

ABSTRACT OF THE DOCTORAL THESIS

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TITLE THESIS:

OPTIMIZATION OF MIDDLE SCHOOL PHYSICAL EDUCATION LESSONS BY DESIGNING STRATEGIC GAMES USED AT AN INTERNATIONAL LEVEL.

Introduction

Physical education and sports at school provide students with opportunities for learning and practicing the skills needed to develop and maintain their physical health status throughout their lives. In addition to physical development, it brings a type of knowledge and understanding based on rules, on respect for social awareness of physical education correlated with social interaction. The value of physical education should be understood from younger ages in order to make students active throughout their lives.

In this context, we will try a different approach to this discipline that will offer new insights with qualitative and quantitative approaches to the technical and rational way of achieving the objectives of physical education and sports in middle school education. The starting point for our research will be to improve the quality of education by optimizing the physical education lesson, using internationally employed strategy games.

Having the following arguments:

To capitalize on the theoretical and practical knowledge and experience during the university education as well as in the development of the professional activity in the formative sphere of university, high school and middle school education;

The completion of the theoretical studies provided in the Doctoral School within the Institution of Doctoral Studies, within the University of Physical Education and Sport in Bucharest, specific to the stages preceding the scientific achievement according to the PhD thesis.

The experience gained in two education systems, the Romanian pre-university and university one, but also the private one at the American International School of Bucharest (AISB), as well as the possibility to compare them.

Motivating the topic choice

I chose this topic because it is a real interest for me and I think I could contribute to the efficiency of the physical education and sports system in the middle school system. From the point of admission to the doctorate I understood the scientific variety of the field, its depth and I realized that I could contribute scientifically and practically to achieving the optimization of the physical education lesson by applying internationally-used strategic games. Through this research, we will try to show that, by practicing these types of games, students have to develop different knowledge, enhance their ability to ask and reflect, become more responsible, form a healthy lifestyle, as well as increase socialization.

The implementation of some elements of the physical education curriculum within the International Baccalaureate will lead to the improvement of the physical condition, as well as the cognitive and affective capacities of the students in physical education. We consider it necessary to diversify the school curriculum by introducing the strategic games used at an international level to improve the lesson's density, increase its attractiveness and modernize the lessons of physical education. When talking about the modernization of physical education lessons, we are referring to teaching techniques that include methods and methodical processes that strengthen the development of the training procedure in order to educate and inform the student throughout middle school. Modern student-centered teaching is based on studies and research on learning processes that have led to the formulation of some teaching theories.

The thesis was structured in three parts and has 14 chapters.

Part I is the theoretical section that contains important information from the literature on our research topic

Part II is preliminary research and its conclusions

Part III comprises of the experiment itself, following the conclusions of Part II. Herein are personal contributions, as well as the conclusions of the experiment.

Part I covered three chapters, and the research began with critical documentation and information gathering to broaden the knowledge horizon, coming in contact with new scientific perspectives. Teaching should no longer be seen as a mere transmission of knowledge in which the teacher is the one who knows everything, but rather as a learning context in which students interact with the educational environment. In the International Baccalaureate, teaching and

learning is done through practice, and integrity, honesty and the sense of correctness are the ongoing concerns within the curriculum.

The International Baccalaureate approach to education is constructivist and, through the mutual action of asking, making and thinking, it develops young people to learn continuously, independently and in collaboration with others.

The teacher can influence the determination of students within the physical education lesson by creating a motivational climate. If a climate is created to overcome personal results rather than competition, students will be more interested in active participation in physical education classes.

The use of internationally-employed strategic games could bring improvements in the way students see the physical education discipline, in the sense that, by having a positive experience, they will be more motivated to participate in the lesson, while they will also develop the habit of practicing the physical exercises during their free time, thus leading to an improvement in health.

Part II is comprised of three chapters of preliminary research and we started from the premise that the development of creativity and initiative are requirements that are found in school curricula and which imply some freedom in student thinking, these being aspects that we must capitalize upon this research.

Research objectives

Conducting a conclusive study regarding the modes of teaching in the international and the Romanian education setting;

Synthesizing teacher opinions from Romanian schools and international schools;

Establishing and verifying the possibility of pupils, parents and teachers appreciating the activity in the physical education lesson;

Finding the opinion of students, parents and teachers regarding the possibility of applying strategic games in the physical education lesson.

The hypotheses of the preliminary investigation were as follows

Knowing aspects of the possibility of using strategic games used at an international level, some elements can be highlighted regarding the improvement of the teaching process in Romanian education.

