Working together
www.rcis.ro

Revista de Cercetare si Interventie Sociala

ISSN: 1583-3410 (print), ISSN: 1584-5397 (electronic)

THE SIGNIFICANCE OF PERFORMANCE-BASED ASSESSMENT FOR THE PHYSICAL EDUCATION SCHOOL SUBJECT ACCORDING TO THE SCORING SYSTEM USED IN THE ROMANIAN EDUCATIONAL SYSTEM

Laurentiu-Gabriel TALAGHIR, Cristian Mihail RUS,
Teodora-Mihaela ICONOMESCU, Ileana-Monica POPOVICI

Revista de cercetare și intervenție socială, 2020, vol. 69, pp. 388-409

https://doi.org/10.33788/rcis.69.26

Published by:
Expert Projects Publishing House

expert projects
publishing

On behalf of:
„Alexandru Ioan Cuza" University,
Department of Sociology and Social Work
and
HoltIS Association

REVISTA DE CERCETARE SI INTERVENTIE SOCIALA
is indexed by Clarivate Analytics (Social Sciences Citation Index),
SCOPUS and CROSSREF

The Significance of Performance-Based Assessment for the Physical Education School Subject According to the Scoring System Used in the Romanian Educational System

Laurentiu-Gabriel TALAGHIR[1,2], Cristian Mihail RUS[3], Teodora-Mihaela ICONOMESCU[4], Ileana-Monica POPOVICI[5]

Abstract

The main aim of the present paper is to observe the application of the assessment system within secondary school education in Romania. The study was conducted between 2015 and 2018, in the rural area, the subjects of the study being 7th and 8th grade pupils. Pupils were tested at the beginning and at the end of the school year by using 4 trials chosen from the National Assessment System. PE lessons were conducted during the school year according to the planning documents approved by the school management. Practical activities were focused on the development of motor skills and the learning of new, basic, applicative skills from different sports. We noticed an inconsistency between the pupils' performance and their note at the end of each semester. The average performances obtained in the trials were variable depending on the particularities of each one. The average of the results obtained in all 4 trials was equivalent to note between 6 and 6.5. At the end of each semester the pupils obtained the note 10. The obtained performance has a weight of about 60% of the final note obtained by the pupils. Other scoring factors, which do not have a real foundation or an assessment scale, have contributed to this. They are subjective factors used in order to justify the significant difference between the performance and the final note. The current scoring system is not objective and does not reflect pupils' competencies or their value-based ranking.

Keywords: assessment, sports performance, physical education, competencies, secondary school education.

[1] Dunarea de Jos University of Galati, ROMANIA; E-mail: gtalaghir@ugal.ro (Corresponding author)

[2] South Ural State University, Chelyabinsk, RUSSIAN FEDERATION: E-mail: gtalaghir@gmail.com

[3] Alexandru Ioan Cuza Univesity of Iasi, ROMANIA, E-mail: cristian.rus@uaic.ro

[4] Dunarea de Jos University of Galati, ROMANIA. E-mail: ticonomescu@ugal.ro

[5] Alexandru Ioan Cuza Univesity of Iasi, ROMANIA, E-mail: ileana.popovici@uaic.ro

Introduction

The basic components of the teaching process are represented by the concepts of training for each school subject, their content elements and the teaching activity assessment process. These components accompany the school activity and are valid for all school subjects. The assessment has a verification role for both participants in the teaching process.

The pedagogic fundamental values and the general contents of education resulting from them are described in the domain-specific literature. In this context, mental and physical health supports the psychological dimension of education. The general objective of the emotional and physical education is to cultivate the psychological health of human personality, a goal which is achievable, in theory, by means of objectives related to the physical movement and sports culture and, in practice, by means of training/developing the basic and specific emotional, physical and sports-related skills. (Cristea, 2009).

Nowadays, the assessment in education represents an active concern of both theoreticians and practitioners. The assessment actions concern all the components of the educational activity: the school curriculum (Bendikova, 2014; Halasz & Michel, 2011; Hong, 2012; Kurkova *et al.*, 2010), the training processes (Rodriguez-Negrol & Zulaikalsasti, 2016), the teaching staff, the entire school system (Bendikova, 2014; Dallolio *et al.*, 2016). The above-mentioned components make up a true system of assessment in education, which addresses various aspects and components of the school system (Carse, 2015; McLean *et al.*, 2015).

The assessment is a two-way exchange between the student and the teacher. Since the beginning of the 21st century it has been argued that "school assessment is a way of observing and interpreting the effects of learning" (Cardinet, 1987; Fullan, 2001; Laveault, 2008; Van der Mars *et al.*, 2018).

Today, there is a growing debate about the need for an "assessment culture" (Radu, 1999) that needs to be formed and promoted among those involved in the education of the younger generation. For this, fundamental transformations are needed, the primary transformation being the mentality of theoreticians and practitioners in the field of education. Many of them have been stuck in the traditionalist approach (control, checking, examination), using the note as a sanction against the student who has not prepared for a certain subject. As a result, certain areas of learning are excluded, which are more difficult to assess, such as attitudes, behaviours or personality traits (Nelson *et al.*, 2010, Philips & Silverman, 2015).

Modern education calls for the design of a new assessment framework and focusing on competencies is a major concern of recent years (Ayuso *et al.*, 2018, Quiterio *et al.*, 2018,). At present, it is aimed at a complex assessment, carried out through a complex methodology and a diversified range of assessment tools. For physical education school subject these tools are represented by a performance

scale. Modern assessment is associated with result measurement (by means of performance), but it is also concerned with the teaching and learning processes involved (Ayuso *et al.*, 2017, Bendikova, 2016).

The assessment in school physical education is a means of effectively linking pupils' training with the achievement of the planned educational goals. It can be considered both as the main way of measuring the impact the methods used during physical education classes have on the student, and as a mechanism for self-control regarding the physical, psychological, motor, moral, social, aesthetic behaviour assimilations etc. The emotional, moral and social components do not have assessment tools, but in the summative assessment they have a fairly high percentage (45% - 55%) because, most often than not, the performance scale cannot be met by the pupil in order to get the highest note.

By being able to provide direct and concrete data on the acquired skills, the assessment is considered to be a component of the education system and is global in terms of engaging all students in a value tag-based system that includes social issues (McPherson *et al.*, 2018) and cognitive (Resende de Oliveira *et al.*, 2017).

In Romania, after drawing up the curriculum for the physical education school subject in 1999, the National School Assessment System (NAS) was introduced for this school subject (Filip, 1999), which includes primary, secondary, high school and vocational education. It contains: the system implementation methodology, the skills and competencies under assessment, the assessment tools (the control trials), the minimum criteria for promotion and the description of the trials.

