

CONTRIBUTION OF STEP-BY-STEP PEDAGOGY TO INCREASING MOTIVATION FOR PHYSICAL EDUCATION AND SPORTS

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Abstract. *In recent years, there has been a growing interest of education specialists in new teaching-learning methods that contribute to raising the level of motivation and interest among students. A current trend refers to the need for the teacher to learn new teaching methods and how to apply them in their activities with students, but also to acquire teaching skills by using these methods. One of these methods is Step-by-Step. Its implementation in the teaching-learning process for the Physical Education and Sports subject is an absolute novelty in Romania. In our opinion, the implementation of some aspects specific to the Step-by-Step method will lead to stimulating student motivation for the Physical Education and Sports lesson by their active and creative participation in their own training. This paper aims to identify differences arising in the group of students after applying the Step-by-Step and traditional methods. We have assumed that there are differences after implementing these methods. For data collection, the Attitude and Satisfaction Questionnaire survey was the main method applied to the investigated group, and for data processing, primary statistics was used. The study results, in terms of good communication between students and between students and teachers, the use of scientific language, the prevention of negative attitudes, offer new solutions to the traditional system, but also useful information on the implementation of the Step-by-Step method. The findings reveal new perspectives in approaching the Physical Education and Sports lesson to stimulate student motivation through student-centred methods.*

Keywords: *Step-by-Step, motivation, Physical Education and Sports, questionnaire.*

Introduction

Nowadays, lack of physical activity among students is a major problem despite the multiple clear benefits of an active lifestyle. It is well known that Physical Education and Sports play an important role in improving health and well-being by creating positive attitudes towards physical exercise and leisure-time physical activities. But all of this has a positive impact only if students are motivated to actively participate in Physical Education and Sports lessons. Most often, student motivation to participate in leisure-time physical activities is closely related to their learning experiences during lessons.

In recent years, there has been a decline in the biomotor potential of the school population, but also a growing lack of interest in the Physical Education and Sports lesson. There are more and more situations where students get medical exemptions from physical activities and a significant increase in absenteeism from Physical Education and Sports classes is also noticed. We consider this may also be due to the student's lack of motivation to attend these classes. That is why specialists should find new methods and means able to motivate and encourage students to participate in their own development.

An innovative method is the Step-by-Step alternative pedagogy that provides teachers with a new perspective to approach lessons and, in our opinion, can be easily adapted to the specificity of the Physical Education and Sports lesson. This pedagogy focuses on child-centred education, and teaching activities are oriented towards each one's needs and interests. Learning is

organized into workshops. All activities included in this alternative take into account the student's interest, the activities in which they participate with curiosity and pleasure, along with their desire to discover new things.

Given the above, concurrently with the low number of research studies on increasing student motivation through alternative methods in Romanian schools in general and in the Physical Education and Sports lesson in particular, we aim to open new perspectives to approach the teaching process for this discipline.

Problem statement

School Physical Education and Sports represent a key element in encouraging student participation in regular physical activities (Bagøien, Halvari, & Nesheim, 2010). Students who feel motivated for Physical Education and Sports classes are more likely to also participate in other motor activities during their free time (Taylor et al., 2010). The motivated student has the inner strength to learn, discover and capitalise on capabilities, improve academic performance and adapt to the demands of the school context (Ferreira, Cardoso, & Abrantes, 2011). Therefore, it is important for the teacher to examine student motivation to participate in Physical Education and Sports classes.

In general, motivation is the engine of guidance, control and persistence of human behaviour (Tohidi & Tarokh, 2006).

There are numerous theories of motivation. But, despite their multitude, one should keep in mind that no theory can generally be true to explain how to act in various situations to which we are exposed. Motivation is a set of subjective experiences that can be either intrinsic or extrinsic, through which we can realise a certain direction or goal-oriented behaviour, all of this with different consequences on learning (Standage, Duda, & Ntoumanis, 2005).

Intrinsic motivation refers to the engagement in activities for the feelings of pleasure and satisfaction deriving directly from participation. It involves an inherent interest, a sense of volition which is beyond any external reward or constraint.