Studying the opinions of pupils, parents and teachers regarding the importance of physical education highlights elements for improving the quality of teaching through the application of internationally-used strategies.

The tasks of the preliminary investigation

Preparation of logistics materials for research;

Preparation of research tools;

Selection of subjects from a Romanian school and students from AISB;

Elaboration and verification of a system of knowledge of students' motor skills

Possibilities for storing, processing, graphing and analyzing the data obtained;

Interpretation and extraction of preliminary research conclusions;

Participants

are 7th-grade pupils, aged between 13 and 15, 30 participants are from Middle School no. 280, Sector 5 in Bucharest, and 30 students are from the American International School of Bucharest.

The system of measurements and tests used:

- Anthropometric measurements
- Fitness tests
- Assessment of cognitive skills
- Student, parent and teacher surveys

Through this research, we aimed to capture and analyze students' and parents' opinions on the importance of physical education, their involvement in the lesson, the characteristics of the proposed program, and to find suggestions on how to improve it.

Preliminary research and data interpretation allowed us to discover the following:

The parents from the two schools consider physical education important for the physical, mental development of children, contributing to the development of social relations, acclimatization with competition and, last but not least, successful participation in all activities even if they lose or win.

Teachers expressed their intention to increase the number of hours allocated to this subject, to use strategies to motivate and involve students, introduce new activities and to have the freedom to adapt the curriculum.

There are small differences in the students' suggestions between the two groups. We can say that from the national evaluation of physical education there was evidence that there were differences between the two groups, but there were also items of evidence where there were no recorded differences.

Based on these conclusions, we can assert that the assumptions have been validated and the tests and questionnaires contained in this research are appropriate to experiment with the internationally-used strategic games in the physical education lesson, and to come up with concrete means applicable in practice.

Part III represents the experimental research on the implementation of strategic games used internationally to improve the Middle school physical education lesson.

Background

The internationally-employed strategic game used as a means of driving the optimization of the physical education lesson at a Middle School level.

The formative valences of physical education are not only limited to the fitness aspect, they are also outlined by cognitive coordinates; therefore, a more

diversified and complex involvement develops thinking, emotions and results in balanced, improved and responsible behavior.

Being aware that a possible legislative change in terms of increasing the number of physical education classes in Romania is unlikely, positive effects on pupils can be achieved through increased efficiency of teaching methods and the active and affective participation of students.

Objectives

Introducing a new, alternative way for training pupils with motor and psychomotor and psychosocial valences.

Applying within the education system an innovative way of approaching the units of learning at a middle school level;

Programming and planning the training through strategic games and observing the requirements of the Romanian educational system;

Observing and recording the pupils' and parents' attitude towards strategic play.

Hypotheses

Starting from the aforementioned premise, we have established the following hypotheses of the ameliorative research carried out:

Diversifying the teaching approach through the implementation of internationally-used strategic games increases the interest of participating students in practicing conscious and active physical exercise.

The implementation of internationally-used strategic games as a means of training in the physical education lesson influences its quality through the relationship between the analytical reasoning and the behavior of the participating students.

Student and parent awareness of the beneficial role of internationally-used strategic games leads to a positive attitude towards the physical education discipline.

Tasks

Identifying subjects and schools willing to participate in the proposed experiment;

Calendar Schedule of New Learning Units for the Experiment Group

Operationalization of physical education lessons;

Integration of internationally-used strategic games within the training content;

Applying the proposed experimental program;

Initial and final evaluation on the two control and experiment groups;

Testing subjects for detachment of aspects of interest that will allow the evaluation of the proposed experimental program

Storing, processing and analyzing data;

Interpreting and extracting the findings of experimental research;

Research organization

The research started in September 2017 - June 2018, with the agreement of the directors of each school involved in the psycho-pedagogic intervention, establishing by mutual agreement the period of application of the physical tests and cognitive abilities, as well as the period of application of the questionnaires.

Participants. The participants of this research are 7th-grade students, aged 13-15. Experimental group - participants from 2 classes from Middle School no. 307, Sector 2 in Bucharest, - 60 participants

Control group - participants from a class from the Middle School no.66, Sector 2, Bucharest, 29 subjects, as well as students from the 7th grade of the Middle School no.82, Sector 3, 31 subjects.

The experimental group used the internationally-used strategic games as the main means of achieving the objectives of physical education. All of these games were based on teamwork and the search for the best strategic solutions to meet the goals that either have been set by the researcher or by students in the discussions.