The only purpose of this assessment system for physical education was to assess students' performance. However, this dominant performance-based assessment model is not related to the content of the lessons or to the curriculum itself (Talaghir & Iconomescu, 2017), the purpose of the assessment being to obtain information about the pupils' fitness level (Filip, 1999).

Nevertheless, some specialists (Lopez Pastor & Kirk, 2013, Rodriguez-Rodriguez, 2016, Rus, 2012) criticized this type of assessment because students reject fitness tests as part of the assessment because many fail to achieve the performance needed in order to get a passing note.

The subsequent attempts to adapt the physical education school subject curriculum content to the social requirements of primary school education (MER, 2004; MER, 2005; MEN, 2017; MEN, 2013; MEN, 2014) and of secondary school education (MEN, 2009) were not accompanied by new assessment tools. There is only one single attempt to propose a competence-based assessment system (MEN, 2017). Its application brings us at a dead end, because in its descriptive part, the assessment component is still performance-based but no assessment scales have been drawn up so that they can be turned into notes. As a result, the assessment system applied is still the one from 1999.

The problem with pupil performance assessment may also be encountered in several education systems across Europe, thereby Malta, Romania, Slovenia,

Sweden, the United Kingdom (England and Wales) and Iceland have created progressive scales for the national performance assessment system in physical education (European Commission/EACEA/Eurydice, 2013).

Some scholars have also proposed some other tools to assess competencies in physical education such as adventure education (Badau, 2013), crossfit (Sibley, 2012), video games (Chaput *et al.*, 2013; Potdevin *et al.*, 2018) and also the combination between the formative and the summative assessment. The present paper represents the equal contribution of all authors.

Methodology

The pilot study was conducted within the H.P. Bengescu Technological High school from Ivesti, Galati County, between 2015 and 2018. 160 pupils in the 7th and 8th grades were tested. Of these, 60 were girls (37.5%) and 100 were boys (62.5%). The students have attended the training program proposed by the teachers. The training program was in accordance with the planning documents approved by the school management and the County Board of Education. The practical activity was oriented towards the development of motor skills and the formation and consolidation of basic motor skills or specific to some sports branches. The structure of the PE lessons was divided into moments.

During the school year, the pupils were tested in four already-existing trials within the National Assessment System, most often used by the teachers in the assessment process. These trials were: 50 m-sprint on flat ground starting from a standing position; 800-m (for girls) and 1,000-m (for boys) endurance running; throwing the oina ball; standing long jump. The results were centralized for each year and for each age level. To determine the performance level, we calculated the arithmetic mean of the results that we compared with the NAS scoring scale. We also used our own assessment scale drawn up by the school's specialized teaching staff. In order to highlight the progress, the data obtained in the initial and final tests were statistically interpreted by means of the SPSS 23.0 application.

Results and discussion

The data collected from the trials were grouped by age. Table 1 presents the results obtained by the 7th grade students (girls and boys) and Table 2 shows the results of the 8th grade students (boys and girls).

The centralization of the data had a dual significance in our research. On the one hand, in order to observe the level of performance achieved by students, we only worked with the average of the results for each trial. This was compared with the scale of performance presented in the National Assessment System for

secondary school corresponding to the classes participating in the study. In this way, we wanted to observe the relevance of performance assessment in the final note obtained by students in Physical Education.

On the other hand, the statistical interpretation was used in order to analyze another aspect of the final note regarding the progress made by pupils during the school year. In presenting the results, we will first discuss the level of performance achieved and then the other factors that are considered as part of the scoring system, which make up the final result obtained in PE.

Discussions on performance

In order to see which the ratio between performance and the final note is, we shall analyze the result obtained in the final test for each trial. From the initial testing point of view, we consider that they are not relevant because the pupil is at the initial stage, close to the previous grade. We must mention the fact that the National Assessment System (NAS) recommends a performance for the minimum level corresponding to note 5 and does not provide a scoring scale for superior or inferior performance.

As a result, PE teachers had to create their own assessment scales for all the trials they work with in the current assessment. It can be said that, from this point of view, the assessment is not unitary. This section may be divided by subheadings. It should provide a concise and precise description of the experimental results, their interpretation as well as the experimental conclusions that can be drawn.

Table 1. Average performance values obtained by the 7th grade students

Trial	Girls (n=30)						
	FT	NAS Min.-5	Note 6	Note 7	Note 8	Note 9	Note 10
50-m sprint (sec.)	9.4±0.9	9.4	9.2	9.0	8.8	8.6	8.4
Endurance running (min.)	4.55±2.3	4.55	4.50	4.45	4.40	4.35	4.30
Throwing the oina ball (m.)	22.4±5.1	14	15	16	17	18	19
Standing long jump (cm.)	146±21	140	145	150	155	160	165

Trial	Boys(n=49)						
	FT	NAS Min.-5	Note 6	Note 7	Note 8	Note 9	Note 10
50-m sprint (sec.)	8.0±0.6	8.6	8.4	8.2	8.0	7.8	7.6
Endurance running (min.)	4.39±0.9	4.55	4.50	4.45	4.40	4.35	4.30
Throwing the oina ball (m.)	28.2±5.1	22	23	24	25	26	27
Standing long jump (cm.)	161±19.9	160	165	170	175	180	185

**p<0.05; **p<0.001; FT – Final tests; NAS – National Assessment System; Assessment scale - H.P. Bengescu Technological School, Ivești.*

In analyzing the arithmetic mean of the time recorded by students (girls and boys) in the sprint trial, we applied the same scaling unit (0.2 sec) for each performance, having as point of reference the minimum scale. This scaling was done in order to award higher note than 5, but it also took into account the results recorded below the minimum scale.

For the 50-m speed trial, the average of the results obtained by the 7th grade students in the final test had values of 9.4 seconds (girls) and 8.0 seconds (boys). According to these results, the girls get a 5 in this test, while the boys have a much better result, i.e. an 8. From these results one may deduce that performance assessment is favourable for the boys, who manage to achieve better performances than the girls.

The average performance (9.4 sec) that is equivalent to the minimum level (note 5) presented by the rating system is small, but we believe it is not relevant in the scoring system. This average was obtained by means of a variable weighing of the results. Most results were below the accepted minimum level (between 9.5 and 11.5 seconds) and were obtained by 15 7th-grade pupils (50%). The performance ranging from 9.2 sec. to 8.8 seconds, corresponding to the scoring interval between note 6 and note 8, was achieved by 11 pupils (36.67%). Only 3 pupils (10%) achieved scores that were equivalent to notes 9 and 10, while only one pupil (3.33) recorded a performance superior to note 10. *Figure 1* shows the performance variation chart in relation to the notes obtained by the 7th-grade girls.