Extrinsic motivation comes from outside the person. Rewards, such as money, grades/ratings or threat of punishment, are common external motives presented in the literature.

Students who are more self-determined during Physical Education and Sports classes and actively participate in lessons are more likely to participate in other motor activities and be more active during their free time in the future (Hagger et al., 2003; Ntoumanis, 2001, 2005; Standage, Duda, & Ntoumanis, 2003).

Some studies have shown that, from primary school to higher education, better outcomes (creativity, performance) can be achieved through intrinsic motivation (Hardre & Reeve, 2003) rather than extrinsic motivation (Otis, Grouzet, & Pelletier, 2005), but a decline in intrinsic motivation is noted as students advance to upper grades. It has been demonstrated that intrinsic motivation for education progressively decreases from the 3rd to the 9th grade, although a precise cause cannot be established. Also, it has been proven that contextualising the learning material increases intrinsic motivation of younger students (Tohidi, 2011).

Williams and Williams (2011) have listed the five key components that influence student motivation: student, teacher, content, method/ process and environment. For example, the student must have access to information, skills and interests. The teacher must be well trained, must focus and monitor the instructive-educational process and must be dedicated and receptive to the needs of students. The content must be correct, prompt, stimulating and relevant to the

current and future needs of the student. The method or process must be innovating, encouraging, interesting and beneficial and must provide instruments that can be applied to the student's real life. The environment must be accessible, safe and positive.

Another aspect that can influence student motivation to participate in Physical Educations and Sports classes is social affiliation. Social acceptance and the feeling of school belongingness are important throughout life. Osterman (2000) has suggested that a sense of belonging to a community, such as a school, is a basic psychological need.

Students' attitudes towards Physical Education and Sports classes can be influenced by their experiences during these lessons. Success or failure could influence students' attitudes towards Physical Education and Sports classes. Students with positive experiences in physical activities may want to go on participating in such activities. Instead, students who experience failure in an activity might not enjoy physical education (Subramaniam & Silverman, 2002). If the final goal of Physical Education and Sports is to promote a physically active lifestyle, it is important for students to have a pleasant experience during the class.

Callea et al. (2008) have found that the interest and participation in Physical Education and Sports classes are positively related to the teaching methods used primary school teachers.

A method that could increase student motivation is the Step-by-Step alternative pedagogy, which is a real success in private schools, but also public schools, being used in all subjects, except for Physical Education and Sports classes. We consider an appropriate adaptation of the Step-by-Step alternative pedagogy to the Physical Education and Sports lesson can lead to an increase in student motivation during classes by their active and creative participation in their own training.

This paper *aims* to highlight the induced changes in the attitude and level of satisfaction of the students in the study group, after applying Step-by-Step methods and traditional teaching Physical Education and Sports.

Methodology

Participants

A total of 127 4th graders participated in the research - classrooms 4th A and B, and classrooms 4th C and E.

Instruments

The methods used to conduct this study were the questionnaire (survey) and statistics (qualitative and quantitative analysis). To obtain relevant information on students' attitudes towards Physical Education and Sports classes, but also on their level of satisfaction with this school subject, we applied the Attitude and Satisfaction Questionnaire (AS) developed by us.

The questionnaire was organized into two parts and had 20 items with closed questions:

1. The first part referred to students' attitudes towards Physical Education and Sports classes and included 6 items: Q1. I am pleased to participate in Physical Education and Sports classes. Q2. I agree to observe the regulations of Physical Education and Sports classes. Q3. I was on time for classes. Q4. I helped the teacher to perform tasks during the lesson. Q5. I strictly

followed the teacher's indications during classes. Q6. I got involved in performing the proposed tasks.

