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STUDY ON THE EFFECTIVE UTILIZATION OF BASIC GYMNASTICS RESOURCES FROM THE PERSPECTIVE OF STUDENTS AS FUTURE PROFESSIONALS

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Abstract

Aim. The objective of this work is to remind respondents of all the resources of Basic Gymnastics. By going through each resource, we aim to refresh the information covered in the physical education and sports / sport training lessons and to address each aspect of current activities.

Methods. We applied an opinion questionnaire that included 13 items with closed-ended responses. The first 4 items provide information about the identification of the respondents. The following items gather information about students' views on the importance of using Basic Gymnastics resources in physical education and sports lessons and training. The opinion questionnaire was administered to students of the Faculty of Physical Education and Sport at the National University of Physical Education and Sport in Bucharest. There were 638 respondents, aged between 18 and over 22 years.

Results. The number of respondents who believe that the means of Basic Gymnastics help "very much" in the Physical Education and Sports (PES)/ Sports Training (ST)/ Sports Management (SM) lesson is a majority.

Conclusions. We believe that students are still unaware of the necessity and need for using Basic Gymnastics resources in lessons, and to raise awareness of this aspect, a greater number of hours would be needed within the curriculum at the university.

Keywords: Basic Gymnastics, physical education and sports, sports training.

Introduction

Gymnastics belongs to a group of basic sports that are defined as physical activities which contain such educational possibilities that can only partially be overcome with other sport disciplines (Čuljak et al., 2014). Gymnastics offers a great range of locomotive, stability and body control movements which are highly important for the development of children (Pajek et al., 2010).

Basic Gymnastics is the most important branch of gymnastics as it, represent the foundation of physical development and, is the basis for other branches of gymnastics, as well as for other sports disciplines. Its content is an integral part of any type of activity in the field of physical education and sports, as well as in sports training (Corlaci, 2022).

The main objective of the discipline sheet is to master the skills and competencies necessary for organizing, coordinating, and leading student groups. This includes the effective application of exercise complexes for training, education, development, and practical exercise structures with utilitarian characteristics.

In the specialized literature from Romania (Corlaci, 2022; Corlaci, 2014; Potop, 2014; Moraru, 2013; Grigore, 2003), the building blocks that make up Basic Gymnastics consist of: Organization and Order Exercises, General Physical Development Exercises, and Practical-Utilitarian Exercises.

Organization and Order Exercises ensure the efficient conduct of activities in the field of Physical Education and Sports, requiring specific organization, arrangement, distribution of participants, and effective use of the available working space adjusted to the number of participants, the available equipment, and the objectives pursued. Organization and Order Exercises include: Actions From The Spot, Moving Actions, and Formation Setups and Changes.

General Physical Development Exercises consist of movements that engage the body's muscle groups and joints. They enhance strength and flexibility to prepare the body for exertion and promote harmonious physical development.

Practical-Utilitarian Exercises are defined as the totality of means used to form basic skills and competencies of a natural and utilitarian nature found in everyday human activities.

Objectives

The objective of this work is to remind respondents of all the means of Basic Gymnastics. By going through each of these means, we aim to refresh the information covered during physical education and sports / sport training lessons and to critically examine each aspect of current activities.

Another objective is to assess the acquisition of professional competencies and the overall vision regarding the activities in the future lessons they will lead.

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Methods

The methods used for this research are: the bibliographic study method, the questionnaire-based survey method, the statistical-mathematical method, and the graphical method.

The opinion questionnaire was developed in November 2023 using Google Forms and was administered from November 16, 2023, to November 17, 2024. It consists of 13 items with closed-ended responses. The first 4 items provide information regarding the identification of the respondents. The subsequent items are presented in the Results chapter.

The opinion questionnaire was administered to students of the Faculty of Physical Education and Sports at the National University of Physical Education and Sports in Bucharest.

The total number of respondents was 638, with the following identification data:

- Gender: male – 455 (71.32%) and female – 183 (28.68%);
- Age: 18 years – 121 (18.97%), 19 years – 303 (47.49%), 20 years – 99 (15.52%), 21 years – 68 (10.66%), 22 years – 23 (3.61%), over 22 years – 24 (3.76%);
- Year of study: Year I - 476 (74.61%), Year II - 67 (10.50%), and Year III - 95 (14.89%);
- Study program: Physical Education and Sports – 398 (62.38%), Sport and Motor Performance – 193 (30.25%), and Sports Management – 47 (7.37%).