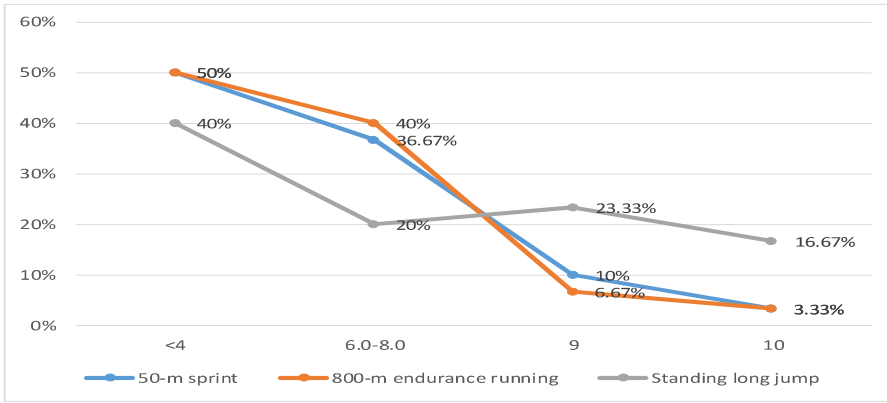

Figure 1. The performance variation diagram in relation to the note obtained - 7th grade girls

As a result of this analysis, we considered that the students with satisfactory results, which represented a small part of the group of tested girls (13.33%), raised the average of the group to the minimum value (9.4 sec.) of the scoring system. Thus, we may assert that the performance achieved by the majority of the 7th grade students is weak, unfavourable to achieving a satisfactory result in PE.

In the case of the 800-m endurance running trial, the recorded results proved to be the weakest in terms of achieved performance. This was caused by the large number of dropouts that was recorded both in girls and in boys. Generally, this trial is a great challenge for students. Most girls do not manage to run for 800 meters, and that's why they walk. The number of dropouts for girls was 50% - 60% depending on the years for which the performance was recorded. Another part of the girls give up running and start walking during the trial, which makes it impossible for the teacher to note them, as the trial consist in continuous running, at own pace, without going from running to walking. For boys, the number of dropouts is lower (20-25%). For this trial, the scaling system was +/- 5 sec. in relation to the minimum time specified in the NAS.

The average performance of the 7th-grade group of girls was of 4.55 minutes, which corresponds to note 5 in the NAS. Considering the high number of those who dropped out of this trial, we may assert that this result is a good one. From another perspective, for those who dropped out of the trial, one cannot speak of note. It is not possible to award a note, maybe only note 2, as in the case of other school subjects where the students hand in the test paper without writing anything in it. Of the 15 girls (50%) who completed this trial, only one achieved a performance corresponding to note 10 (3.33%). Two pupils (6.67%) obtained a 9, two pupils (6.67%) obtained note 8, 6 girls (20%) obtained note 7 and 4 girls (13.33%) achieved minimum or below-minimum performance (Figure 1). One

may state that, by means of this analysis, the average performance of the 7th-grade girls is not a real, objective one. This is the expression of performance achieved by a small number of girls (13.34%). The vast majority obtained results that are under the passing note, i.e. 5.

For the standing long jump trial, the performances of the 7th-grade pupils were of 146.33 cm in the group of girls. These performances are consistent with note 5 proposed by the NAS. For the group of girls, this result was predictable. This was corroborated with the result of the 50-m sprint trial, where the performance of the 7th-grade group of girls was also the same as the minimum level (note 5). In this trial, 12 girls (40%) achieved minimum performance (note 5) or below. In other words, they did not achieve results that could ensure success in PE (Figure 1). At the same time, 5 girls (16.67%) obtained note 10, 7 girls (23.33%) obtained note 9 and 6 pupils (20%) achieved results ranging from 6 to 8 (Figure 1). This trial had the highest percentage of success, the good results recording a percentage of 40%. The other girls (60%) recorded results under note 8.

The best results were obtained in the throwing the oina ball trial. The girls' average performance was of 22.4 meters and the boys' 28.2 meters. When comparing these results to the NAS, one may notice that they are much higher than the average level of note 5, where the indicated performances are 14 meters for girls and 22 meters for boys. In the case of this trial, the teacher's own scoring scale provides results for awarding note 10 of 19 meters for girls and 27 meters for boys.

In relation to the above presented results, it can be seen that the 7th-grade groups of pupils obtained maximum results, the performances being higher than the scoring scale. This shows that the level of skills acquired was appropriate for this age, and performance assessment had a beneficial effect on school success in this school subject. In this trial the pupils easily obtained the maximum note, which ensured their success in PE. This is why performance variation in relation to the note obtained is not part of figure 1 and figure 2.

In the case of boys, for the 50-m sprint trial, the performances had average values (8.0 sec.), which correspond to note 8 in the assessment system designed by the teacher from the school where we conducted the research. This result is considered to be a good one. This was achieved with the help of students who achieved good and very good results. Thus, 9 pupils (18.37%) achieved notes which were higher than the scoring scale for note 10, and 12 pupils (24.5%) achieved good performances corresponding to note 9 and 10 (Figure 2). Also, 16 pupils (32.65%) had performances ranging from notes 6 to 8, which mean an average performance level.

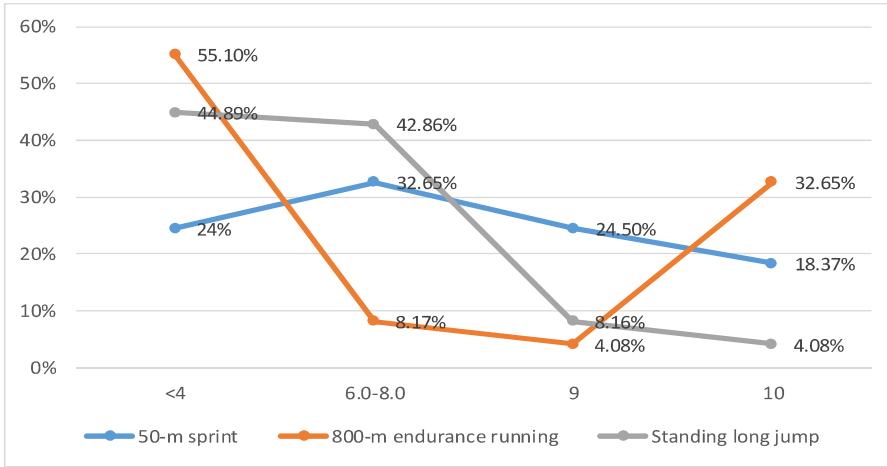

Figure 2. The performance variation diagram in relation to the note obtained - 7th-grade boys

Out of the total 7th-grade boys, 12 recorded minimum or below minimum results (24.5%). One may assert that most pupils (57.15%) achieved poor or average performance in this trial but that the average level obtained by the group is due to those with results above the upper limit of the scoring scale (*Figure 2*).