2. The second part referred to the level of satisfaction with Physical Education and Sports classes and included 14 items: Q7. There is continuity between what we learn at school and everyday life. Q8. Classes have helped me build a healthy lifestyle. Q9. Classes have helped me prevent negative attitudes towards myself and other people. Q10. Classes have helped me express opinions on some topics through appropriate scientific language. Q11. Communication between students during classes was very good. Q12. The teacher-student communication during classes was very good. Q13. I was often given additional explanation when I did not understand the content being taught during the lesson. Q14. The teacher listened to students' questions and helped them where appropriate. Q15. I liked the teaching style based on new and varied teaching methods. Q16. The teacher used age-appropriate learning activities and materials during classes. Q17. Marginalised children were integrated into activities. Q18. I was encouraged to make choices and take responsibility. Q19. The teacher's attitude and way of behaving were appropriate to our age. Q20. Evaluation was done correctly during classes.

By applying the Attitude and Satisfaction Questionnaire we can determine student motivation to participate in Physical Education and Sports classes. Students have as response options the format of a 5-point Likert scale: to a large extent; to a moderate extent; to some extent; to a small extent; not at all.

Procedure

The questionnaire was applied to all 127 surveyed students - classrooms 4th A and B (the Step-by-Step teaching method), and classrooms 4th C and E (the traditional teaching method). We investigated whether there were differences between the experiment group (EG) and the control group (CG) after applying the Step-by-Step and traditional methods, in terms of attitude and level of satisfaction.

This questionnaire was administered in the last week of school, between 11 and 15 June 2018.

Results

Starting from the idea of increasing student motivation by changing the teaching methods through the implementation of the Step-by-Step pedagogy in Physical Education and Sports lessons, we present below the results of our research.

According to the responses received (Figure 1 – Q1), students are pleased to participate in Physical Education and Sports classes, 85.07% of respondents in the experiment group and 73.33% in the control group choosing the option "to a large extent".

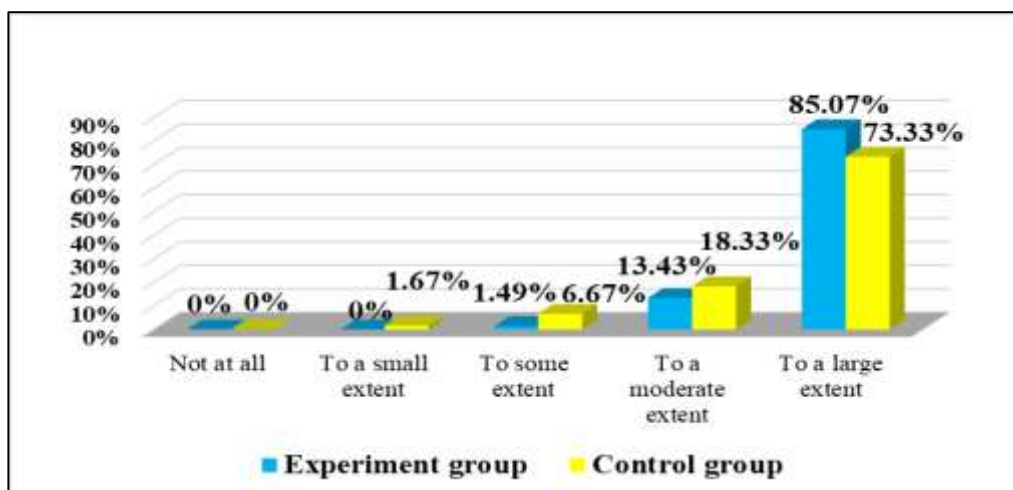


Figure 1. Q1 – Participation in physical education and sports classes

Observing the regulations of Physical Education and Sports classes (Table 1 – Q2) was an item to which 82.09% of students in the experiment group and 66.67% in the control group gave the response “to a large extent”.

Questions 3, 4 and 5 have high percentages for the option “to a large extent”, which indicates that students are on time for classes, help the teacher to perform tasks and follow the teacher’s indications during Physical Education and Sports classes (Table 1 – Q3, Q4, Q5).

In terms of lifestyle, both groups believe that Physical Education and Sports classes have helped them build a healthy lifestyle, the option “to a large extent” being expressed by 89.55% of respondents in the experiment group and 68.33 in the control group (Table 1 – Q8).

