

Questionnaires on Physical Education Class and Use of Fitness Equipment

Iulian ȘERBU¹

Alin LARION²

Laurențiu Gabriel TALAGHIR^{3,*}

¹ “Dunarea de Jos” University of Galati, Romania, serbu_iulian@yahoo.com

² Ovidius University of Constanta, Romania, alinlarion@yahoo.com

³ “Dunarea de Jos” University of Galati, Romania, gtalaghir@ugal.ro

* corresponding author: gtalaghir@ugal.ro

Abstract: *Aim: This research aims to analyze and compare the perspectives of high school teachers and students regarding the physical education class, as well as the impact of the introduction of non-specific equipment on their interest and involvement. Methods: The responses were automatically centralized by Google Forms, then exported and processed using Microsoft Excel. The questionnaire was completed between May 15 and June 15, 2022 by 143 teachers and 1357 high school students in Romania. The questionnaire included 4 demographic questions and 14 questions covering the topic studied. The questions addressed to teachers and students focus on the perception of physical education classes and their perspective on the implementation of new equipment during the physical education lesson. Results: The results of the questionnaire indicate a significant interest on the part of both teachers and students in the new methods and means introduced in physical education classes. According to the data collected, 65% of the interviewed teachers believe that the introduction of modern fitness equipment increases students' interest and involvement during classes. Also, 43.7% of students appreciate that the use of new equipment considerably amplifies their interest in physical education classes. Conclusions: The analysis of the answers obtained from physical education teachers and high school students reveals the consensus on the importance of physical education classes in the harmonious development of students. Both teachers and students believe that one hour a week is insufficient to meet this need. In order to achieve the objectives of the physical education class, it is essential to allocate additional time dedicated to the development of the motor qualities necessary to meet the standards specific to high school age. In addition, the introduction of modern and non-specific equipment during physical education classes can significantly increase the involvement and attractiveness of these activities, thus contributing to a more enjoyable and effective educational experience for students.*

Keywords: *physical education classes, TRX, fitness, questionnaire, physical education teachers.*

How to cite: Șerbu, I., Larion, A., & Talaghir, L.-G. (2024). Questionnaires on physical education class and use of fitness equipment. *Postmodern Openings*, 15(1), 59-72. <https://doi.org/10.18662/po15.1/613>

Introduction

Physical and sports education is part of general education as a form of education with an emphasis on motor activity, being harmoniously integrated with other educational forms – intellectual, aesthetic, technological and professional. This discipline is not limited only to physical exercises but represents a training process oriented towards the development of sport-specific skills, thus facilitating the integration of students in school sports and their active involvement in competitions, organized according to the sports calendar by age categories and educational cycles (Rusu, 2008).

Physical education plays an essential role in children's development, helping to increase physical performance, cultivate discipline and maintain constant activity. Through regular exercise, children improve not only their body posture, but also their confidence in their own strength. In addition, engaging in physical activities gives them the opportunity to learn teamwork and test their decision-making skills (Antoniu 2021).

According to (Nicola & Fărcaș 1993), education is viewed as an intricate social process a continuous, deliberate, systematic, and organized chain of actions. These actions, whether performed by individuals or groups, act on a subject (or object) with the aim of transforming it into an active, creative personality. This transformed personality is expected to be responsive not only to current historical and social conditions but also to future ones, while simultaneously reflecting its unique individual traits. In the specific realm of physical education, this broad conceptualization is actualized through structured lessons. These lessons are carefully planned and delivered by teachers, serving not only to enhance motor skills and physical fitness but also to contribute to the holistic development of the individual.

The physical education class is part of general education, and it is a vital activity for the physical and mental health of the student, but also for the harmonious development and shaping of the character (Șerbu et al., 2023). During the 4 years of high school students are subject to major transformations that take place between 14 to 18 years old. 15% of high school students in Europe are affected by obesity according to the published study (Petrovics et al., 2021). This has increased significantly over the past 30 years. This must be overcome by a greater amount of physical effort.

Maintaining students' optimal health, promoting growth and harmonious physical development, enhancing fundamental motor skills, and developing motor qualities are central objectives of physical education classes. In addition, physical education aims to foster the balanced

development of the student's personality including cognitive, affective, and volitional aspects by instilling the habit of regular physical exercise and cultivating the ability to work and act collectively. However, Hangu (2016) notes, many children are becoming increasingly unmotivated to engage in physical activities, whether due to inadequate facilities or a diminished intrinsic interest.