In the case of the 7th-grade boys who participated in the "1000m-endurance running trial", the number of boys who dropped out of the trial was lower (18.37%) by 9 pupils than in the case of girls. The average performance was of 4.39 minutes, corresponding to note 8 according to the scoring scale. This average performance result is not relevant for most of the group. Of those who completed the 100-m. endurance running trial, 18 boys (36.73%) recorded minimum level performance, corresponding to note 5 or below (Figure 2). This result, together with the dropout rate (18.37%), leads us to a percentage of 55.1% of the participants with very poor performance that did not manage to obtain the minimum passing note. The average performance level, i.e. note 8, is obtained due to 16 boys (32.65%) who achieved performances that could be equaled to the maximum note, to 2 boys (4.08%) with performances equivalent to note 9, to 4 boys (8.17%) with notes ranging from grade 6 to grade 8. In other words, the majority of students (55.1%) fail to obtain the minimum passing note in this trial (Figure 2) even if the average of the group was established at grade 8.

The performance of the boys in the standing long jump trial was surprising (161.33 cm) at the level of note 5. This is because the average performance of the 50-m sprint trial was set at the level of note 8. However, 22 boys (44.89%) had minimum performance or they didn't manage to obtain the minimum passing note (Figure 2). From the point of view of the very good performances, 2 pupils

(4.08%) obtained the note 10 and 4 boys (8.16%) obtained the note 9. Out of all the boys tested in this trial, 21 boys (42.86 %) achieved average performance level, situated in the note range between 6 and 8 (fig. 2). Thus, one may assert that a small percentage (12.24%) recorded good results in trial, while most of the boys obtained poor, or average results.

The analysis of the results obtained in the research continues with the results obtained by the 8th -grade students.

From the data presented in Table 2, one may notice that, for the 8th grade students, the average performance values obtained in the final 50-m sprint trial were 9.0 sec. for girls and 7.9 sec. for boys. These performance values correspond, in the case of girls, to note 6 and to note 8, in the case of boys.

Table 2. Average performance values of the 8th-grade students

Trial	Girls (n=30)						
	FT	NAS Min.-5	Note 6	Note 7	Note 8	Note 9	Note 10
50-m sprint	9.0±0.6	9.2	9.0	8.8	8.6	8.4	8.2
Endurance running	5.28±3.6	4.50	4.45	4.40	4.35	4.30	4.25
Throwing the oina ball	26.2±5.1	15	16	17	18	19	20
Standing long jump	153±15.8	145	150	155	160	165	170
Trial	Boys (n=51)						
	FT	NAS Min.	Note 6	Note 7	Note 8	Note 9	Note 10
50-m sprint	7.9±0.9	8.4	8.2	8.0	7.8	7.6	7.4
Endurance running	4.49±1.9	4.50	4.45	4.40	4.35	4.30	4.25
Throwing the oina ball	31.9±4.4	24	25	26	27	28	29
Standing long jump	172±19.9	165	170	175	180	185	190

**p<0.05; **p<0.001; FT – Final tests; NAS – National Assessment System; Assessment scale H.P. Bengescu Technological High School, Ivesti*

Performance variation in relation to the notes obtained by the 8th graders is shown in *Figure 3* for the group of girls and in *Figure 4* for the group of boys. Analyzing in detail the level of the results obtained by the girls, we noticed that 4 of them (13.33%) had results equivalent to note 10 and other 4 girls (13.33%) had results corresponding to note 9. The highest percentage (36.66%) of the girls had average results ranging from note 6 to note 8. Only one pupil (3.34%) achieved a

result equivalent to note 5, while a significant percentage (33.34%) did not achieve results that could be included in the note scale. In other words, the 10 girls did not manage to get a passing note in this trial.

In the case of the 800-m endurance trial, the average performance scores of the 8th-grade girls were weak, 5.28 minutes. These results did not correspond to the minimum passing note in the case of girls. The large number of dropouts led to this very poor result for girls (63.33%). Of the girls who succeeded in completing the trial, none achieved a performance that could be equivalent to note 10. Even if they completed the test, 7 pupils (23.33%) did not manage to get a passing note. The other results outlined the fact that one girl (3.34%) obtained note 6, another girl (3.34%) obtained note 7 and 2 girls (6.66%) achieved results between notes 8 and 9. As a result, it can be said that only 4 girls (13.34%) obtained a passing note in this trial.

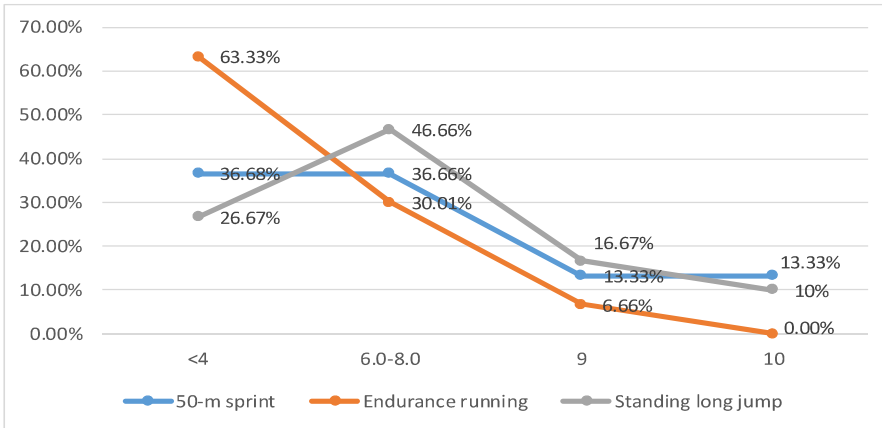

Figure 3. The performance variation in relation to the notes obtained -8th-grade girls

In the last trial, the standing long jump, the average performance was of 153.15 cm for the group of girls. This corresponded to grade 6.5 according to the own scoring scale of the teacher. Individual performances contributed to this average performance. Thus, 3 girls (10%) had performances equivalent to note 10 and 5 girls (16.67%) obtained results equivalent to note 9 (Figure 3). The most part of the group of girls (46.66%) achieved performances that ranged from note 6 to note 8. For this trial, no minimum- level performance was recorded and 8 girls (26.67%) obtained results that were below the minimum scoring scale (*Figure 3*). This means that the teacher couldn't note them and that they didn't pass this trial.

In throwing the oina ball trial, the 8th graders obtained the best results, as in the case of the 7th- grade students. The group of girls had an average performance value of 26.2 meters, well above the maximum note that can be awarded through the scoring system. Most girls (93.34%) who obtained note 10 contributed to this. Only one pupil (3.33%) had a performance equivalent to note 9 and another girl (3.33%) obtained the equivalent of note 8 in this trial.

