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OPINIONS ON THE DEVELOPMENT OF MOTOR ABILITIES IN
PHYSICAL EDUCATION LESSONS

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Abstract

The school curriculum, as a document directing the activity of physical education and sport, is approached by each specialised teacher from different perspectives, according to their personal views. In the operationalization of general and specific competences that should be acquired by pupils, the teacher's role is essential. For this reason, we think it is important to know how the development of motor abilities is managed during physical education lessons in primary schools, where the foundations of child's motricity are laid. The aim of this paper is to investigate the opinions of specialists on the development of motor abilities in physical education lessons at the primary education level, with special reference to flexibility, as a motor ability. The research method used was the opinion survey questionnaire, and the interviewed subjects were 313 physical education teachers in pre-university education. The questionnaire was administered at the beginning of the school year 2015-2016 via the Google Forms application within the Google Drive service. There were collected 122 direct responses (at conferences, methodical sessions) and 191 online responses (on social networks dedicated to teachers). The result analysis was performed using the SPSS software program, version 15. The obtained results reveal the specialists' opinions on the place and importance given to the development of conditional, coordination and intermediate motor abilities in the content of physical education lesson at the primary school level.

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Keywords: Primary education, motor abilities, flexibility, physical education lesson.



1. Introduction

The first planning document achieved by the physical education teacher is the annual plan. The methodology for developing this document highlights that, in combining the lesson themes, it is not recommended to approach:

- speed and coordination with strength and endurance, as motor abilities;
- endurance, as a conditional ability, with endurance running, as an athletic event;
- speed, as a conditional ability, with speed running, as an athletic event (Bota & Teodorescu, 2010, pp. 62-63).

With reference to the development of motor skills, the methodology for preparing the annual plan makes the following recommendations:

- the thematic cycles should cover 10-12 lessons;
- the content of thematic cycles should precede the one approaching the skills that require those qualities (Bota & Teodorescu, 2010, pp. 63-64).

Developing motor skills in the physical education lesson is a priority because:

- it largely conditions the strengthening of motor skills;
- it helps improve exercise capacity of the body;
- it requires modest and easily available material facilities;
- it can also be achieved in the leisure activities independently performed by younger school children (Grigore & Dințică, 2010, pp. 5-6).

2. Problem Statement

In the physical education lesson aimed at developing the motor abilities of primary school children, the teacher must observe some rules:

- Duration of the thematic sequence intended for the development of motor abilities should be comprised between 10 and 20 minutes, depending on the motor ability addressed.
- The development of travel speed is achieved by running overdistances comprised between 15 and 30 meters.
- Coordination abilities develop by applying all known methodological procedures, using various motor structures.
- Strength, as a conditional ability, develops through the methodological procedure of intense and rapid isotonic efforts. For the 3rd and 4th grades at the primary education level, the circuit method can also be used to develop strength.
- The development of endurance is achieved through the methodological procedure of uniform and repeated efforts applied over a period of 3 to 6 minutes. The method of variable efforts is not recommended at this age, because the capacity of the cardiovascular system has a low adaptation level (Stănescu, 2012, p. 111).

The specialist in physical education must act on the coordination abilities in both semesters, and only in certain stages of the year, on the conditional ones. The development of flexibility can be achieved

throughout the lesson, even in the 3rd sequence, using exercises for joints, with and without resistance, or stretching exercises performed individually and with a partner (Grigore & Dințică, 2010, pp. 6-7).

In the literature, there are authors who present differently the durations recommended for the thematic sequences aimed at the development of motor abilities:

- 10-15 minutes (Dragnea et al., 2006, p. 189);
- 10-20 minutes (Stănescu, 2012, p. 112);
- 20-30 minutes (Bota & Teodorescu, 2010, p. 64).

3. Research Questions

How do specialists act to develop motor abilities in general and flexibility in particular during the physical education lesson?

4. Purpose of the Study

This paper aims to investigate the opinions of specialists in physical education on the development of motor abilities in primary school children.