Positive experiences in school physical education may be transferred to young people's leisure time (also referred to as free time or free living) which may lead to a physically active lifestyle in later life (Shephard & Trudeau, 2000).

Therefore, school physical education has an important role not only in young people's physical and mental health but can ultimately affect public health (Sallis & McKenzie, 1991).

The innovative modern didactic strategies or the usage of helping equipment and materials contribute to increasing the amenity for the practical lessons (Mocanu, 2015)

In his article, Arsene (2021) emphasizes that physical education in schools contributes not only to the good physical condition and health of students, but also helps children to practice and better understand physical activity, with positive repercussions for their entire lives.

This paper focuses on the analysis of the perception and perspective of physical education teachers in high schools in Romania regarding physical education classes, with a special attention to some essential factors that influence their development. In the current conditions, in which the school curriculum provides only one hour of physical education per week, and the teaching means and teaching methods have not undergone significant changes in the last 30 years, this paper aims to identify the challenges faced by teachers, but also the potential solutions.

The study conducted by Bradshaw et al. (2008) shows that access to adequate resources and equipment in physical education classes can significantly increase the level of student engagement, registering an increase of 28%. This underlines the importance of equipping schools with quality equipment to support active participation in physical activities. The study also highlights that the lack of adequate infrastructure in certain high schools limits the possibilities of carrying out varied and efficient activities. These aspects, together with teachers' perceptions of the essential role of physical education in the training of the younger generations, will be analyzed in detail in order to obtain a clear picture of the current state of the field. The introduction of fitness equipment in high school physical education classes is thus a viable solution for diversifying activities and stimulating student

involvement. The questionnaires addressed to physical education teachers and high school students are designed to capture opinions about the importance of physical education classes and how useful the implementation of new fitness equipment can be in the educational process and its impact on increasing students' motor strength. Physical education, as a building block of general education, not only supports students' physical and mental health, but also helps instill healthy habits throughout life. By integrating modern fitness equipment into physical education classes, activities can become more engaging, allowing students to participate in more varied and effective workouts that promote balanced muscle development, improved aerobic capacity, and increased motor strength.

Modern sports training is defined in specialized literature as a systematic and continuously graded pedagogical process of adapting the human body to intense physical and mental efforts involved in participating in competitions organized in different sports branches (Dragnea & Mate, 2002).

Methods

To assess opinions on the physical education class and the impact of fitness equipment in lessons, two separate questionnaires were created: one for high school physical education teachers and one for high school students. Below are the questions from each questionnaire, followed by a statistical analysis of the collected responses and a comparison of the perspectives of teachers and students. To conduct the research, we used the online platform Google Forms. The questionnaire was structured in two sections: the first contained four demographic questions (gender, seniority in education, county of activity and urban/rural environment), and the second included 14 items intended for the evaluation of the physical education class and for collecting the opinions of teachers and students in the high school cycle regarding the introduction of fitness equipment. The questionnaire was distributed to physical education teachers in high schools in Romania and was completed between May 15 and June 15, 2022, on a sample of 143 teachers and 1357 students. The analysis of the collected data allowed us to highlight the teachers' appreciations of the subject studied, providing a clear picture of the topic and answering the key questions.

Results

Following the administration of the questionnaires, the responses of teachers and students were centralized and analyzed to highlight the general

trends and preferences of each group. The results are presented below, accompanied by interpretations and examples of suggested graphical presentations (bar charts, pie/pie charts, line charts where relevant) to visually illustrate the data collected.

The first section of answers consisted of 4 questions addressed to physical education teachers and high school students. This section included data on gender, seniority in education, students' year of study and demographic data.