In the case of boys, we were able to record the same very good results. In this case, 10 boys (68.63%) achieved results equivalent to note 10, 8 boys (15.69%) obtained note 9 and 2 boys (3.92) obtained note 8. Even if there were few, there were also performances under the scale of note 8. Thus, 4 boys (7.84%) obtained note 7 and one boy (1.96%) obtained note 5. There was also a result (1.96%) that was below the scoring scale, which meant that the student didn't obtain a passing note in this trial.

These very good results, spectacular even from the point of view of pupils' performance, made us wonder whether there is a match between the potential of the students and the level of performance indicated in the assessment system. One may also wonder whether the means of measuring performance by each teacher is a fair one that generates an objective assessment. In the case of the groups of boys, the average of the results for the 50-m sprint trial, which corresponds to note 8, was achieved by the majority (35.30%), who recorded results that were equivalent to note 10. Also, 6 boys (11.76%) recorded results corresponding to note 9. At the opposite end, very poor results were obtained by 19.60% of the pupils who achieved minimum-level results (5) or lower, which meant that they didn't obtain a passing note. A significant percentage of 33.34% of the boys achieved average results, ranging from note 6 to note 8.

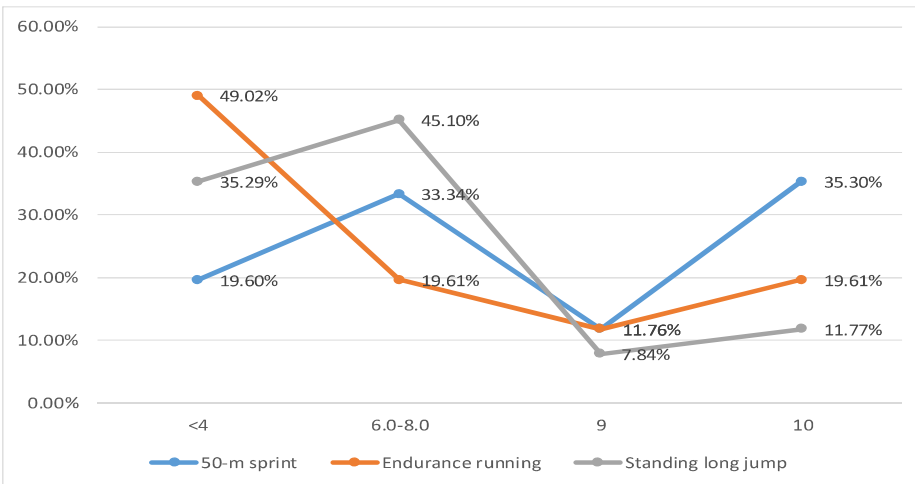

Figure 4. The performance variation in relation to the notes obtained -8th-grade boys

For the 1000-m endurance running trial, the average performance value was of 4.49 min for boys, corresponding to note 5. The number of dropouts was quite high, with 11 boys (21.57%) who could not complete the endurance running trial. 14 boys (27.45%) also achieved very poor results, obtaining the minimum-level note (5) or below. Thus, we may assert that (49.02%) of the boys did not get a passing note in this trial. As far as the good results are concerned, those that contributed to raising the average value of the group of boys, they were obtained

by 10 pupils (19.61%) who obtained note 10 and 6 boys (11.76%) who recorded results equivalent to note 9. An important percentage of 19.61% of the boys achieved results equivalent to notes ranging from 6 to 8 (Figure 4).

For the standing long jump trial, the average performance was of 173.67 cm for boys. These results were equivalent to note 6.5 for boys. The detailed analysis of the results obtained in this trial showed that 6 pupils (11.77%) had very good results, equivalent to note 10. Also, 4 boys (7.84%) obtained note 9. Most of the boys (45.1%) recorded results that were equivalent to notes ranging from 6 to 8. 3 boys (5.88%) recorded very poor results, who obtained note 5 due to minimum-level results and 15 boys (29.41%) obtained results which were below the minimum note. This led to the impossibility of passing this trial. The percentage of pupils who didn't obtain a passing note, cumulated with the average and very poor results, represented the majority of the results obtained by the boys in the standing long jump trial.

By analyzing the performances obtained by the pupils of the 8th grade, we could notice that, only in the throwing the oina ball trial, the majority of pupils obtained results corresponding to note 10. At the opposite end, the worst average performance scores were recorded in the endurance running test, where the girls did not manage to obtain minimum-level results according to the assessment scale, and the boys had minimal performance.

From this analysis, we can appreciate that the note obtained by girls, based on average performance, is around 6. For the boys the average performance-based note is just above 7.

To sum up, we may assert that, for each trial, there was a percentage of about 20% of the pupils who achieved high note scores (9-10), 25-30% of the pupils who achieved results ranging from note 6 to note 8, whereas most students (> 50%) recorded minimum-level or below minimum-level results. Nevertheless, the groups studied all got 10 in PE as their final notes. This shows that there is no consistency between the assessment system and the way the final notes in PE are awarded.

Discussions from the perspective of other factors that contribute to the final note in PE

In the Romanian school system there are other factors that are considered as being part of the assessment process in the Physical Education and Sports school subject. These factors are used by the majority of teachers as part of the students' assessment. Probably the emergence of these factors was generated by the need to justify the difference between the notes obtained on the basis of students' performance and their final notes. In other words, there is a need for arguments to justify note 10 for situations in which performance-based results are not satisfactory (note 9 or 10) or when the students did not obtain a passing note. As a result of this concrete situation, we will continue to analyse these factors to

see if we can talk about a real contribution of these factors to the assessment and scoring process.

Among the above-mentioned factors, we may acknowledge: the progress made, the student's attitude towards the PE class, the participation in the PE class, the interest for the activities performed during the PE class.

Progress is the most important factor brought up by PE teachers that must lead the student to a very good result. The existence of progress is seen as a special merit for which the student must be rewarded. The reward must be a substantial one, materialized in a very high note. Even if the performance for which the pupil is assessed is weak or out of the scoring system, the existence of progress entitles the teacher to award a maximum final note that distorts reality.

In order to see if progress is an objective scoring factor, we analyzed the final results against the initial ones. We calculated the significance limit of the progress achieved by means of the Student test. These results are presented in Tables 3 and 4.

From these, it can be seen that for most trials the index (p) has a value that shows that the final results were better than the initial ones and that progress can be considered significant ($p < 0.001$) both for the 7th graders and for the 8th graders. Only in the case of the sprint trial, which also had a significant character ($p < 0.01$), the progress achieved by the groups of girls was, however, lower.