Results

The results were tabulated and analyzed using Microsoft Office Excel. Tables 1-7 and Figures 1-6 present the responses to items 5-13.

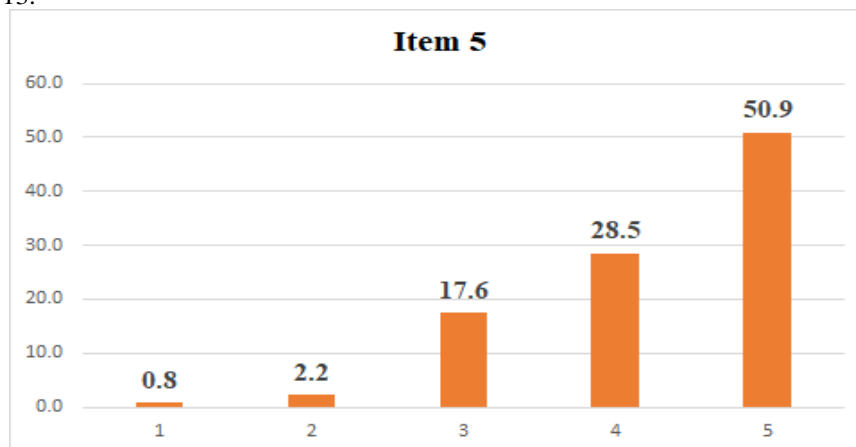


Figure 1. Graphical representation of the percentages of responses received for Item 5

In Item 5, „To what extent do you think basic gymnastics tools help you in Physical Education and Sports (PES)/ Sports Training (ST)/ Sports Management (SM)?” the responses received ranged from 1 (not at all) to 5 (very much). From Figure 1, we observe that 5 (0.8%) students answered 1, 14 (2.2%) students answered 2, 112 (17.6%) students answered 3, 182 (28.5%) students answered 4, and 325 (50.9%) students answered 5.

Table 1. Number of responses chosen for Item 6

	6 responses	5 responses	4 responses	3 responses	2 responses	1 response
Number	145	66	117	125	79	106
Percentage	22,7%	10,3%	18,3%	19,6%	12,4%	16,6%

In Item 6, “Which basic gymnastics tools do you think are frequently used in PES/ST/SM lessons?” students could choose multiple responses from the six options: Actions From The Spot; Moving Actions; Formation Setups and Changes on the spot; Formation Setups and Changes in movement; Harmonious physical development; Practical-Utilitarian Exercises.

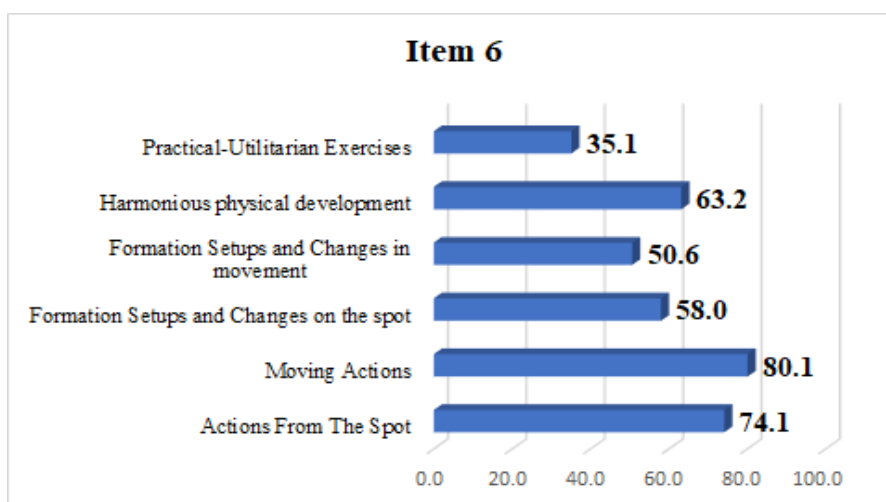


Figure 2. Graphical representation of the percentages of responses received for Item 6

In Item 6, “Which basic gymnastics elements do you think are frequently used in PES/ST/SM lessons?” the responses received were 473 (74.1%) for Actions From The Spot, 511 (80.1%) for Moving Actions, 370 (58.0%) for Formation Setups and Changes on the spot, 323 (50.6%) for Formation Setups and Changes in movement, 403 (63.2%) for Harmonious physical development, and 224 (35.1%) for Practical-Utilitarian Exercises.