The conditions in which the evaluation is made at a synthetic level, when the player has to participate in solving the overall problems at the level of the game, all capitalize on the specific components of each strategic game through which the research has been pursued.

The evaluation was conducted at the level of performance during the game but also in the theoretical knowledge through different tests. The final grade was also considered including participation and involvement during lessons. These evaluations are based on criteria and related rubrics that were presented to the students at the beginning of the learning units.

Conclusions of preliminary research

Ameliorative experimental research highlighted the effectiveness of the suggested and used tools in the lesson, and the results confirmed the established assumptions. There is a significant difference in the results of the control group and experimental group in the post-test, the experimental group revealing an improvement in motor skills as well as cognitive abilities compared to the control group. The additional involvement in physical activity outside the physical education lessons of participants from the experimental group, there being a significant correlation between the extent to which the physical education time is important in the pupil's schedule and the extent to which students dedicate time to physical education outside of physical education lessons ($r = .30, p < .001$).

There were significant differences between the control group and the experimental group as to the extent to which pupils liked the physical education class time more during the post-test, the experimental group reporting that they enjoyed the sporting time to a greater extent, confirming the validity of

hypothesis No.1 reporting that they considered the sporting time to be more important after the psycho-pedagogical intervention, with more involvement compared to the control group. What points out and highlights the validity of the first hypothesis is the result of a positive attitude, a higher involvement, as well as an active and affective participation of the experimental group compared to the control.

The second hypothesis was validated in terms of cognitive ability - analytical reasoning, the experimental group having obtained better results at the end of the experiment. The results of the intervention using a wide range of strategic games of international level show that the participants from the experimental group manifested more involvement and participation in the activities carried out. The games chosen for the experimental study have emphasized tactics, as well as collaboration and fair play; the participants were not disadvantaged, even if they did not have a high level of skills and motor skills.

The third hypothesis was validated with the help of the questionnaire by which students and parents in the experimental group asserted and appreciated that physical education time is effective in developing skills compared to pupils and parents in the control group. Arguments supporting the hypothesis are recorded and highlighted by the students and parents of the participants who have positively appreciated the physical education lesson, maintaining a higher level of involvement, considering that physical education classes are effective and absolutely necessary in developing the interest in sport ($p < .001$) and a healthy life, particularly appreciating the diversity of lessons by implementing strategic games in lesson themes. (Sport time rating with effect size ($p < .001$)).

At the end of the psycho-pedagogical intervention we can highlight the following:

The strategic games used internationally as a means of action proposed by us are activities that are located in areas of intersection between the physical, psychic and social realms. They have formative effects such as: team spirit, cooperation, the need to become sociable, civilized behavior, fair play etc;

We believe that a special result, highlighted by an active and conscious participation, will have a stimulating, invigorating, positive effect on the participant, will have another physical but also psychic tonus, more confidence in personal strength and a superior motivation to face problems, monotony and daily stress;

This experiment aimed to create an educational environment that not only contributes to the motor development of the pupils but also to the development of cognitive, emotional and volitional processes in order to prepare them for social life.

We believe that this research on optimizing the physical education lesson by introducing strategic games used internationally into middle school education is necessary and important. We can say that after the guided psycho-pedagogical intervention, the experimental group has improved its functional and psycho-social behavioral results.

Elements of novelty and originality

Student-centered constructivist teaching involves the inclusion of technology during classes. Once the technology was implemented within physical education classes by presenting the electronic information material (QR-code) and the laptop presentation of the games to be developed, there was a positive interest from the pupils.

Students consider that the activities and games based on cooperation, communication and strategy implemented in the physical education class helped them to work in team, to respect their teammates and to express their opinions. At the same time, these activities developed the students' logical thinking and their decision-making speed during the game.

The existence of evaluation rubrics that are presented at the beginning of the learning unit will help students understand the requirements and even evaluate themselves objectively. As noted in the open questionnaire answers, some of the pupils do not want to be scored only on the basis of physical examination results. By applying the situational tests in the games practiced, the development of the capacity for the synthesis and applicability of the information was attempted.

Our concern was for students to understand the importance of fairness, honesty and integrity during games precisely because they are creating conflicting situations that they have to deal with.

That is why the teacher has to set goals that require cooperation among students, use strategies to increase students' decision-making power, and help them improve their ability to learn to win or lose through fair-play. What is important is that, when the teacher gives feedback, it only refers to personal performance and not as compared to others.