Table 3. The statistical analysis of the progress achieved – 7th-grade pupils

Trial	Girls (n=30)			
	IT	FT	t	p
Sprint	9.6±1	9.4±0.9	3.11	.004*
Endurance	5.19±2.2	4.55±2.3	2.76	.010**
Throwing the oina ball	20.6±4.7	22.4±5.1	-4.66	.000**
The standing long jump	131±35.5	146±21	-3.74	.001**
Trial	Boys (n=49)			
	IT	FT	t	p
Sprint	8.2±0.6	8.0±0.6	5.32	.000**
Endurance	4.52±0.6	4.39±0.9	2.51	.015**
Throwing the oina ball	25.8±5.4	28.2±5.1	-6.98	.000**
The standing long jump	154±18.8	161±19.9	-6.87	.000**

**p<0.05; **p<0.001; IT – Initial Test; FT – Final Test*

As shown in *Table 3*, the groups involved in the experiment recorded significant progress. Can this progress be included in the scoring system? How is it significant in relation to the student's possibilities and his ability to meet the note requirements? How can the teacher create a fair percentage in the final assessment of the student? These are questions that cast doubt on the significance of the achieved progress argument.

The analysis of the level of progress for each trial was meant to give us a more detailed perspective than calculating the significance limit. In the case of the 7th-grade students, in the sprint trial, the girls recorded an initial average performance value of 9.6 seconds, which is outside the scoring scale. Most girls recorded results that did not ensure them a passing note. The same situation was recorded for the 800m-endurance trial and the long jump trial. For the throwing the oina ball trial, the initial result of 20.6 meters was superior to the maximum scoring scale.

The same situation was recorded in the group 7th grade groups of boys. The initial performance for the sprint trial, of 8.2 seconds, corresponded to note 7, and the final one was equivalent to note 8. In the 1000-m endurance running trial and the standing long jump trial, the initial results were below the minimum passing note, and the final ones had average values equivalent to note 5. In throwing the oina ball trial, the average value of the initial results was well above the maximum scoring scale.

In this context, what is the relevance of the progress rate? In most cases, it was about a progress to ensure the minimum passing note. For many particular situations (> 50%), the progress between the initial and final results did not ensure the minimum performance level. One of the final trials would not have even been necessary since the maximum note was ensured since the initial trial.

The same more detailed analysis was also carried out for the 8th-grade students in terms of the rate of progress and the significance for assessing this progress.

For the 8th-grade girls, the average performance value for the sprint trial in the initial test was below the passing note from the scoring scale. The progress recorded in this trial was from below the passing note in the initial trial to note 6 in the final trial. For the standing long jump, the average value of the initial results was also below the minimum note from the scoring scale. The progress made in the final trial meant getting the passing note, i.e. 5.

For the 800-m endurance running trial, the value of the final results was lower than the value of the initial ones. In this case we cannot talk about progress. As in the case of 7th -grade students, the 8th-grade girls recorded an average initial result value of 24.2 meters, which is equivalent to the maximum note. As a result,

the superior final results obtained in this trial do not have any significance in terms of the progress made.

Table 4. The statistical analysis of the progress achieved – 8th-grade pupils

Trial	Girls (n=30)			
	IT	FT	t	p
Sprint	9.3±0.7	9.0±0.6	3.97	.000*
Endurance	5.06±2	5.28±3.6	2.60	.014**
Throwing the oina ball	24.2±5.8	26.2±5.1	-5.50	.000**
The standing long jump	144±15.5	153±15.8	-7.54	.001**
Trial	Boys (n=51)			
	IT	FT	t	p
Sprint	8.0±0.7	7.9±0.9	1.96	.055**
Endurance	5.09±1.4	4.49±1.9	2.84	.006**
Throwing the oina ball	29.5±4.8	31.9±4.4	-8.60	.000**
The standing long jump	165±18.8	172±19.9	-8.35	.000**

**p<0.05; **p<0.001; IT – Initial Test; FT – Final Test*

From the point of view of the 8th-grade boys, the initial performance level recorded in the sprint trial was equivalent to note 7 and the final performance level was equivalent to 7.5. From a statistical point of view, the final performance is significant as compared to the initial performance, but in terms of the notes obtained, the note was improved only by half a point. For the standing long jump trial, the average value of the initial results was equivalent to note 5 and the average value of the final results was equivalent to note 6.5. Progress was statistically significant in this case, but the performance level was close to the lowest. For the 1000-m endurance running trial, the average level of the initial results was equal to note 2, while the average value of the final results was equivalent to note 5. Progress was significant, but in terms of the scoring scale, it represented the lowest possible note obtained in order to pass this trial. As in the other cases, the average value of the initial results obtained in the throwing the oina ball trial was higher than the maximum note, so the possibility of using the progress factor is not useful here.

As a result of the above, we consider that we justified the impossibility of applying a progress-based system. For most trials, progress only meant going from not getting a passing note to obtaining a 5. For one of the trials, progress could not be taken into account because the value of the initial results was already above the maximum level of the scoring scale. On the other hand, even though we would like to use such a factor in order to create a scoring scale, favourable

to the student, there is no application scale that can be used in order to assess the progress level achieved by each student.

The student's attitude towards the PE class is considered to be another factor that can influence the assessment. The students' attitudes are an aspect that can provide the teacher with relevant information about the methods that might be used within the practical activities. Being an emotional factor, it is conditioned and generated by the students' emotional state, by the family or social environment, by individual motivation as well as by other factors.

Attitude is fluctuating, variable and, as a result, it cannot be part of the assessment process since the assessment process aims at the appropriation of the general competencies provided in the curriculum and must be in accordance with the National Assessment System (Filip, 1999).

On the other hand, in the assessment process, there is no scale to measure the student's attitude towards Physical Education in general or for a particular lesson. Nor is such an assessment system applied to the other school subjects, which gives points in the final note depending on the attitude of the student. For example, in Mathematics, if the student does not solve the task, the exercises or the problems, he/she does not receive a pass note. At best he is asked to solve more exercises or problems during a future Maths lesson in order to get a higher note but under no circumstances does he/she receive note 10 just because he seems interested and has an active attitude during Maths. The same type of assessment is also applied to the other school subjects from the curriculum. As a result of these aspects, the student's attitude towards Physical Education remains a motivating factor for teachers but cannot represent a factor in the assessment process. Aspects related to students' attitudes cannot replace their competencies or the performance level of the assessment system.

Another factor falling within the same category is the student's interest in PE. How can the specialist teacher assess the interest of students? This factor, used as a justification for high notes, does not have a scaling system that can be used in the assessment process. The same as attitude, the student might be extremely interested in PE, but the achievements that can be quantified may be below the level of note 5 or may be of medium level. This does not justify the high notes awarded to the students with low performance levels.

At Mathematics, Physics or Romanian, the pupil does not receive high notes just because he is interested in these subjects. The student has to prove a high level of skills, the mastery of certain notions and domain-specific terms or must know how to solve certain requirements. If this is not the case, the students receive notes corresponding to their knowledge level. The note is not artificially raised by using factors that cannot be quantified. At best, the requirements are lower so that the students could easily get a pass note, not maximum notes. This makes it possible for teachers to assess the level of training, the potential and abilities of each student in a fair way, establishing a fair system of value hierarchy.