Table 2. Number of responses chosen for Item 7

	9	8	7	6	5	4	3	2	1
responses	responses	responses	responses	responses	responses	responses	responses	responses	response
Number	106	58	67	89	96	76	58	34	54
Percentage	16,6%	9,1%	10,5%	13,9%	15,0%	11,9%	9,1%	5,3%	8,5%

In Item 7, “Which actions from the spot do you believe are predominantly used in PES/ST/SM lessons?” students could choose multiple responses from the nine options: Gathering, Alignment, Controlled standing, Rest, Counting, Spot turns, Reporting, Increasing and decreasing intervals and distances, and Short distance movement of the formation (Complex action 2x8 counts).

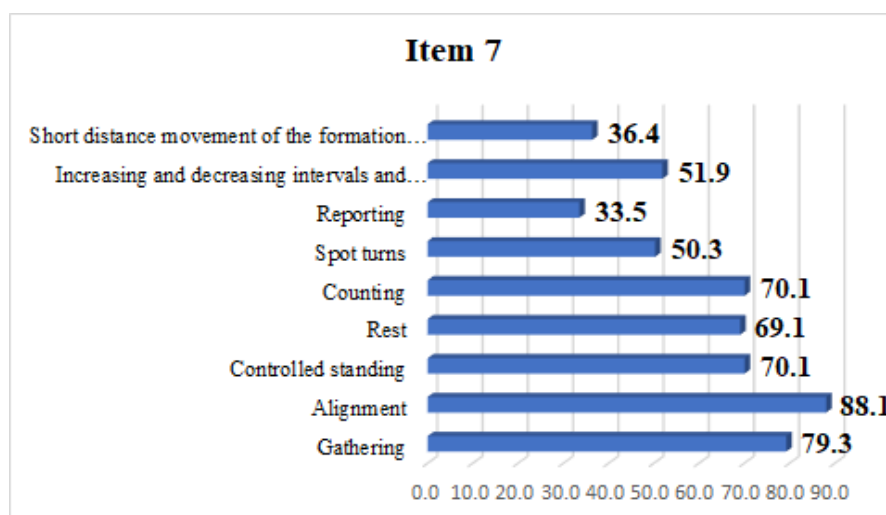


Figure 3. Graphical representation of the percentages of responses received for Item 7

In Item 7, “Which actions from the spot do you believe are predominantly used in EFS/AS/MS lessons?” the responses received were 506 (79.3%) for Gathering, 562 (88.1%) for Alignment, 447 (70.1%) for Controlled standing, 441 (69.1%) for Rest, 447 (70.1%) for Counting, 321 (50.3%) for Spot turns, 214 (33.5%) for Reporting, 331 (51.9%) for Increasing and decreasing intervals and distances, and 232 (36.4%) for Short distance movement of the formation (Complex action 2x8 counts).

Table 3. Number of responses chosen for Item 8

	7 responses	6 responses	5 responses	4 responses	3 responses	2 responses	1 response
Number	142	110	121	102	52	53	58
Percentage	22,3%	17,2%	19,0%	16,0%	8,2%	8,3%	9,1%

In Item 8, “Which actions in movement do you believe are predominantly used in PES/ST/SM lessons?” students could choose multiple responses from the seven options: Starting, Stopping, Transitioning from one form of movement to another, Variants of walking, Variants of running, Changing the direction of movement, and Movements in shapes.