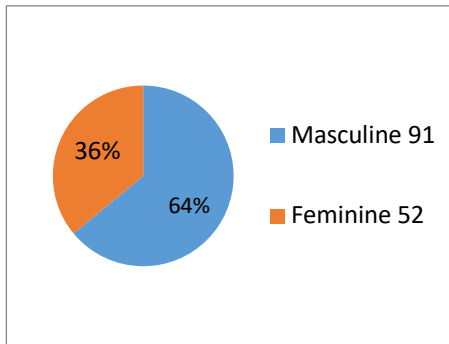


Figure 1. Gender teachers

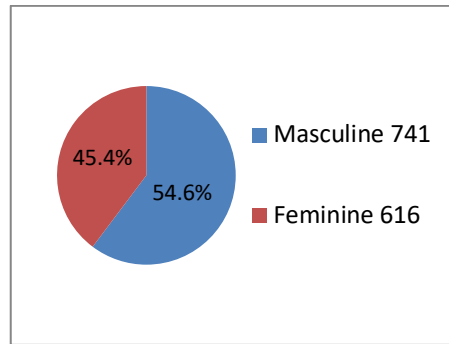


Figure 2. Gender students

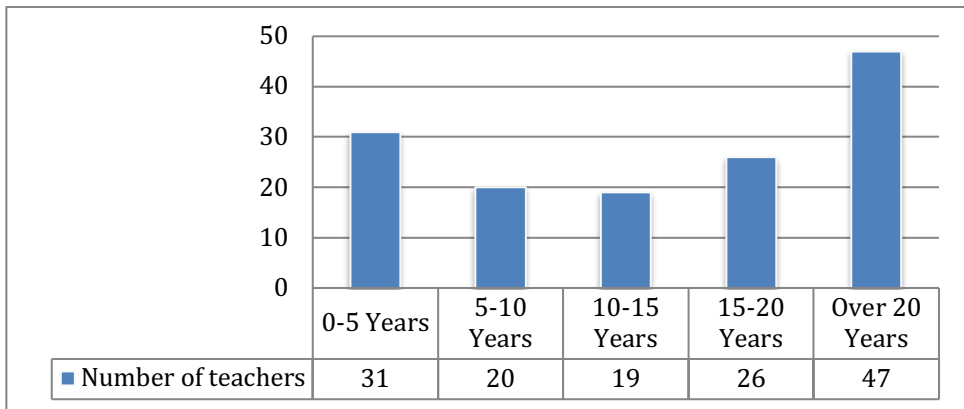


Figure 3. Seniority in education.

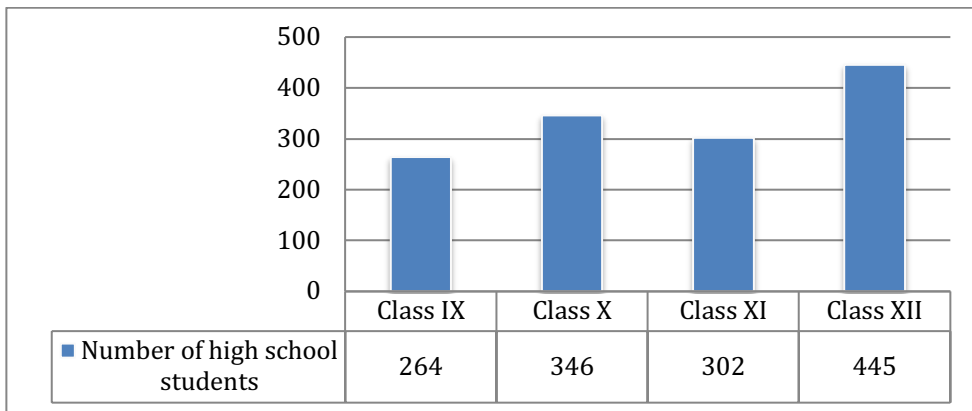


Figure 4. Students' year of study.

