

ABSTRACT OF THE DOCTORAL THESIS

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TITLE OF THE THESIS: IMPROVEMENT OF STUDENTS' BIOMOTRIC POTENTIAL BY INTRODUCING DANCING, TAE-BO AND PILATES WITHIN THE CURRICULUM ON SCHOOL'S DECISION

Key words: *curriculum, physical education, students, motric activities.*

Background

Students's concern to practice new exciting forms of physical exercise requires a reconsideration of didactic content and means of physical education and sport in order to structure them so that both lead to the achievement of the objectives (harmonious physical development, health optimization, etc.) and the increase of interest of those concerned (students) for practicing physical exercise in an organized form initially and then independently, depending on the possibilities of leisure, on the objectives and on the satisfaction.

Social practice has shown that the young generation has a greater appetite for the new forms of practicing physical exercises (fitness, aerobics, tae bo, pilates, skateboard, modern dance, ballroom dance, etc.) so that it becomes important that school gives up imobillity and unattractive educational offers and meets the students' requirements, providing new content in an organized framework.

The need of a good physical condition in everyday life, both aesthetic and in terms of health, are important issues for the young generation. The "traditional" physical education is not attractive anymore, the young generation redirects toward new physical activities promoted by the society, many of them proposed by unspecialized people whose interest is purely material.

Our intention is not to suggest giving up what currently applies to the curriculum in schools in the field of physical education and sport, but to include, except the existing content and verified as efficient, a series of alternative motric activities within the curriculum at the school's decision.

The alternative motric activities that we propose depending on the subjects' preferences fall within the teenagers' interest which is proved by the current trends in

the Romanian society and by what is happening in Europe and worldwide in physical education and sport.

Including these motric activities within the school curriculum at the school's decision will contribute to achieve the objectives of physical education and sport, both by their attractiveness and efficiency and by their impact on the young generation from the perspective of an independent practice of physical exercise.

We believe that these motric activities will improve students' biomotric potential by their affective and volitional involvement.

The purpose of research

The purpose of the experimental pedagogical investigations is to broaden the educational offer for the physical education in the school curriculum at the school's decision for secondary school pupils by introducing new motric activities taking into consideration both pupils and teachers' options based on the consideration that the first have sufficient motric and sport experience in order to judge and the others have a specialized training.

The research premises

The objectives and tasks set for the experimental approach are:

a) establishing the current and future guidelines and trends of physical education according to which we have established the following tasks:

- identifying and analyzing the specialized and interdisciplinary literature;
- studying and researching motric and effort capacity of High School students;
- knowing high school students' options concerning the thematic content of physical education lessons within the curriculum at the school's decision.

b) testing of some action systems in order to increase motric and effort capacity and to train future motric experiences required for practicing independent physical exercise after finishing high school.

Regarding this objective the following tasks were proposed:

- highlighting the effectiveness of physical activity such as modern dance, tae-bo and Pilates and developing attractive programs in order to achieve positive effects on increasing the students' biomotric capacity.

- identifying optimal methods of teaching these programs based on general and specific requirements, activity content, instructional strategies and assessment tools of educational and instructive process.

Research Hypotheses

1. Developing and implementing some study programs having the same structure as the present curriculum within the compulsory curriculum for each of the proposed teaching content such as modern dance, tae bo and pilates will positively influence the development of motor and effort capacity of high school girls.

2. Implementation of some specific motric activities recently relatively structured, such as modern dance, tae bo and pilates preferred by female students

from high school will lead to the improvement of motric capacity so that they will independently increase the motric memory making the female students to independently practice these forms of movement or another.

Methods

The experiment was organized and held during two school years (2011-2012 and 2012-2013) and was conducted over three stages as follows:

- Phase I (Semester II of the 2011-2012 school year) - setting the initial level of effort capacity and motric capacity.
- Phase II (semesters I and II of the 2012-2013 school year) - implementing developed training programs.
- Stage III (II semester of the school year 201-2013) - final testing and emphasizing the effectiveness of applying the proposed training programs.

The research included a sample composed of 80 female subjects from high school (ninth grade), with no health problems, who have agreed to participate in this experiment. Three experimental groups were established (one for each motric activity proposed to be approached in the curriculum at the school's decision) and a control group (consisting of 20 students of the Theological High School), who didn't take part in the pshysical education classes within CDS.