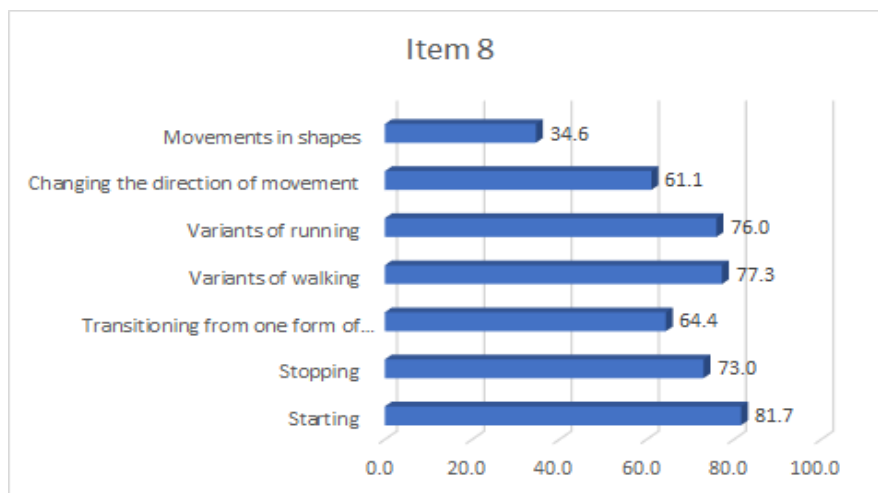


Figure 4. Graphical representation of the percentages of responses received for Item 8

In Item 8, “Which actions in movement do you believe are predominantly used in PES/ST/SM lessons?” the responses received were 521 (81.7%) for Starting, 466 (73.0%) for Stopping, 411 (64.4%) for Transitioning from one form of movement to another, 493 (77.3%) for Variants of walking, 485 (76.0%) for Variants of running, 390 (61.1%) for Changing the direction of movement, and 221 (34.6%) for Movements in shapes.

Table 4. The number of responses received for Item 9

	Not at all	Very little	Little	Much	Very much
Spatial-temporal orientation	5	16	88	308	221
Appreciation of distance	3	25	93	315	202
Individual coordination in relation to the collective	9	23	75	284	247
Development of motor imagination anticipation	7	26	122	295	188
Capturing attention	11	22	89	271	245
Effective use of the workspace relative to the number of subjects	5	13	67	244	309

In Item 9, which consisted of six variants of the base question: “To what extent do you believe that movements in patterns help [...]?” the students responded as follows:

- Movements in patterns help develop spatial orientation: not at all – 0.8% (5 responses), very little – 2.5% (16 responses), little – 13.8% (88 responses), much – 48.3% (308 responses), and very much – 34.6% (221 responses);
- Movements in patterns help develop distance appreciation: not at all – 0.5% (3 responses), very little – 3.9% (25 responses), little – 14.6% (93 responses), much – 49.4% (315 responses), and very much – 31.7% (202 responses);
- Movements in patterns help develop individual coordination in relation to the collective: not at all – 1.4% (9 responses), very little – 3.6% (23 responses), little – 11.8% (75 responses), much – 44.5% (284 responses), and very much – 38.7% (247 responses);
- Movements in patterns help develop anticipation of motor imagination: not at all – 1.1% (7 responses), very little – 4.1% (26 responses), little – 19.1% (122 responses), much – 46.2% (295 responses), and very much – 29.5% (188 responses);
- Movements in patterns help capture attention: not at all – 1.7% (11 responses), very little – 3.4% (22 responses), little – 13.9% (89 responses), much – 42.5% (271 responses), and very much – 38.4% (245 responses);

- Movements in patterns help ensure effective use of the workspace relative to the number of subjects: not at all – 0.8% (5 responses), very little – 2.0% (13 responses), little – 10.5% (67 responses), much – 38.2% (244 responses), and very much – 48.4% (309 responses).

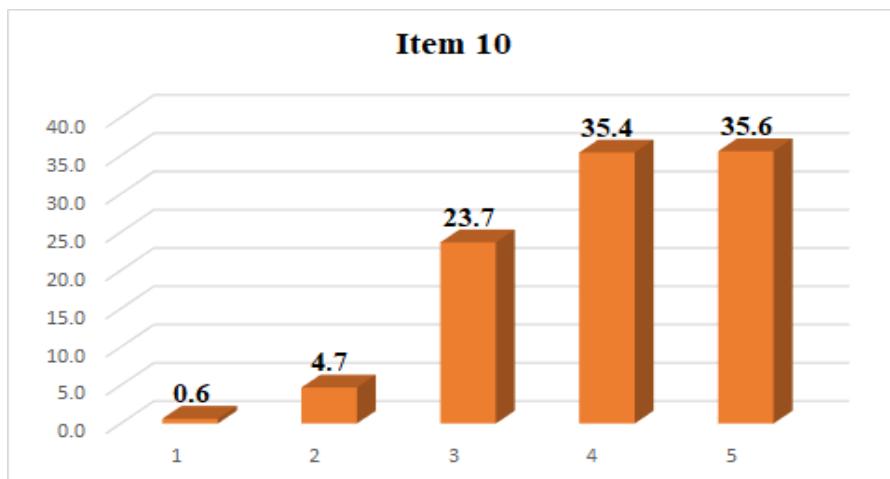


Figure 5. Graphical representation of the percentages of responses received for Item 10

In Item 10, “How useful are formations and changes in formations during PES/ST/RMA (Recreational Motor Activities) lessons?” the responses ranged from 1 (Not at all) to 5 (Very much). We observe from Figure 5 that 4 (0.6%) students answered with 1, 30 (4.7%) students answered with 2, 151 (23.7%) students answered with 3, 226 (35.4%) students answered with 4, and 227 (35.6%) students answered with 5.