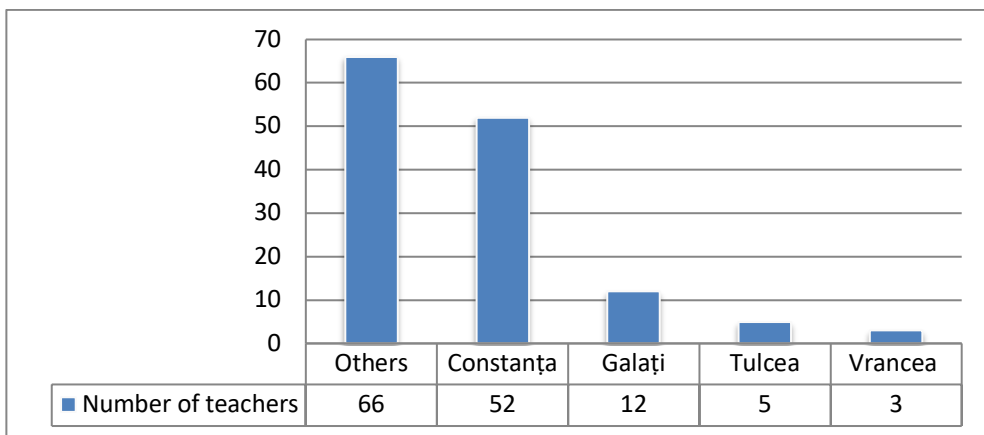


Figure 5. The county where physical education teachers teach.

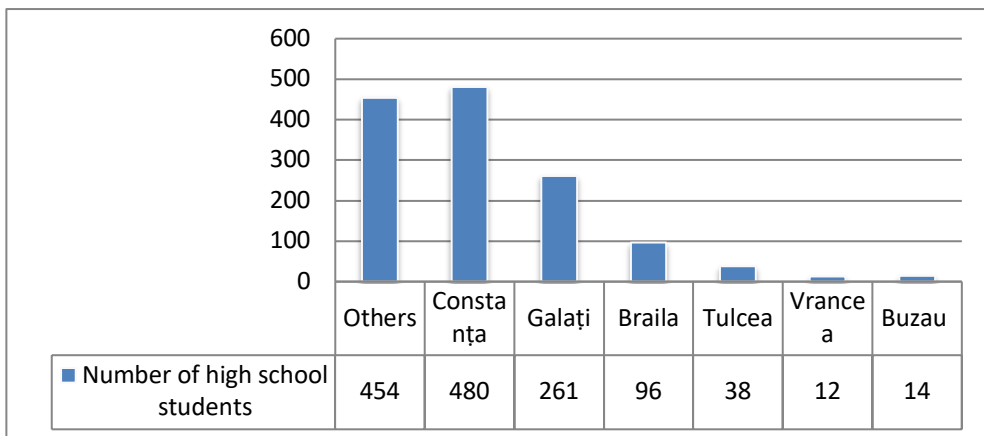


Figure 6. The county where high school students study.

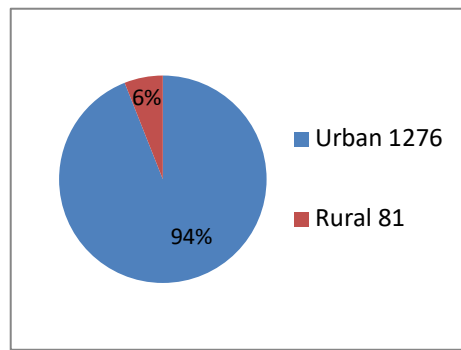
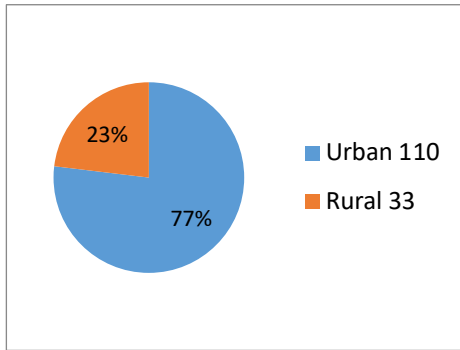


Figure 7. Teachers' teaching environment. Figure 8. Students' learning environment

The illustrations presented reflect the opinions expressed by physical education teachers and high school students in relation to the subject studied. The surveyed responses give us a clear picture of the vision and perspective of teachers and students regarding physical education lessons, highlighting the differences in understanding and importance attributed to these classes. Furthermore, they explore whether the introduction of new fitness equipment can improve the training process and increase motor skills, especially muscle strength. The tables and figures below present the values obtained for the four most relevant items, thus highlighting the teachers' opinions regarding the researched topic.

The second section of the questionnaire focused on the evaluation of the physical education class and the opportunity to improve motor quality and strength by using equipment that is not specific to the lesson. From the total of 14 questions, we selected 4 essential items, which relevantly reflect the opinions expressed by both physical education teachers and high school students. These answers provide valuable insights into how fitness equipment resources influence training, helping to increase motor performance and build muscle strength.