5. Research Methods

The method used in this research is the opinion survey questionnaire. The questionnaire was designed in the summer of 2015 using the Google Forms application within the Google Drive service and was administered between 1 September 2015 and 5 February 2016.

The respondents were 313 physical education teachers in pre-university education. The questionnaire was administered in two ways: directly (122 subjects), at conferences and methodical sessions, and online (199 subjects), on social networks dedicated to teachers.

The items used are presented together with the result analysis. The responses are scaled on five levels, where 1 means to a very small extent, 2 to a small extent, 3 to some extent, 4 to a large extent, 5 to a very large extent or 1 means never, 2 to a small extent, 3 relative agreement with the statement, 4 strong agreement with the statement, 5 in each lesson or 1 means full disagreement with the statement, 2 quite rarely, 3 relative agreement with the statement, 4 strong agreement with the statement, 5 full agreement with the statement.

6. Findings

The results were tabulated and analysed using the SPSS software program, version 15. The reliability of the questionnaire (which is not standardised), was calculated using the Cronbach's Alpha coefficient (Internal consistency), whose value is 0.873, namely higher than 0.70, which confers fidelity (Popa, 2009, p. 11). Table 01 shows the items 1-3 and their statistical analysis.

Table 01. Overall results of the responses to items 1-3 of the opinion questionnaire]

Item no.	Item name	Questionnaire completion scale					Arithmetic mean	Cases (% of 313)
		1 - To a very small extent	2 - To a small extent	3 - To some extent	4 - To a large extent	5 - To a very large extent		
1	How much attention do you pay in the instructive-educational (teaching) process to the following components of motor ability in the physical education lesson for primary school pupils?	Strength					4.48	100%
		6.7%	12.5%	36.4%	31.9%	12.5%		
		Speed					4.21	100%
		1.0%	1.6%	13.1%	43.8%	40.6%		
		Endurance					3.94	100%
		2.9%	9.9%	29.7%	38.0%	19.5%		
		Coordination abilities					3.61	100%
1.0%	1.3%	6.4%	31.3%	60.1%				
Flexibility					3.31	100%		
1.9%	7.7%	16.3%	42.8%	31.3%				
2	To what extent do you prepare evaluation sheets for the following components of motor ability after the tests performed in the physical education lesson by primary school pupils?	Strength					3.53	100%
		6.1%	11.2%	28.1%	32.6%	22.0%		
		Speed					3.97	100%
		3.8%	6.1%	15.3%	38.3%	36.4%		
		Endurance					3.65	100%
		5.8%	9.3%	23.0%	38.7%	23.3%		
		Coordination abilities					3.88	100%
4.5%	8.9%	17.6%	32.6%	36.4%				
Flexibility					3.54	100%		
8.3%	12.1%	19.8%	36.7%	23.0%				
3	To what extent are the following categories of skills important, from your point of view, for the physical development, motor skill learning, exercise capacity development and facilitation of integration into the natural and social environments, in the physical education lesson for primary school pupils?	Motor					4.54	100%
		1.3%	0.3%	5.1%	30.0%	63.3%		
		Psychomotor					4.45	100%
		1.9%	1.6%	7.0%	28.1%	61.3%		
Psychological					4.26	100%		
1.9%	1.0%	12.1%	39.0%	46.0%				

Item 1. *How much attention do you pay in the instructive-educational (teaching) process to the following components of motor ability in the physical education lesson for primary school pupils? (Strength, speed, endurance, coordination abilities, flexibility)*

The obtained results show that speed and coordination abilities are the two main components of motor ability that receive the greatest attention: 40.6% for speed and 60.1% for coordination.

Item 2. *To what extent do you prepare evaluation sheets for the following components of motor ability after the tests performed in the physical education lesson by primary school pupils? (Strength, speed, endurance, coordination abilities, flexibility)*

The responses emphasise that speed and coordination abilities are the two main components of motor ability for which evaluation sheets are prepared.