Table 5. Number of responses chosen for Item 11

	6 responses	5 responses	4 responses	3 responses	2 responses	1 response
Number	80	19	84	120	112	223
Percentage	12,5%	3,0%	13,2%	18,8%	17,6%	35,0%

In Item 11, “What fundamental positions do you consider should be used in the lesson (link - Selective influence of the locomotor apparatus/warm-up) for harmonious physical development?” students could choose multiple answers from the 6 options: Standing, Kneeling, Seated, Lying down, Hanging, and Supported.

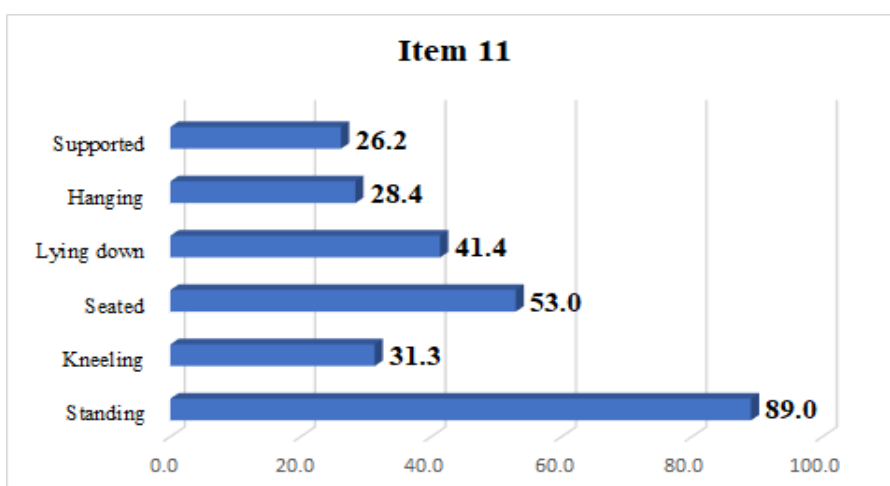


Figure 6. Graphical representation of the percentages of responses received for Item 11

In Item 11, “What fundamental positions do you consider should be used in the lesson (link - Selective influence of the locomotor apparatus/warm-up) for harmonious physical development?” the responses received were 568 (89.0%) for Standing, 200 (31.3%) for Kneeling, 338 (53.0%) for Seated, 264 (41.4%) for Lying down, 181 (28.4%) for Hanging, and 167 (26.2%) for Supported.

Tabel 6. The percentage of responses received for Item 12

	1	2	3	4	5	6
Free	64,6%	4,7%	4,2%	2,8%	2,4%	21,2%
With a partner	3,3%	46,7%	12,3%	8,0%	21,7%	8,0%
With a stick	11,3%	15,1%	25,9%	11,8%	12,3%	23,6%
With a medicine ball	3,3%	9,4%	27,4%	35,4%	15,1%	9,4%
With/on/at the gym bench	4,2%	14,6%	17,0%	29,7%	29,7%	4,7%
On the fixed bar	13,2%	9,4%	13,2%	12,3%	18,9%	33,0%

In Item 12, “Arrange the exercises for harmonious physical development in order, based on their degree of use (defined as the exercises’ importance/efficiency),” students were able to respond by giving ratings from 1 (the most important/efficient type of exercise) to 6 (the least important/efficient type of exercise). Thus, Free Exercises received the highest percentage of responses, 64.6%, rating it as 1; Partner Exercises received 46.7% for rating 2; Stick Exercises received 25.9% for rating 3; Stick Exercises received 35.4% for rating 4; Exercises with/on/at the gym bench received 29.7% for ratings 4 and 5; and Fixed Bar Exercises received 33.0% of the vote for rating 6.