Question 1. Do you think that practicing physical exercise has benefits on the growth and development of students at this age?

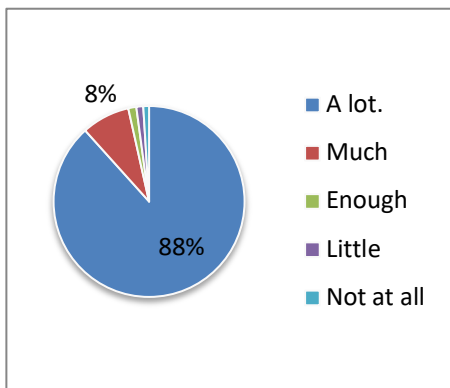


Figure 9. Teachers' answers

Table 1. Teachers' answers.

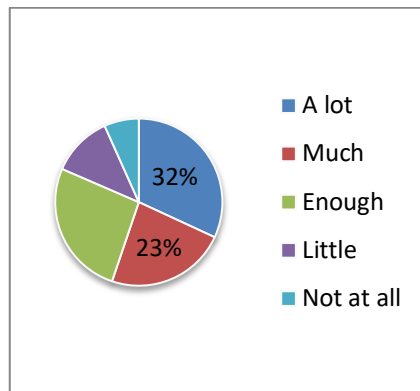


Figure 10. Students' answers

Table 2. Students' answers

| Answer options | Absolutely | % |
|-------------------|------------|------------|
| A lot | 125 | 88 |
| Much | 12 | 8 |
| Enough | 3 | 1.8 |
| Little | 2 | 1.2 |
| Not at all | 1 | 0.6 |
| Total | 143 | 100 |

| Answer options | Absolutely | % |
|-------------------|-------------|------------|
| A lot | 433 | 32 |
| Much | 316 | 23 |
| Enough | 357 | 26.3 |
| Little | 160 | 11.8 |
| Not at all | 91 | 6.7 |
| Total | 1357 | 100 |

The overwhelming majority of teachers consider physical education to be an important component of general education. For example, a significant percentage of teachers answered "A lot" to the first question, with the rest mostly opting for "Quite a lot." Only very few indicated "Little" or "Not at all". This result underlines the consensus among teachers about the crucial role of sports classes in the general education of students. First element in the chart indicates a strong consensus among teachers, with 88% of them believing that exercise is essential for physical development. This high rate reflects a clear and unanimous understanding of the benefits of physical activity in student education. In contrast, only 32% of students perceive physical education as crucial for the harmonious development of the body, suggesting the need for additional strategies to change this perception. The responses obtained, coming from experienced professionals, highlight the importance of including educational and training programmes that promote regular exercise and improve access to equipment, so as to increase engagement and benefits for students.

Question 2. Do you think that more hours of physical education would be useful within the weekly program at the high school level?

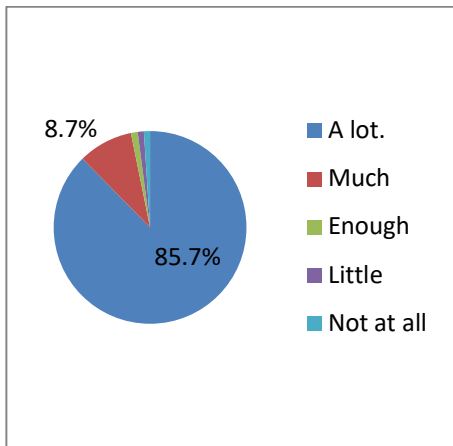


Figure 11. Teachers' answers.

Table 3. Teachers' answers.

| Answer options | Absolutely | % |
|-------------------|------------|------|
| A lot | 123 | 85.7 |
| Much | 12 | 8.7 |
| Enough | 4 | 3 |
| Little | 3 | 2 |
| Not at all | 1 | 0.6 |
| Total | 143 | 100 |

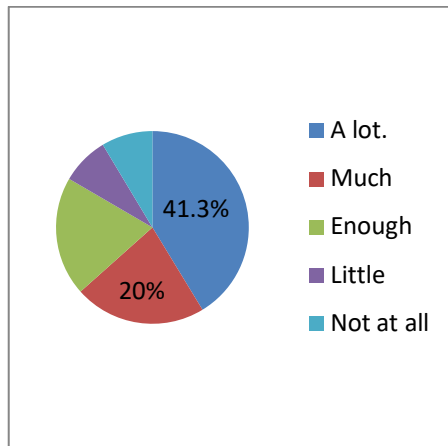


Figure 12. Students' answers.