For speed, as a motor ability, 36.4% of respondents mention that they prepare such sheets to a very large extent, and 38.3% to a large extent. For coordination abilities, 36.4% of respondents report that they prepare such sheets to a very large extent, and 32.6% to a large extent.

Item 3. *To what extent are the following categories of skills important, from your point of view, for the physical development, motor skill learning, exercise capacity development and facilitation of integration into the natural and social environments, in the physical education lesson for primary school pupils? (Motor, psychomotor and psychological skills)*

The responses put motor skills (63.3%) and psychomotor skills (61.3%) on the 1st place as importance, and only 46.0% of respondents give very much importance to the psychological aspects.

Table 02 shows the results for items 4-5, which aim to find out the teachers' opinions on the moment of using means specific to joint mobility and stability within the physical education lesson.

Table 02. Overall results of the responses to items 5-6 of the opinion questionnaire

Item no.	Item name	Questionnaire completion scale					Total	
		1 - Never	2 - To a small extent	3 - Relative agreement with the statement	4 - Strong agreement with the statement	5 - In each lesson		
4	Do you use means specific to body expression activities in the physical education lesson?	6	14	89	132	72	313	Cases
		1.9%	4.5%	28.4%	42.2%	23.0%	100.0%	%
		Arithmetic mean					3.80	
5	Do you use means involving joint mobility and stability in the physical education lesson?	4	4	51	116	138	313	Cases
		1.3%	1.3%	16.3%	37.1%	44.1%	100.0%	%
		Arithmetic mean					4.21	

Item 4. *Do you use means specific to body expression activities in the physical education lesson? (1 - Never; 2 - To a small extent; 3 - Relative agreement with the statement; 4 - Strong agreement with the statement; 5 - In each lesson)*

It is noted that 23.0% of respondents use body expression means in each physical education lesson, and 42.2% express their strong agreement with the statement.

Item 5. *Do you use means involving joint mobility and stability in the physical education lesson? (1 - Never; 2 - To a small extent; 3 - Relative agreement with the statement; 4 - Strong agreement with the statement; 5 - In each lesson)*

The means involving joint mobility and stability are used in each lesson by 41.1% of the interviewed teachers.

Table 03 shows the results for item 6, aiming to find out the teachers' opinions on the moment of using means specific to joint mobility and stability within the physical education lesson.

Table 03. Overall results from the responses to item 6 of the opinion questionnaire

Item no.	Item name	Questionnaire completion scale	Cases	%
6	In what instruction sequence do you use means specific to joint mobility and stability?	1 - Preparing the body for effort	58	18.5%
		2 - Selective influencing of musculoskeletal system	227	72.5%
		3 - Addressing the learning units scheduled as lesson themes	24	7.7%
		4 - Body recovery after exercise	42	13.4%
		5 - Other	3	1.0%

Item 6. *In what instruction sequence do you use means specific to joint mobility and stability?* (1 - Preparing the body for effort; 2 - Selective influencing of musculoskeletal system; 3 - Addressing the learning units scheduled as lesson themes; 4 - Body recovery after exercise; 5 - Other)

The obtained responses indicate that the means specific to joint mobility and stability are mainly used in the 2nd instruction sequence, *Selective influencing of the musculoskeletal system* (72.5%), followed by the 1st sequence, *Preparing the body for effort* (18.5%).

This assertion is supported by the results shown in Figure 01, where it can be noted the number of respondents who use these means in each sequence of instruction.

Table 03 shows that a relatively close, but lower percentage (13.4%) of specialists use means specific to joint mobility and stability in the 4th sequence, *Body recovery after exercise*.

Figure 01 shows that 24 out of the 313 surveyed specialists use means specific to joint mobility and stability in the 3rd instruction sequence, *Addressing the learning units scheduled as lesson themes*.