Table 7. The number of responses received for Item 13

	Not at all	Very little	Little	Much	Very much
Learning motor skills	4	32	105	289	208
Developing motor qualities	3	24	77	254	280
Fostering the spirit of self-improvement	4	28	114	227	265
Increasing the attractiveness of lessons	3	29	118	228	260
Building team spirit/accepting teamwork	21	31	123	202	261
Cultivating the spirit of fair play	16	45	148	189	240
Disciplining the group by respecting rules	8	26	91	225	288
Developing a winning mindset	11	38	110	199	280
Enhancing motor memory	9	25	93	189	322

In Item 13, “Practical-Utilitarian Exercises help [...]?” students responded as follows:

- Practical-Utilitarian Exercises help in learning motor skills: not at all – 0.6% (4 responses), very little – 5.0% (32 responses), a little – 16.5% (105 responses), a lot – 45.3% (289 responses), and very much – 32.6% (208 responses);
- Practical-Utilitarian Exercises help in developing motor qualities: not at all – 0.5% (3 responses), very little – 3.8% (24 responses), a little – 12.1% (77 responses), a lot – 39.8% (254 responses), and very much – 43.9% (280 responses);
- Practical-Utilitarian Exercises help in developing the spirit of self-improvement: not at all – 0.6% (4 responses), very little – 4.4% (28 responses), a little – 17.9% (114 responses), a lot – 35.6% (227 responses), and very much – 41.5% (265 responses);
- Practical-Utilitarian Exercises help increase the attractiveness of lessons: not at all – 0.5% (3 responses), very little – 4.5% (29 responses), a little – 18.5% (118 responses), a lot – 35.7% (228 responses), and very much – 40.8% (260 responses);
- Practical-Utilitarian Exercises help in building team spirit/accepting teamwork: not at all – 3.3% (21 responses), very little – 4.9% (31 responses), a little – 19.3% (123 responses), a lot – 31.7% (202 responses), and very much – 40.9% (261 responses);
- Practical-Utilitarian Exercises help in fostering the spirit of fair play: not at all – 2.5% (16 responses), very little – 7.1% (45 responses), a little – 23.2% (148 responses), a lot – 29.6% (189 responses), and very much – 37.6% (240 responses);
- Practical-Utilitarian Exercises help in disciplining the group by respecting rules: not at all – 1.3% (8 responses), very little – 4.1% (26 responses), a little – 14.3% (91 responses), a lot – 35.3% (225 responses), and very much – 45.1% (288 responses);
- Practical-Utilitarian Exercises help in developing a winning mindset: not at all – 1.7% (11 responses), very little – 6.0% (38 responses), a little – 17.2% (110 responses), a lot – 31.2% (199 responses), and very much – 43.9% (280 responses);
- Practical-Utilitarian Exercises help in enhancing motor memory: not at all – 1.4% (9 responses), very little – 3.9% (25 responses), a little – 14.6% (93 responses), a lot – 29.6% (189 responses), and very much – 50.5% (322 responses).

Discussions

According to the results presented above, it is clear that more than half of the respondents to the opinion survey, 50.9%, believe that the means of Basic Gymnastics help very much in Physical Education/Sports classes.

From the responses received to the question “What elements of Basic Gymnastics do you think are frequently used in the Physical Education/Sports/Health lesson?” we can establish a hierarchy of these elements from the most used to the least: Actions from movement (80.1%), Actions on/off the spot (74.1%), Exercises for harmonious physical development (63.2%), Formations and changes of formations on the spot (58.0%), Formations and changes of formations from movement (50.6%), and Practical-Utilitarian Exercises (35.1%).

The received responses to the question “What actions from the spot do you think are predominantly used in the Physical Education/Sports/Health lesson?” show that the hierarchy of actions from the spot is as follows: the most used is Alignment (88.1%), followed by Gathering (79.3%), Controlled Standing and Counting (70.1%), Rest (69.1%), Increasing and decreasing intervals and distances (51.9%), Spot Turns (50.3%), Short distance formation movement – Complex action 2x8 counts (36.4%), while Reporting (33.5%) ranked last according to the students' opinions.

For the question “What actions from movement do you think are predominantly used in the Physical Education/Sports/Health lesson?” the hierarchy of actions from movement is as follows: the most used is Starting (81.7%), followed by Variants of walking (77.3%), Variants of running (76.0%), Stopping (73.0%), Transitioning from one form of movement to another (64.4%), Changing the direction of movement (61.1%), while Movements in figures (34.6%) ranked last according to the students.