Table 4. Students' answers

| Answer options | Absolutely | % |
|-------------------|------------|------|
| A lot | 560 | 41.3 |
| Much | 300 | 22.1 |
| Enough | 271 | 20 |
| Little | 109 | 8 |
| Not at all | 117 | 8.6 |
| Total | 1357 | 100 |

The second element indicates that 85.7% of teachers claim that the extension of the number of physical education hours would have a significant impact, and 8.7% believe that this effect would be very accentuated in the high school cycle. These data reflect the experience and observations accumulated over the years in working with students, providing a clear perspective on the potential benefit of an increase in physical education classes. On the other hand, only 41.3% of high school students believe that a higher number of hours of physical education would be useful for them, thus highlighting a notable discrepancy between teachers' and students' perceptions. However, both categories of respondents – both physical education teachers and high school students – gave low scores to the usefulness of a program with fewer hours of physical education,

suggesting that both believe that a reduced number of hours would not be enough to achieve the proposed educational objectives.

Question 3. Do you think that the introduction of new equipment in the physical education lesson increases the interest and presence of students?

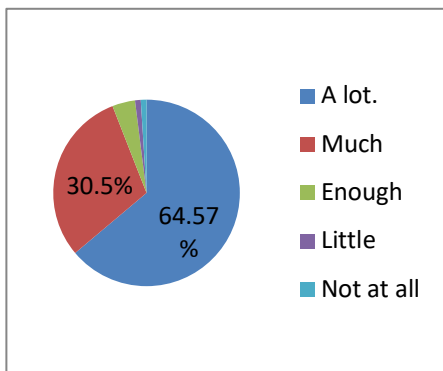


Figure 13. Teachers' answers.

Table 3. Teachers' answers.

| Answer options | Absolutely | % |
|-------------------|------------|------|
| A lot | 92 | 64.5 |
| Much | 43 | 30.5 |
| Enough | 6 | 4 |
| Little | 1 | 0.6 |
| Not at all | 1 | 0.6 |
| Total | 143 | 100 |

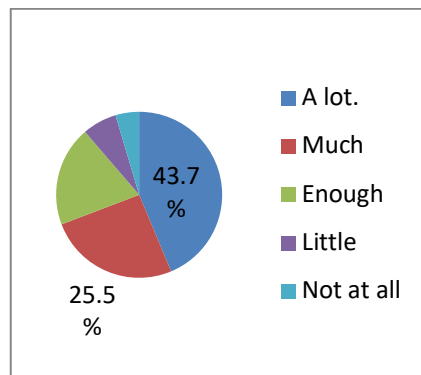


Figure 14. Students' answers

Table 4. Students' answers

| Answer options | Absolutely | % |
|-------------------|------------|------|
| A lot | 593 | 43.7 |
| Much | 346 | 25.5 |
| Enough | 264 | 6.7 |
| Little | 91 | 4.6 |
| Not at all | 63 | 0.6 |
| Total | 1357 | 100 |

To question number 3, 65% of the surveyed teachers believe that the implementation of new equipment in physical education lessons greatly increases students' interest, and 30.1% believe that the use of fitness equipment has a significant impact on their interest. These answers, together with those expressed in the previous point, concretely reflect the experience gained over the years of activity with students and highlight the need to define a dedicated training program, which includes the integration of new training equipment. Such a program could contribute to diversifying activities, improving the training process and, implicitly, increasing students' motivation and involvement in physical education classes. To this question, 43.7% of students believe that the introduction of new fitness equipment in physical

education lessons increases interest in the class. This answer highlights the potential of modern equipment to motivate students and improve the overall learning experience in physical education classes. Both physical education teachers and high school students believe that the implementation of new equipment in physical education classes is beneficial. This common opinion stresses the importance of modernizing school infrastructure in order to stimulate pupils' interest and active participation in physical activities.