The research methods used are:

- Observation method
- Experimental method
- Test Method
- Statistical and mathematical methods for data processing
- Graphical and tabular method

Results

For the selected schoolgirls the representation of motric capacity value is given by the averages of the results recorded in the motric tests:

1. *Bends - stretching of the arms from seated forward.* The average of the investigated sample (n = 80 students) is 14.65 executions, being representative of the sample. The standard deviation is $S = \pm 5.07$. The coefficient of variation by its value (CV = 35%) shows a small homogeneity of the tested population.

2. *Lying trunk raising.* The average of the investigated sample (n = 80 students) is 19.36 executions being representative for this sample. The standard deviation is $S = \pm 3.25$. The coefficient of variation by its value (CV = 17%) indicates a homogeneous mean of the tested population.

3. *The long jump.* The average of the investigated sample (n = 80 students) is 1.37 m being representative for the sample. The standard deviation is $S = \pm 0.13$. The coefficient of variation by its value (CV = 9%) indicates a small result comparing to the average, so a high homogeneity of the tested population.

4. *Anterior-posterior flexion*. The average of the investigated sample (n = 80 students) is 1.71 cm being representative for the sample. The standard deviation is $S = \pm 6.72$. The coefficient of variation by its value (CV = 72%) shows a small homogeneity of the tested population.

5. *Tapping*. The average of the investigated sample (n = 80 students) is 7.44 sec which is representative for the sample. The standard deviation is $S = \pm 0.86$. The coefficient of variation by its value (CV = 11%) indicates a medium homogeneity of the tested population.

6. *Spacecraft*. The average of the investigated sample (n = 80 students) is 8.33 sec being representative for the sample. The standard deviation is $S = \pm 0.62$. The coefficient of variation by its value (CV = 7%) indicates a small result comparing to the average, so a high homogeneity of the tested population.

7. *Matorin*. The average of the investigated sample (n = 80 students) is 316.56 degrees, being representative for the sample. The standard deviation is $S = \pm 35.07$. The coefficient of variation by its value (CV = 11%) indicates a homogeneous mean of the tested population.

For the schoolgirls selected for the experiment the representation of the effort capacity value is given by the averages of the test results achieved at Ruffier.

1. *Ruffier Test*. The averages of the index of the tests were: Gh.Magheru High School -7.82, Theological High School -8.24, V.Madgearu High School -7.98, T.Vladimirescu High School - 7.44 which are representative for this test. The standard deviations for the four schools were: $S = \pm 2.65$; $S = \pm 2.45$; $S = \pm 2.32$; $S = \pm 2.30$. The coefficients of variation by the obtained values (CV = 34%, CV = 30%, CV = 29%, CV = 31%) shows a small homogeneity of the tested population.

As a result of the training programs implementation developed by us, a significant increase in schoolgirls' performance can be noticed especially during the control tests which has direct connection with the specific content of motric activities proposed to be approached in the school curriculum. Therefore, it is necessary to say that Gh.Magheru High School's female students who practiced modern dance, recorded improved performance in the Tapping test and Matorin Test, the female students from V.Madgearu High School who practiced Pilates, recorded improved performance in anterior-posterior flexion tests and the female students from T.Vladimirescu High School, who practiced tae-bo, recorded improved performance in seated forward bending and stretching arms, seated trunk lift tests, long jump and Matorin test.

Also, there is a significant increase in all three experimental groups compared to the control group, where the progress, if any, was insignificant.

In conclusion, we consider that after experimenting the proposed training programs both schoolgirls' motric capacity and quality of motric memory improved by the affective and volitional participation in physical education classes in the

context of approaching preferred motric activities in the curriculum at the school's decision.

Conclusions of the experiment

1. Our approach has highlighted the need to reconsider the educational offer within the curriculum at the school's decision for the physical education classes for High School students.

2. The investigation conducted by a questionnaire highlights the need to introduce new motric activities within the curriculum at the school's decision, based on students' options and on teachers' preferences.

3. Teachers' training in the sport field influences their choices and students' options which promotes sporting traditions in different schools.