Based on the most responses received, Movements in figures help very much in: Efficient use of working space relative to the number of subjects (48.4%), Individual coordination in relation to the group (38.7%), Capturing attention (38.4%), Space-time orientation (34.6%), Distance estimation (31.7%), and Developing the anticipation of motor imagination (29.5%).

According to the results obtained from the question “How useful are formations and changes of formations in Physical Education/Sports/Health lessons?”, 35.6% of students ranked the elements of Basic Gymnastics at the top of the 5-point scale (Very Much), while 35.4% of respondents ranked the elements' usefulness second-highest.

The hierarchy of fundamental positions used in lessons, as expressed by students through the administered questionnaire, is as follows: the most commonly used fundamental position should be Standing (89.0%), followed by Sitting (53.0%), Lying down (41.4%), Kneeling (31.3%), Hanging (28.4%), and the least indicated fundamental position is Supported (26.2%).

Based on the degree of use of harmonious physical development exercises, the hierarchy, as graded by the students on this respective questionnaire, is as follows: the most important/efficient (grade 1) are Free exercises (64.6%), followed by Partner exercises (grade 2 – 46.7%), Medicine ball exercises (grade 3 – 27.4% and grade 4 – 35.4%), Exercises on the gymnastics bench (grade 5 – 29.7%), and Exercises on the fixed bar (grade 6 – 33.0%). It is noteworthy that exercises with a stick did not receive the highest percentage for any of the grades, showing relatively similar results across all six grades.

According to the most responses received, Practical-Utilitarian Exercises help very much in: Developing motor memory (50.5%), Disciplining the group by respecting rules (45.1%), Developing motor qualities and Developing a winning spirit (43.9%), Developing the spirit of self-improvement (41.5%), Building team spirit/accepting teamwork (40.9%), Increasing the attractiveness of lessons (40.8%), Fostering the spirit of fair play (37.6%), and Learning motor skills (32.6%).

Conclusions

The number of respondents who believe that the means of Basic Gymnastics help “very much” in the Physical Education and Sports (PES)/ Sports Training (ST)/ Sports Management (SM) lesson is a majority. However, the fact that it is only 51% demonstrates that students still do not recognize the necessity and need for using the means of Basic Gymnastics in lessons. From this perspective, we can conclude that raising awareness of this aspect would require a greater number of specific training hours at the university.

In Item 6, although Actions From Movement hold the top percentage (80%), Actions From The Spot (74%) are indispensable; no PES/ST lesson can begin without a type of Gathering formation, Alignment, etc. We believe that Actions From The Spot and those from Movement should be used equally.

Among young people, there is generally a desire to use the shortest possible methods of communication and overall concise language. This is reflected in the responses to Item 7, reinforcing the previous assertion that Alignment is used more frequently than Gathering, even though they are used together.

Furthermore, the rigor, efficiency, and natural progression of the beginning portion of the lesson is overlooked by a considerable number of students, who find the use of Reporting and Short-Distance Formation Movement ineffective, despite their evident utility.

In Item 8, we observe that although other Actions From Movement can be included within the use of Movements in Figures, students believe they would only be effective to a degree of up to 35%. The reason is simple: leading movements in figures requires experience in managing groups in working spaces.



However, in Item 9, over 500 responses indicate that the importance of the purpose of Movements in Figures is perceived as “much” and “very much”.

Formations and Changes of Formations register a considerably low percentage (35%), with respondents overlooking that the use of these actions is essential even within the lesson themes. They are utilized throughout the entire duration of the lesson, not just in the first part.

The diversification of lessons consists in the varied use of main positions and their derivatives, with nearly 90% of students overwhelmingly considering that the “Standing” position is the most appropriate to be used.

Responses to Item 12 had significant variability, leading us to conclude that respondents either did not understand the question or provided an evasive answer. Nevertheless, Exercises for Harmonious Physical Development that involve the medicine ball, gymnastics bench, and partner exercises are considered to be the least utilized.

Although in Item 6 it seems that respondents perceive Practical-Utilitarian Exercises as effective only to a very small extent, in Item 13 we see a nuanced reality. Once used in lessons, future specialists appreciate the value, multidirectionality, benefits, and advantages of Practical-Utilitarian Exercises.

Acknowledgments

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