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**EVALUATION MODEL FOR PHYSICAL EDUCATION AT
PREPARATORY CLASS**

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Abstract

The paper proposes an evaluation model designed for the children from preparatory classes, who participated in physical education activities, created in relation with the admission requirements for children at the beginning of the primary school and with school curriculum at physical education. The importance of this topic is confirmed by the fact that the preparatory class became the first class of the Romanian primary cycle of education (starting with school year 2012 - 2013). However, even under these circumstances, the National Assessment System for Physical Education and Sport Area (official document for this curriculum area from 1999) does not include specifications for this school population. Following the inclusion of the preparatory class in the primary school cycle we believe it is appropriate to introduce some tests capable to highlight the skills acquired by the little scholars. These tests were set taking into account the level of children development as well as the peculiarities of the educational process in physical education. Thus, the evaluation model tested in our research provides important methodological benchmarks for the specialized teachers and helps them achieve all three essential forms of assessment: predictive, formative and summative. In order to integrate the evaluation in the educational process, the model proposed an integrative vision on the children's physical and psychomotor development, assessed in terms of aptitudes and abilities (including those achieved by children during kindergarten).

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Keywords: Physical education; evaluation model; preparatory class.



1. Introduction

Pre-school education is, like the other stages of education, going through a dynamic process of restructuring and adjustment in this field. Since any reform must end with an evaluation of the results, this component is reconsidered and regulated on the basis of new criteria.

To accomplish the evaluation of the preparatory class students in physical education and sport, the teacher must take into account the specific features of the physical and motor development of children that could be successfully used in the instructive - educational process.

In order to integrate the evaluation in the educational process we propose an integrative vision on physical and motor aspects, illustrated by the answers provided in the assessment to questions about the level at which a preschool pupils knows his own body and possibilities of movement, motor actions performed in relation to the environment, how they know how to be careful and be aware of the danger. (Stanescu, 2012) In this light, the central objective of physical education at this age is aimed at structuring the whole personality of the child, fostering the development and adapting the motor behaviors, as well as the emotional, social and cognitive environment, in the dialectic relationship body - subject - environment.

At this age there can be many aspects allowing the assessment of the growth and development level in children. In somatic terms we noted that pupils grow in height, with annual average values that are relatively small compared with the previous age and increasingly higher weight values. Development of the cardiovascular and respiratory apparatus creates favorable conditions for the child's involvement in various motor activities that require a suitable dosage of the exercise capacity. In recent years, assessing the physical development of children and its impact on health have become topics of great interest. The evaluation is used to measure the children's progress, so it is an important tool in understanding and supporting the development of small schoolchildren. (Cojocaru et al., 2015)

In the motor development, which concerns matters pertaining to the general motor skills, specific to a certain age, we can evaluate that the overall motricity of the children, the fine motor skills, psychomotor development and its components. Also, other issues can be evaluated, such as the elements related to a number of specific acquisitions linked to the habits aimed at preserving health, hygiene and personal security. (Stanescu, 2012) Some authors emphasize that the fitness of the children improved best if they had access to a program centered on developing proper skills (Pescari, Popescu, 2012).

On the motor level, the 6-year old child is in stage when movements are maturing, a phase when locomotor skills (running, walking, climbing, jumping, crossing over obstacles), handling skills (throwing, grip, hit, volley, running, throwing) and stability (twisting, turning, maintaining balance) are formed and strengthened.

At the same time, it is the age when they develop favorable attitudes for the practice of physical activity. The importance of this process is significant if we consider the trend of inactivity that still exists at this age. The literature states that only 7% of preschool children are involved in activities with medium and high intensity for 60 minutes per day, while only 26% reach the standard of 120 minutes / day. (Cardon, De Bourdeaudhuij, 2008) Williams et al. (2008) report that children showing a low level of performance are less physically active than children who show a good level of motor skills. This relationship can be the target of educational programs aimed at the prevention of obesity and taking place

in the educational partnership school - family - society. (Tokmakidis, Kasambalis, Christodoulos, 2006; Stănescu et al., 2015)

1.1. Evaluation Model for the preparatory class

Given the issues mentioned above, we suggest a series of standards, indicators and evaluation tests which we consider to be appropriate for the first class of primary school. The proposed system includes 7 standards and related indicators, being formulated according to the requirements expressed for the admission at preparatory class: knowing the body segments and their movement possibilities, body position and somatic indicators, using gross motor skills in different situations, using the fine motor skills in different tasks, motor-perceptive behaviours in relation with spatial landmarks, effort capacity according to the age level, and self hygiene behaviours related to physical effort. For each standard we have defined 2 or 3 indicators, totally 19 indicators, which represent also landmarks for preschool children evaluation and admission in preschool class. (M.Stănescu, 2012) The evaluation scale supposes the indicators level described as accomplished, in progress, unaccomplished.

The model includes the following standards:

STANDARD 1: Knowing your own body and its movement possibilities: indicating segments of the human body; indicating the right-left side on the body; performing actions with body segments.

STANDARD 2: Maintaining a correct body posture: maintaining a proper body posture, upright; maintaining a proper body posture, seated; maintaining a proper body posture, walking.

STANDARD 3: Use of fundamental motor skills under various conditions: using the main motor skills of locomotion under various conditions; handling objects easily; maintaining balance in the execution of various motor tasks.

STANDARD 4: Using fine motor skills to perform various tasks: using writing tools and supports; using self-service skills.

STANDARD 5: Manifestation of the perceptive-motor conduct according to different cues: executing coordinated movements based on spatial cues; structuring the movements depending on temporal cues; reproducing by motor action of the whole body and its segments forms and natural phenomena.