Table 1. Items referring to students’ attitudes towards Physical Education and Sports classes

| Scale | Q2. Observing regulations | | Q3. Being on time for classes | | Q4. Providing help to perform tasks | | Q5. Following the teacher’s indications | | Q8. Building a healthy lifestyle | |
|----------------------|---------------------------|--------|-------------------------------|--------|-------------------------------------|-------|---|--------|----------------------------------|--------|
| | EG | CG | EG | CG | EG | CG | EG | CG | EG | CG |
| To a large extent | 82.09% | 66.67% | 82.65% | 76.67% | 75.67% | 70% | 78.67% | 73.33% | 89.55% | 68.33% |
| To a moderate extent | 14.93% | 23.33% | 12.87% | 18.33% | 15.37% | 20% | 18.34% | 15% | 7.46% | 23.33% |
| To some extent | 2.98% | 5% | 4.48% | 3.33% | 5.97% | 6.67% | 2.99% | 6.67% | 2.99% | 6.67% |
| To a small extent | 0 | 1.67% | 0% | 1.67% | 2.99% | 0% | 0% | 3.33% | 0% | 1.67% |
| Not at all | 0 | 3.33% | 0% | 0% | 0% | 3.33% | 0% | 1.67% | 0% | 0% |

Student motivation to participate in Physical Education and Sports classes is highlighted by their involvement in performing the proposed tasks (Figure 2a). Therefore, 86.57% of respondents in the experiment group and 76.67% in the control group say that they get involved in performing the proposed tasks, choosing the option “to a large extent”.

Out of the 127 respondents, 88.06% of students in the experiment group and 43.34% in the control group believe that there is continuity between what they learn at school and everyday life, their option being “to a large extent” (Figure 2b).

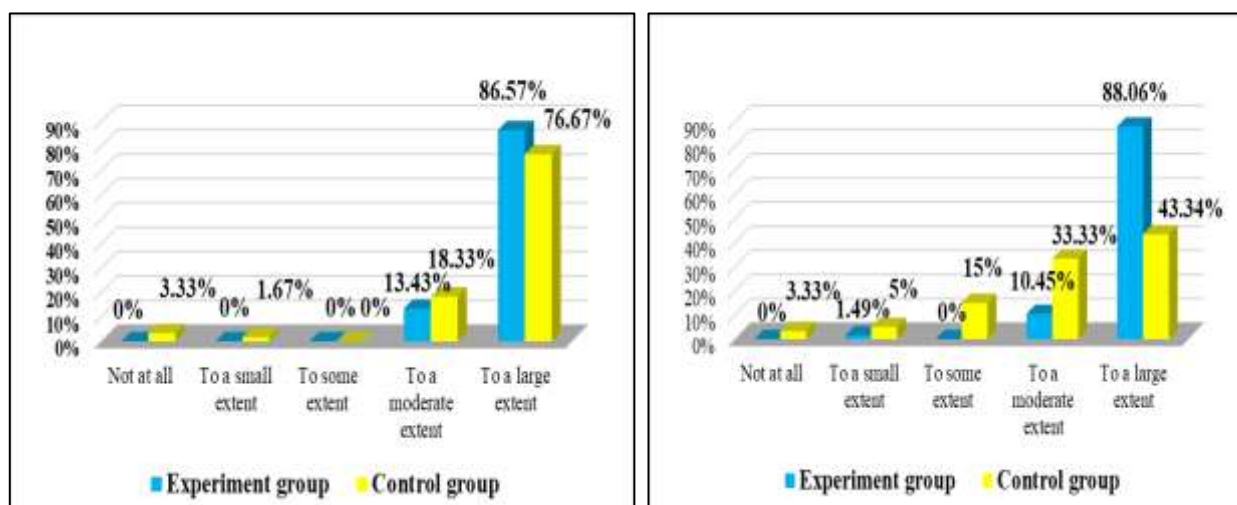


Figure 2. (a) Q6 – Involvement in performing tasks; (b) Q7 – There is continuity between what students learn at school and everyday life

A negative attitude towards self may be a reason for which students refuse to participate in Physical Education and Sports classes (Table 2 – Q9). The 79.10% of responses from the experiment group and 60% from the control group reflecting the option “to a large extent” show that Physical Education and Sports classes have helped students prevent negative attitudes towards themselves and other people, which can be an advantage for the motivation to participate in Physical Education and Sports classes.