In fact, students' interest in the lesson can overlap with the students' attitude towards the activity. The interest is a form of attitude manifested by a student, who can also manifest disinterest, apathy, rejection or other attitudes. From another perspective, the attitude of the student does not manifest in isolation, only in relation to the lesson and to the practical activity. In the same way, the pupil manifests attitudes towards his colleagues and towards the teacher. These must be noticed by teachers, corrected or encouraged, and are more important than attitude towards the lesson. For all these, there is no measuring tool or scale that can convert these attitudes into notes or percentages.

The last aspect that we bring into question as a factor in the scoring process is related to the presence and participation in the PE class. It is considered that the student attending classes and having the appropriate sportswear should receive a higher note at the end of the semester. This is totally inconsistent with the competence-based assessment. The student who attends all classes and brings all the books and notebooks to school will not receive pass notes if he does not have the proper required knowledge regarding the content of the respective school subject.

The attendance and the participation in lessons are governed by internal rules of the teaching process. Thus, if a pupil accumulates a total of 10 absences in any subject, he/she may have a low note in General Behaviour. As a result of this school rule, students attend all classes. Another aspect is related to receiving the allowance by the students' families. If students accumulate a large number of absences (40 absences in all subjects), the child-raising allowance offered by the state system is stopped. As a result, families are interested that students participate in all subjects from the school schedule in order to receive this form of financial aid. In view of the above, we may assert that this factor, the attendance and participation in class cannot be considered a factor in the assessment and scoring process. This is also because there is no scaling system according to which, if the student has a certain number of absences, his/her note will be lower even if his level of skills is higher.

We firmly believe that these factors of the assessment process are arguments that justify giving maximum notes without a valid reason. The lower the level of performance, the more used these factors are. These factors are an excuse for teachers to give only very high notes, thus meeting the wishes of parents who only want good notes for their children. Otherwise, the students will come up with medical exemptions, which will take them out of practical activity so that they do not get a low note in PE. Perhaps, if possible, parents would like to obtain medical exemptions for other subjects, too, where students have poor results. In conclusion, performance-based assessment is distorted because students with low performance receive very high or maximum notes. From another perspective, students with good and very good results are usually disappointed because the level of all students is raised artificially by using the above-mentioned factors, even if their actual performance-based results do not correspond to high notes.

Conclusion

The assessment activity is a constant concern that should provide teachers with perspectives on future teaching activities and enable students to know their level of competencies acquired during the teaching process. From the study carried out on 7th and 8th-grade students, we were able to see that the performance-based system, although objective, is not relevant to the final note obtained by the pupils. Also, in many cases, the performance-based system leads the student to failure or to poor results obtained in PE. In the present paper we highlighted the fact that a fairly small percentage, of about 20% of the pupils, can get favourable results, materialized in note between 9 and 10.

The vast majority of girls did not manage to finish the 800-m endurance running trial (60%), and thus they weren't able to obtain the minimum passing note in this trial. Poor results were recorded by the girls in the case of the sprint trial but also in the case of the standing long jump. The average performance value for all the trials is situated around note 6 for the groups of girls. For the groups of boys that were involved in our study, the results were better. However, the 1000-m endurance running trial led to a large number of dropouts and, as a consequence it led to weak results. For the other trials, the average performance level was average. The average performance level recorded by boys was equivalent to note 7. The final note from the school register for all the students, both girls and boys, was 10.

The other factors that are considered to have an important role in the note-awarding process are just some pretexts, some reasons that justify awarding maximum note to all pupils involved in the PE lesson. There are no application scales or objective mechanisms for them. We believe that the current performance-based assessment system does not represent a relevant framework for the assessment process and does not offer the possibility of establishing the level of the real skills acquired by students. Regardless of the performances achieved, all pupils obtained a 10.

There are also other factors involved in the assessment process, which are mostly subjective, and which are specific to sports games or gymnastics. These subjective factors can be assimilated to those used in cognitive assessment, as the level of manifestation of a motor skill is much more subjective and difficult to assess. We strongly believe that, at the core of this situation, is the possibility for students to easily obtain a medical exemption. Due to the possibilities offered by this medical document, PE differs from all other school subjects in the curriculum. Specialist teachers can no longer perform an objective and fair assessment because, in case of poor results, students are removed from their lesson with the help of a medical exemption.

On the other hand, performance-based assessment only pursues the sporting component of the Physical Education lesson. Only by using this kind of assessment the student cannot prove that he achieved the level of educational objectives

mentioned in the curriculum. In order to meet these goals, we believe that it is necessary to introduce other forms of assessment as well that will enable students to manifest themselves from several points of view. We think it would be useful to have a multi-criteria assessment to lead students to better school achievements in this school subject. The fact that physical education is a means of education and health and not a means of achieving performance should also is found in a new assessment system.

The greatest achievement in order to create an objective scoring system remains the abolition of the medical exemption for PE and the proposal of a content that can be adapted to the educational needs of pupils.

Acknowledgments

All authors contributed equally to the article.

References

Ayuso, J.A.Z., Dolores Gonzalez-Rivera, M., & Campos-Izquierdo, A., (2017). Difficulties and supports to teach competencies in Physical Education at secondary school: a qualitative research. *Ricyde - Revista Internacional de Sciencias del Deporte*, *13*(47), 5-25. DOI: 10.5232/ricyde2017.04701

Ayuso, J.A.Z., Rivero, M.D.G., Izquierdo, A.C., (2018). Teaching based on competencies in Physical Education: contribution, assessment and relation with educational content. *Cultura Ciencia y Deporte*, *13*(37), 17-30. DOI: 10.12800/ccd.v13i37.1035

Badau, D., (2017). The Educational Impact of Implementing the Education through Adventure Subject in the Physical Education and Sports Academic Curriculum. *Physical Education of Students*, *21*(3). 108-115.DOI: 10.15561/20755279.2017.0302

Bendikova, E., (2014). Lifestyle, physical and sports education and health benefits of physical activity. *European Researcher*, *69*(2-2), 343-348.DOI: 10.13187/issn.2219-8229

Bendikova, E., (2016). Curricular Transformation of Education in the Field of Physical and Sport Education in Slovakia. *European Journal of Contemporary Education*, *18*(4), 410-417. DOI: 10.13187/ejced.2016.18.410

Cardinet, J., (1987). L'évaluation en classe: mesure ou dialogue? *European Journal of Psychology of Education*, *2*(2), 133-144. DOI: 10.1007/BF03172643

Carse, N., (2015). Primary teachers as physical education curriculum change agents, *European Physical Education Review*, *21*(3), 309-324. DOI: 10.1177/1356336X14567691

Chaput, J.P., LeBlanc, A.G., Goldfield, G.S., Tremblay, MS., (2013). Are Active Video Games Useful in Increasing Physical Activity and Addressing Obesity in Children? *Jama Pediatrics, 167*(7), 677-678. DOI: 10.1001/jamapediatrics.2013.2418

Cristea, S., (2009). *General pedagogy studies – 2nd edition*, București: EDP, 163

Dallolio, L., Ceciliani, A., Sanna, T., Garulli, A., Leoni, E., (2016). Proposal for an Enhanced Physical Education Program in the Primary School: Evaluation of

Feasibility and Effectiveness in Improving Physical Skills and Fitness, *Journal of physical activity & health*, *13*(10), 1025-1034. DOI: 10.1123/jpah.2015-0694

European Commission/EACEA/Eurydice, (2013). *Physical Education and Sport at School in Europe*. Eurydice Report. Luxembourg: Publications Office of the European Union, p. 7-20.

