Academiei, București, 1981.
11. Tudor, V.: *Capacitățile condiționale, coordinative și intermediare - componente ale capacității motrice*, București: Ed. RAI, București, 1999.
12. Tudor, V.: *Evaluarea în educația fizică școlară*, București: Ed. Printech, 2001.