Question 4. Do you think that using the TRX in physical education classes can improve the quality of motor strength?

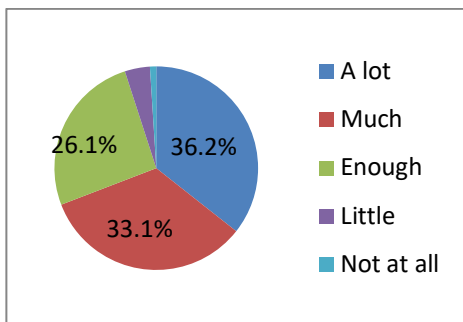


Figure 15. Teachers' answers

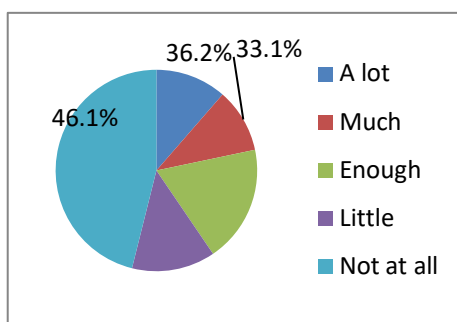


Figure 16. Students' answers

Table 5. Teachers' answers.

| Answer options | Absolutely | % |
|-------------------|------------|------|
| A lot | 51 | 36.2 |
| Much | 47 | 33.1 |
| Enough | 38 | 26.1 |
| Little | 6 | 4 |
| Not at all | 1 | 0.6 |
| Total | 143 | 100 |

Table 6. Students' answers.

| Answer options | Absolutely | % |
|-------------------|------------|------|
| A lot | 155 | 11.4 |
| Much | 140 | 10.3 |
| Enough | 255 | 18.8 |
| Little | 182 | 13.4 |
| Not at all | 625 | 46.1 |
| Total | 1357 | 100 |

Following the answers provided by physical education teachers, 36.2% believe that integrating XRT into physical education lessons could represent a concrete and effective way to develop students' muscle strength, while diversifying activities and increasing their interest in physical education classes. The observation that 46.1% of high school students are not familiar with TRX fitness equipment and do not know its impact on increasing muscle strength highlights the need to educate and inform them about the benefits of suspension training.

Conclusions

Analyzing the responses of the two groups in parallel, we can observe both convergences and differences in the way teachers and students look at the physical education class and the introduction of fitness equipment:

The importance of the physical education class vs. the pleasure of participation: Teachers and students approach the physical education class from different but complementary angles. Teachers emphasize the importance of physical education in the general curriculum. As we have seen, 88% consider the discipline as very important. Students, on the other hand, relate to the sports class through the prism of immediate experience. Both graphs would show mostly positive values, suggesting that physical education is both valued by students and valued by teachers. The difference is nuanced: teachers see its educational value in the long term, students feel its practical and fun value in the short term. Both teachers and students have a positive opinion of the use of modern equipment in the classroom of physical education, but from slightly different perspectives. Teachers see a concrete impact in increasing student engagement when using fitness machines. Students, a majority of 43% anticipate that the class would be more attractive with such equipment. If we overlap these visions, we see that both groups converge on the same idea: fitness equipment can improve the experience of sports class. The differences arise in nuances: 30.5% of teachers could be more cautious (indicating impact "a lot" due to practical obstacles), while some students may be undecided 25.5% ("A lot"). Overall, however, the message of both categories is that innovation and modern equipment in the gym are welcome. We emphasize the fact that both parties conclude that the physical education class deserves to be improved and sustained.

Observations from the applied questionnaire indicate that physical education teachers are open to integrating new fitness equipment, such as TRX, into their teaching programs. This openness suggests a positive trend towards the modernization and diversification of training methods, which can increase students' interest and active participation in physical education classes. However, given that a significant percentage of students are not familiar with TRX equipment and its benefits, it is essential to organize information and training sessions. These sessions could include hands-on demonstrations and explanations of how TRX training can help improve muscle strength and overall fitness. In conclusion, integrating TRX training into the physical education curriculum can provide an effective way to develop students' muscle strength.