Filip, C. (coordonator), (1999). *The National Evaluation and Testing Service, The National School Evaluation System at Physical Education and Sport School Subject*. București: MEN.

Fullan, M., (2001). *The new meaning of educational change, 3rd edition*. New York: Teachers College Press, 22.

Halasz, G., Michel, A., (2011). Key Competences in Europe: interpretation, policy formulation and implementation, *European journal of education*, *46*(3), 289-306. DOI: 10.1111/j.1465-3435.2011.01491.x

Hong, W.P., (2012). An international study of the changing nature and role of school curricula: from transmitting content knowledge to developing students' key competencies, *Asia pacific education review*, *13*(1), 27-37. DOI: 10.1007/s12564-011-9171-z

Kurkova, P., Scheetz, N., Stelzer, J., (2010). Health and physical education as an important part of school curricula: a comparison of schools for the deaf in the Czech Republic and the United States, *American annals of the deaf*, *155*(1), 78-95. DOI: 10.1353/aad.0.0132

Laveault, D., (2008). Mesure sans démesure: la contribution de Jean Cardinet aux méthodologies de la mesureet de l'évaluation en éducation. *Mesure et évaluation en éducation, 31*(2), 5-17. DOI: 10.7202/1025004ar

López Pastor, V.M., Kirk, D., Lorente-Catalán E., Macphail A., Macdonald D., (2013). Alternative assessment in physical education: A review of international literature, *Sport Education and Society*, *18*(1), 57-76. DOI: 10.1080/13573322.2012.713860

MacLean, J., Mulholland, R., Gray, S., Horrell, A., (2015). Enabling curriculum change in physical education: the interplay between policy constructors and practitioners, *Physical Education and Sport Pedagogy*, *20*(1), 79-96. DOI: 10.1080/17408989.2013.798406

McPherson, A., Mackay, L., Kunkel, J., Duncan, S., (2018). Physical activity, cognition and academic performance: an analysis of mediating and confounding relationships in primary school children, *BMC public health*, *18*(1), 1. DOI: 10.1186/s12889-018-5863-1

Nelson, T., Benson, E.R., Jensen, C.D., (2010). Negative attitudes toward physical activity: Measurement and role in predicting physical activity levels among preadolescents. *Journal of Pediatric Psychology*, *35*(1), 89-98. DOI: 10.1093/jpepsy/jsp040

Phillips, S.R., Silverman, S., (2015). Upper elementary school student attitudes toward Physical Education. *Journal of Teaching in Physical Education*, *34*, 461-473. 10.1123/jtpe.2014-0022

Potdevin, F., Vors, O., Huchez, A., Lamour, M., Davids, K., Schnitzler, C., (2018). How can video feedback be used in physical education to support novice learning in gymnastics? Effects on motor learning, self-assessment and motivation, *Physical education and sport pedagogy*, *23*(6), 559-574. DOI: 10.1080/17408989.2018.1485138

Quiterio, A., Martins, J., Onofre, M., Costa, J., Rodrigues, J.M., Gerlach, E., Scheur, C., Herrmann, C., (2018). MOBAK 1 Assessment in Primary Physical Education: Exploring Basic Motor Competences of Portuguese 6-Year-Olds, *Perceptual and motor skills*, *125*(6), 1055-1069. DOI: 10.1177/0031512518804358

Radu, I.T., (1999). *Assessment in the teaching process*, Bucuresti; E.D.P., 47.

Resende de Oliveira, C., Mota-Pinto, A., Rodrigues, V., Alves, C., (2017). Relevant Factors on Cognitive Evaluation of the Portuguese Population, *Acta medica portuguesa*, *30*(4), 293-301. DOI: 10.20344/amp.7299.

Rodríguez-Negro J., Zulaikalsasti, L.M., (2016). Assessment in physical education. Comparative analysis between the oficial theory and everyday practice, *Sportis. Scientific Journal of School Sport, Physical Education and Psychomotricity, 3*(2), 421-438. DOI: 10.17979/sportis.2016.2.3.1448

Rodriguez-Rodriguez, F., (2016). Measuring quality of Physical Education, an ongoing challenge, *Espacio senblanco-serie in dagaciones*, *26*(2), 173-185.

Rus, C.M. (2013). Communication characteristics during teaching physical education and sport, *Sport science*, *6*(2), 82-84.

Sibley, B.A., (2012). Using sport education to implement a CrossFit unit, *Journal of Physical Education, Recreation & Dance, 83*(8), 42-48. DOI: 10.1080/07303084.2012.10598829

Talaghir, L.G., Iconomescu, T.M., (2017). Study regarding the evolution of the primary school curriculum for physical education in Romania in accordance with the assessment system application, *INTED2017 Proceeding,* 2542-2551. DOI: 10.21125/inted.2017.0710

The Ministry of Education and Research (MER), (2004), *School curriculum for physical education - 3rd grade*, Bucuresti, 43-49

The Ministry of Education and Research (MER), (2005). *School curriculum for physical education – 4th grade*, Bucuresti, 34-38.

The Ministry of National Education (MEN), (2017). *School Curricula for Physical Education and Sport, 5th to 8th grades*, Bucuresti, 36-38.

The Ministry of National Education, (MEN), (2013). *Curriculum for Physical Education, The preparatory grade, the first grade and the second grade*, Bucuresti, 24-28.

The Ministry of National Education, (MEN), (2014) *Curriculum for Physical Education, The third grade and the fourth grade*, Bucuresti, 11-19.

The Ministry of National Education, Research and Innovation (MEN), (2009), *Curriculum for Physical Education, V – VIII grade*, Bucuresti, 14-16.

Van der Mars, H., Timken, G., McNamee, J., (2018)., *Physical educator-us*, *75*(3), 341. DOI: 10.18666/TPE-2018-V75-I3-8113