Students believe that the use of workshops in the Physical Education and Sports lesson can facilitate the expression of opinions through appropriate scientific language (76.12% vs. 56.67%) and can also lead to better communication between them (77.61% vs. 48.33%), high percentages being recorded for the option “to a large extent” (Table 2 – Q10, Q11).

Also, the teacher-student relationship can help increase student motivation to participate in Physical Education and Sports classes (Table 2 – Q12). Both groups confirm very good teacher-student communication, 92.54% and 83.33% of students, respectively, choosing the option “to a large extent”.

Out of the 127 respondents, 94.03% of students in the experiment group and 86.66% in the control group reported that they were given additional explanation when they did not understand the content being taught during the lesson, so they chose the option “to a large extent” (Table 2 – Q13).

Table 2. Items referring to the level of satisfaction with PE and Sports classes – Q9-Q13

| Scale | Q9. Preventing negative attitudes | | Q10. Expressing opinions through scientific language | | Q11. Student-student communication | | Q12. Teacher-student communication | | Q13. Additional explanation | |
|-------|-----------------------------------|----|--|----|------------------------------------|----|------------------------------------|----|-----------------------------|----|
| | EG | CG | EG | CG | EG | CG | EG | CG | EG | CG |

| | | | | | | | | | | |
|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| To a large extent | 79.10% | 60% | 76.12% | 56.67% | 77.61% | 48.33% | 92.54% | 83.33% | 94.03% | 86.66% |
| To a moderate extent | 20.90% | 28.34% | 17.91% | 33.33% | 20.90% | 38.34% | 7.46% | 16.67% | 5.97% | 11.67% |
| To some extent | 0% | 5% | 4.48% | 10% | 1.49% | 13.33% | 0% | 0% | 0% | 0% |
| To a small extent | 0% | 3.33% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 1.67% |
| Not at all | 0% | 3.33% | 1.49% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Questions 14, 15, 16 and 18 have high percentages for the option “to a large extent”, which indicates that students believe that the teacher has been receptive to their needs, used age-appropriate teaching methods, learning activities and materials and encouraged them to make choices during classes (Table 3 – Q14, Q15, Q16, Q18).

Marginalised children during Physical Education and Sports classes may be demotivated, which is why they need to be integrated. Within Physical Education and Sports classes, in the case of the experiment group, children were integrated into activities, and this was confirmed by the options “to a large extent” and “to a moderate extent” (77.61% vs. 19.40% of respondents). As regards the control group, increased values were also recorded for the options “to a large extent” and “to a moderate extent” (38.33% vs. 41.67% of respondents) (Table 3 – Q17).

Table 3. Items referring to the level of satisfaction with PE and Sports classes – Q14-Q18

| Scale | Q14. Teacher’s receptivity to the needs of students | | Q15. Using new teaching methods | | Q16. Using appropriate activities and materials | | Q17. Integrating children into activities | | Q18. Encouraging children to make choices and take responsibility | |
|----------------------|---|--------|---------------------------------|--------|---|--------|---|--------|---|--------|
| | EG | CG | EG | CG | EG | CG | EG | CG | EG | CG |
| To a large extent | 91.04% | 86.67% | 91.87% | 73.33% | 94.03% | 83.33% | 77.61% | 38.33% | 85.07% | 68.33% |
| To a moderate extent | 8.96% | 13.33% | 8.13% | 20% | 5.97% | 11.67% | 19.40% | 41.67% | 11.94% | 26.67% |
| To some extent | 0% | 0% | 0% | 6.67% | 0% | 5% | 0% | 18.33% | 2.99% | 5% |
| To a small extent | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 1.67% | 0% | 0% |
| Not at all | 0% | 0% | 0% | 0% | 0% | 0% | 2.99% | 0% | 0% | 0% |

The teacher’s attitude and way of behaving are considered by both the experiment and control groups to be appropriate to their age particularities, and this is confirmed by 98.51% of respondents in the experiment group and 91.67% in the control group, who have opted for “to a large extent” (Figure 3a).