4. Application of some programs with specialized content that were based on students' choices and teachers' preferences led to an increased efficiency and attractiveness of the educational process, contributing directly to:

- Achieving the objectives specific to the female students of the IXth grade;
- Acquiring the basics of different sports;
- Increasing socialization opportunities for students based on skills, emotions and common interests of practicing physical exercises.

5. The programs selected for the three physical activities increased students' performance, thus rejecting the null hypothesis and confirming that the "implementation of the proposed programs will have a direct effect on motric and effort capacity of High School female students."

6. For all the applied control tests, the differences between the averages of the two tests were significant (both from each experimental group separately and compared to the control group), which shows that the programs used in the training process had a high efficiency; the null hypothesis was rejected, the research hypotheses being confirmed.

7. At the final testing a significant improvement of motric performance, particularly in the Matorin test could be noticed (14, 25⁰ in addition to the initial test) in the experimental group that performed modern dance in the anterior-posterior flexion (3.2 cm in addition to the initial testing, meaning about 66%) in the experimental group who practiced Pilates and during the force tests (seated forward bending and stretching arms - 2.1 executions, trunk lifting – 2,3 executions) in the experimental group who practiced Tae-bo.

8. The application of Student test showed the significance of averages calculated from all the tests, in both tests - initial and final (see Appendices 18-20).

9. After assessing the effort capacity by Ruffier test, an improvement in all groups was noticed, with a plus for Tae-bo experimental group (from 7.45 Ti to 5.23 Tf). This improvement in effort capacity confirms the hypothesis that the introduction

of some programs containing specialized training produces a better adaptation of the body to effort. (see Annex 24).

10. The assessment of high school female students from technical point of view showed significant increases in all the three experimental groups (see Appendices 28-30). The highest marks were obtained in the experimental group who practiced Pilates, these exercises being apparently the most accessible from technical point of view (see Annex 31).

11. The Annual plans prepared for the IXth grade, based on the current requirements provides the optimal methodology for carrying out the educational process in relation with the students' interests and skills in curricular and extra-curricular context.

General conclusions

1. Adapting the curriculum taking into consideration the school autonomy, provides each school the opportunity to exploit their potential, ensuring the optimal context for achieving the physical education objectives.

2. By implementing the three new physical activities (modern dance, tae-bo, pilates) preferred both by students and teachers within the curriculum at the school's decision, will provide an active and conscious participation of students, whose interest is motivated by their options.

3. The approach of some motric activities preferred by students in an organized context, will certainly support in the future their independent practice during the leisure time.

4. The chosen motric activities will ensure, through their content, an increased motric density in lessons

5. Teaching the forms of practising the physical exercise within the curriculum at the school's decision must be done taking into consideration the students' choices, especially in High Schools, where their interest is based on a fair assessment of their abilities and skills.

6. The entire educational process progresses in its efficiency, if the educational offer meets the individual training and development preferences.

Summary of the Personal Contributions

Given the modern pedagogy recommendations on reconsidering the content of educational offer in agreement with students' options, especially within the school curriculum, the topic of this paper proposes the approach of three sports disciplines, recently structured in their action systems and experiences their degree of applications in High School for female students.

We believe our choice as original, which takes into account female students' preferences influenced in their options by the meditzation of these forms of exercise, frequently approached in private maintenance and body shaping centers particular

where the female teenagers goes even if some of them have a medical certificate for the mandatory physical education classes.

As personal contributions, we believe that:

▶ from theoretically point of view, the present paper outstands the particular aspects that define the content and forms of organization of physical education classes included in the curriculum at the school's decision;

▶ developing the content of training programs for the three sports disciplines preferred by teachers and High School female students (Tae-Bo, Dance and Pilates), is a personal approach that took into account the gradual approach of learning and the initial level of preparation of the subjects included in the research.

▶ based on the current structure of the school physical education programs we considered necessary (as for these classes each teacher must develop his own programs) to develop programs for the three motric activities, activities planning and programming documents whose content must be useful to other specialists in the field, given that their application in our research has positively influenced subjects' motric and functional capacity, all these claiming their effectiveness.

Developping curricula, structuring original training content for sports disciplines that are not included in the current curriculum and making complex interdisciplinary investigations on their effective influence on the schoolgirls' motric capacity, we believe that we have made a practical contribution which is implemented, useful and original.