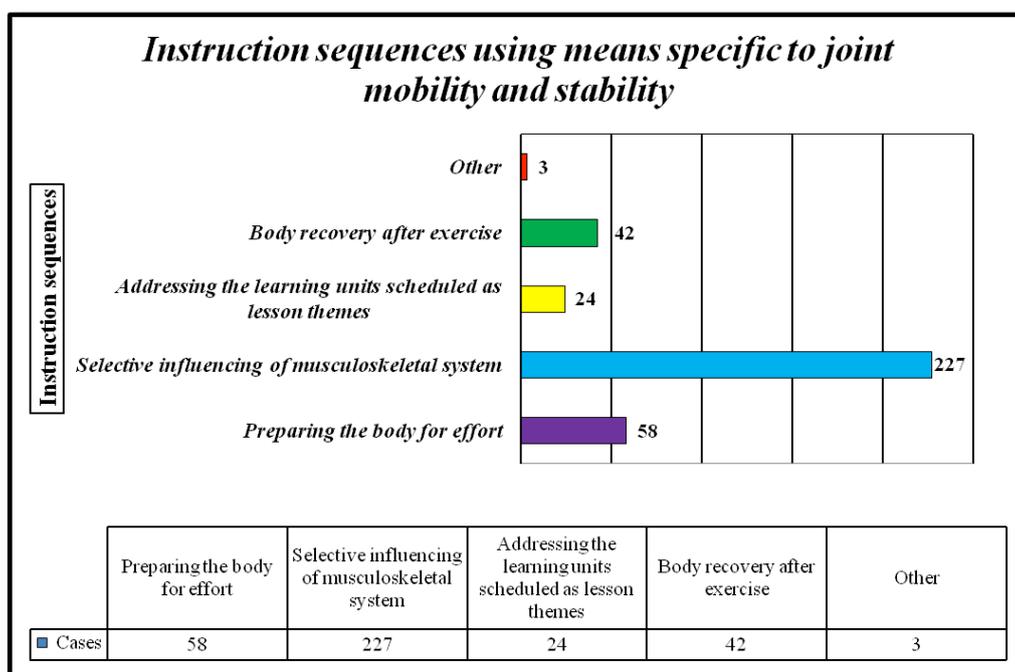


Figure 01. Instruction sequences using means specific to joint mobility and stability

Table 04 shows the items 7-10 and the results of statistical processing.

Table 04. Overall results of the responses to items 7-10 of the opinion questionnaire

Item no.	Item name	Questionnaire completion scale	Cases	%
7	Do you think that joint mobility and stability are synonymous with the concept of flexibility?	1 - Full disagreement with the statement	33	10.5%
		2 - Quite rarely	26	8.3%
		3 - Relative agreement with the statement	100	31.9%
		4 - Strong agreement with the statement	102	32.6%
		5 - Full agreement with the statement	52	16.6%
		Total	313	100.0%
		Arithmetic mean	3.36	
8	Should flexibility be treated, in the physical education lesson, to the same extent as other components of motor ability?	1 - Full disagreement with the statement	6	1.9%
		2 - Quite rarely	12	3.8%
		3 - Relative agreement with the statement	97	31.0%
		4 - Strong agreement with the statement	108	34.5%
		5 - Full agreement with the statement	90	28.8%
		Total	313	100.0%
		Arithmetic mean	3.84	
9	Do you consider it necessary to introduce means specific to flexibility, as an intermediate ability, in the thematic content for primary schools?	1 - Full disagreement with the statement	8	2.6%
		2 - Quite rarely	25	8.0%
		3 - Relative agreement with the statement	93	29.7%
		4 - Strong agreement with the statement	110	35.1%
		5 - Full agreement with the statement	77	24.6%
		Total	313	100.0%
		Arithmetic mean	3.71	
10	Do you consider it necessary to introduce flexibility, as an intermediate ability, in the specialised syllabus and implicitly in the thematic content for lower secondary schools?	1 - Full disagreement with the statement	12	3.8%
		2 - Quite rarely	25	8.0%
		3 - Relative agreement with the statement	92	29.4%
		4 - Strong agreement with the statement	97	31.0%
		5 - Full agreement with the statement	87	27.8%
		Total	313	100.0%
		Arithmetic mean	3.71	

Item 7. *Do you think that joint mobility and stability are synonymous with the concept of flexibility?* (1 - Full disagreement with the statement; 2 - Quite rarely; 3 - Relative agreement with the statement; 4 - Strong agreement with the statement; 5 - Full agreement with the statement)

The results demonstrate that several respondents believe that joint mobility and stability are synonymous with the concept of flexibility. Thus, 16.6% of respondents fully agree with the statement, and 32.6% express their strong agreement with the statement.