As regards evaluation, a child with lower performance might not want to participate in Physical Education and Sports classes. Thus, 100% of respondents in the experiment group and 80% in the control group said that evaluation was done correctly during classes, the item “to a

large extent” being their option (Figure 3b). However, 16.67% of respondents in the control group stated that evaluation was done correctly “to a moderate extent”, and 3.33% of respondents, “to some extent”.

Therefore, lack of grades or ratings can increase student motivation to participate in Physical Education and Sports classes.

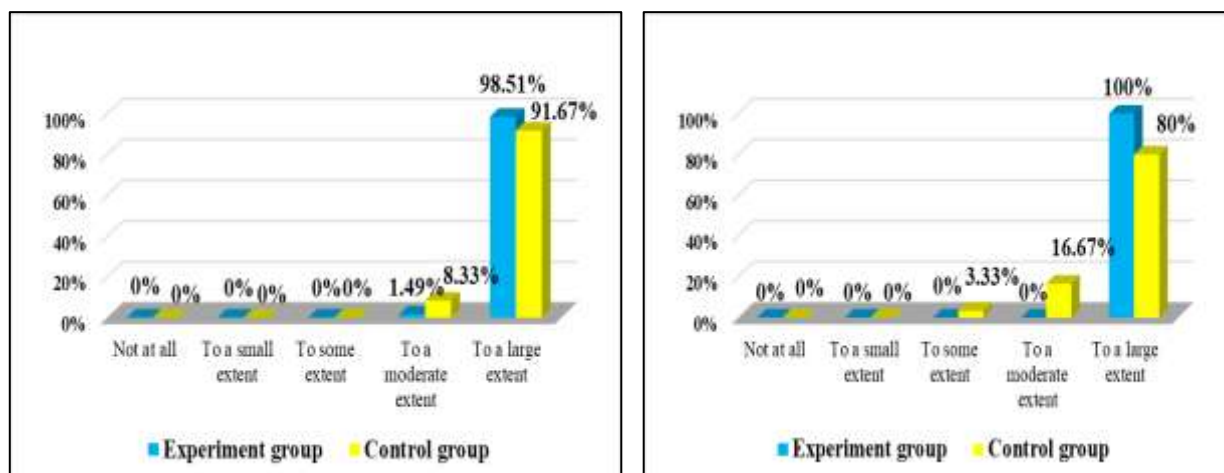


Figure 3. (a) Q19 – The teacher’s attitude and way of behaving were age-appropriate; (b) Q20 – Evaluation was correctly done during classes

Conclusion

Motivation should be regarded as a very important factor in the learning process. The motivated student has the inner strength to learn, discover and capitalise on capabilities, improve academic performance and adapt to the demands of the school context.

To increase student motivation, innovative methods should be used to attract children to participate in Physical Education and Sports classes on a regular basis, which is highlighted by the increased scores for the option “to a large extent”, with reference to the methods used by the teacher.

Most often, children with poorer results are excluded from group activities so as not to drag the teams down. Children marginalised during Physical Education and Sports classes may be demotivated, which is why they need to be integrated. Within Physical Education and Sports classes, in the case of the experiment group, whose activity was organized into workshops (a specific method for the Step-by-Step alternative pedagogy), marginalised children were integrated into activities.

Regarding evaluation, a child with lower performance might not want to participate in Physical Education and Sports classes. In the Step-by-Step pedagogy, children do not receive grades or ratings, because learning is not turned into a competition. The roll is replaced by proficiency books where student behaviour is recorded, as well as each one’s progress in gaining knowledge and building skills. There is no student ranking, and nobody is punished for failure, but all receive help to learn better, to progress.

Lack of grades or ratings in Physical Education and Sports lessons was another factor that motivated students to constantly participate in Physical Education and Sports classes.

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Authors' contributions

Both authors have equally contributed to this study and should be considered as main authors.

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