In conclusion, integrating TRX training into the physical education curriculum can provide an effective way to develop students' muscle

strength. The success of this initiative depends on the availability of the necessary resources, the appropriate training of teachers and the correct information of students about the benefits of this type of training. Incorporating TRX training in PE classes can modernize the curriculum, boost student engagement, and support the development of essential motor qualities such as muscular strength and endurance.

In developing questionnaires addressed to physical education teachers and high school students, the authors made significant contributions by identifying students' needs and perceptions: The questionnaire for students was designed to assess their needs and preferences in the context of physical education classes in the current context when there is only one hour of physical education per week. This approach allowed the collection of relevant data on how students perceive and relate to physical activities in various contexts. Analysis of the impact of implementing new fitness equipment in the physical education lesson. Exploring the difficulties faced by teachers: The questionnaire addressed to teachers addressed the challenges related to the organization and conduct of physical education classes, offering an perspective on the obstacles and needs felt by teachers in their work

Through these contributions, we managed to obtain a complex picture of the dynamics of the physical education classes in high school education, highlighting the perspectives of both students and teachers, and highlighting the aspects that can be improved to increase the efficiency and attractiveness of these classes.

References

- Antoniou P. (2021) Importanța educației fizice în viața tuturor. *EDICT – Revista educației* <https://edict.ro/importanta-educatiei-fizice-in-viata-tuturor/>
- Arsene, I., Gheorghiu, A. (2021). Voice as a professional instrument in the activity of physical education teacher, *The Annals of the "Ștefan cel Mare" University of Suceava. Physical Education and Sport Section. The Science and Art of Movement*, 14(2),130-136.
https://usv.ro/fisiere_utilizator/file/fefs/revista/vol_XIV_issue_2/18.VOICE_AS_A_PROFESSIONAL_INSTRUMENT_IN_THE_ACTIVITY_OF_PHYSICAL_EDUCATION_TEACHER_IGOR_ARSENE.pdf
- Bradshaw, C. P., Reinke, W. M., Brown, L. D., Bevans, K. B., & Leaf, P. J. (2008). Implementation of school-wide positive behavioral interventions and supports (PBIS) in elementary schools: Observations from a randomized trial. *Education and treatment of children*, 31(1), 1-26.
<http://dx.doi.org/10.1353/etc.0.0025>

- Dragnea, A., Mate, S., T. (2002). *Educație fizică și sport teorie și didactică*, FEST.
- Hangu, S. Ș. (2016). *Eficiența jocurilor de mișcare în ameliorarea compoziției corporale și în îmbunătățirea motricității generale la copiii antepubertari*, rezumat teză doctorat, U.N.E.F.S.
- Mocanu, G.D., (2015). *The didactics of physical education and sport*. The “Dunărea de Jos” University Foundation
- Nicola, I., Fărcaș, D., (1993). *Pedagogie generală (Noțiuni fundamentale) Manual pentru clasa a IX-a -școli normale*, Editura Didactică și Pedagogică R.A.
- Petrovics, P., Sandor, B., Palfi, A., Szekeres, Z., Atlasz, T., Toth, K., & Szabados, E. (2020). Association between obesity and overweight and cardiorespiratory and muscle performance in adolescents. *International journal of environmental research and public health*, 18(1), 134.
<https://doi.org/10.3390/ijerph18010134>
- Rusu, F. (2008). *Fitness - Note de curs*, UBB Universitatea Babeș-Bolyai, Cluj – Napoca
- Sallis, J. F., & McKenzie, T. L. (1991). Physical education's role in public health. *Research Quarterly for Exercise and Sport*, 62, 124-137.
<https://doi.org/10.1080/02701367.1991.10608701>
- Șerbu, I., Larion, A., Cazacu, F., & Popa, C., (2023). Questionnaire regarding the perception and perspective of high school students on the physical education class in the high school cycle. *Ovidius University Annals, Series Physical Education & Sport/Science, Movement & Health*, 23 (1), 61-64.
<https://analefefs.ro/anale-fefs/2023/i1/pe-autori/12.%20SERBU%20IULIAN,%20LARION%20ALIN,%20CAZACU%20FLORIN,%20POPA%20CRISTIAN.pdf>
- Shephard, R., & Trudeau, F. (2000). The legacy of physical education: Influences on adult lifestyle. *Pediatric Exercise Science*, 12, 34-50.
<https://doi.org/10.1123/pes.12.1.34>