Item 8. *Should flexibility be treated, in the physical education lesson, to the same extent as other components of motor ability?* (1 - Full disagreement with the statement; 2 - Quite rarely; 3 - Relative agreement with the statement; 4 - Strong agreement with the statement; 5 - Full agreement with the statement)

The responses highlight that, in the physical education lesson, flexibility should be treated to the same extent as other components of motor ability. Thus, 28.8% of respondents fully agree with the statement, and 34.5% strongly agree with the statement.

Item 9. *Do you consider it necessary to introduce means specific to flexibility, as an intermediate ability, in the thematic content for primary schools?* (1 - Full disagreement with the statement; 2 - Quite

rarely; 3 - Relative agreement with the statement; 4 - Strong agreement with the statement; 5 - Full agreement with the statement)

The results show that most respondents consider it necessary to introduce means specific to flexibility, as an intermediate ability, in the thematic content for primary schools. Fewer respondents express their full agreement with the statement (24.6%), compared to those who strongly agree with the statement (35.1%).

Item 10. *Do you consider it necessary to introduce flexibility, as an intermediate ability, in the specialised syllabus and implicitly in the thematic content for lower secondary schools?* (1 - Full disagreement with the statement; 2 - Quite rarely; 3 - Relative agreement with the statement; 4 - Strong agreement with the statement; 5 - Full agreement with the statement)

The obtained results emphasise that the respondents consider it necessary to introduce flexibility in the specialised syllabus and implicitly in the thematic content for lower secondary schools. 27.8% of them fully agree with the statement, 31.0% strongly agree with the statement, and 29.4% relatively agree with the statement.

7. Conclusion

Analysing the responses to items 1 and 2, we find out that, in the primary education lesson, fewer specialists pay very much attention to flexibility, as an intermediate ability, compared to other motor abilities. We note that the interviewed teachers pay very much attention to coordination abilities, this age period being optimum to widen the gestural repertoire and movement ability, develop coordination, etc. (Epuran & Stănescu, 2010, pp. 192-193; Golu, 2010, p. 144; Horghidan, 2000, p. 62).

We argue the need for paying very much attention to flexibility, as an intermediate ability, in the primary education lesson, through the results of the study achieved by Arnould (2009). The study had as research subjects professional football players and proved that, with the increase in the level of flexibility, their technique has also improved significantly. Thus, starting from this premise, we assert that, in physical education too, the motor repertoire can be enriched if we develop flexibility.

According to the analysis of items 4-5, an increased number of specialists use means specific to body expression activities and involve joint mobility in most lessons.

Analysing the results for item 6, we note that many specialists (72.5%) use means specific to joint mobility and stability within the instruction sequence called *Selective influencing of musculoskeletal system*. It is surprising for us that very few specialists (7.7%) introduce as a theme, in the instructive-educational process, learning units specific to the development of flexibility, as an intermediate ability. Thus, we can state that not all teachers pay the same attention to flexibility, as an intermediate ability, as to other components of motor ability, which is also confirmed by the analysis of responses to items 8, 9 and 10.

Based on the obtained results on the relevance and consistency of the questionnaire, all supported by the statistical analysis, we can draw the following conclusions:

- Most teachers pay special attention to speed, as a conditional ability, and to coordination abilities.

- Out of the total number of respondents, about a third use means involving joint mobility and stability.
- Most of the investigated teachers use, in the warm-up part, means involving joint mobility and stability.
- The interviewed teachers confuse the concept of flexibility with joint mobility and stability, but they claim it is a necessity to introduce flexibility in the specialised syllabus.

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