STANDARD 6: Manifestation of age-appropriate exercise capacity: covering various distances at different paces; participating in various physical activities.

STANDARD 7: Demonstrating behaviors to preserve health and personal hygiene: observing the rules to preserve the health; using personal hygiene habits; using hygiene habits for physical effort.

Given the importance of the pupil's attitude toward physical education and sport, it is necessary to take into account the pupil's attitude towards physical education and sport (punctuality, specific clothes, frequency of lessons, interest for practice, relation with the teacher, discipline, relation with classmates; concern for physical exercises outside compulsory lessons).

These issues will help us understand the student's attitude towards physical education, in order to record in the individual sheet the results and prove their progress.

2. Research Methodology

2.1. Objectives and tasks

In this study we aim to identify the main methodological guidelines on the assessment of preparatory class pupils (aged 6 years) for physical education and sport; determining the relevance of the proposed evaluation model in relation to the preparatory class pupils' skills in physical education.

2.2. Hypothesis

The research hypothesis was that the evaluation model we proposed, applied in a training process designed in accordance with the particularities of the students and the curriculum content may catch the effects on their physical and motor development.

2.3. Sample

The proposed evaluation model was applied to a sample of 30 pupils (16 girls and 14 boys), aged 6 and 7 years, from the preparatory class of Sf. Andrei School (Bucharest), participating in physical education classes (school year 2015 - 2016). Data analysis was performed for the entire group of students, given that for this age literature indicates no significant differences in motor skills and physical development of children.

2.4. Methods

While we conducted this research we used the following research methods:

a. Bibliography study method, which helped the development of the theoretical foundation of this paper.

b. Experiment – what it had in terms of variables: independent: The training program proposed in accordance with the provisions of the curriculum, which will cover all components of skills development (students' theoretical knowledge, motor skills and motor abilities of students, student attitude toward physical education); dependent: children results in different evaluation tests (theoretical/ oral, practical).

For the efficient tracking of progress achieved by students we considered absolutely necessary to use an individual record sheet to highlight the progress. Thus, we developed the content of the sheet, based on the proposed evaluation model.

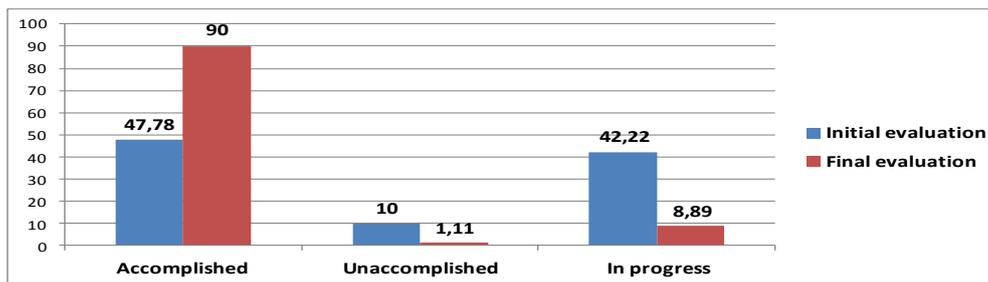
d. Statistical and mathematical method: data obtained from the evaluation test were recorded in the individual sheet of the students, in order to centralize, process, and compare the results. Each indicator has its own degree of achievement: accomplished, unaccomplished, in progress. The percentage of the achieved indicators was calculated from the total.

In the same time, we have counted the total number of accomplished indicators, and we have applied the t-student test in order to identify the mean significance of the differences between the initial and final results.

e. The graphic method was necessary to give a suggestive illustration of the level of achievement of the indicators within a standard.

3. Results

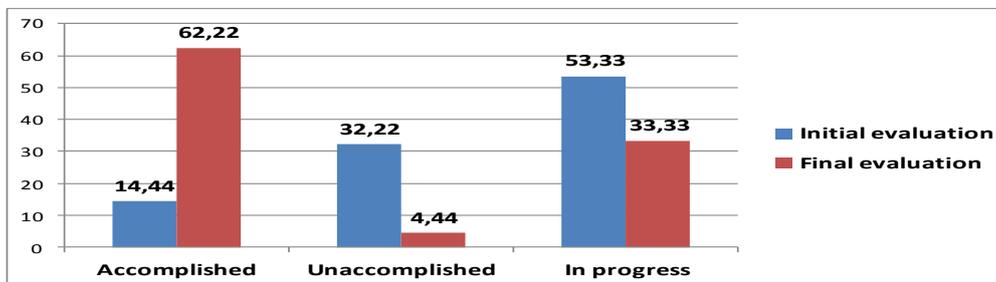
In the standard 1, knowing one's own body and movement possibilities, we noticed an increase by 42.22% of the achieved indicators, the final assessment, compared with the initial assessment and a decrease in the unachieved indicators and of those in progress by 8.89%, and by 33.33%. (Graph 1) Among the indicators, the greatest progress was recorded in the indicators regarding the body parts, a result that is consistent with the literature on the characteristics of the body scheme at this age. Thus, it appears that the proposed training program, in accordance with the provisions of the specific curriculum, has been effective.



Graph 1. Results for Standard 1 assessment (%)

The analysis of the observation sheets for standard 2, on the correct body posture, indicates that both during the initial and the final assessment, shows indicators achieved by all students. Thus, we can say that students have no difficulties in terms of maintaining a correct body posture. Due to the fact that in terms of posture, at that age there were no difficulties, we believe that this standard may remain an optional one, possibly to be applied only to children with deficient postural attitude.

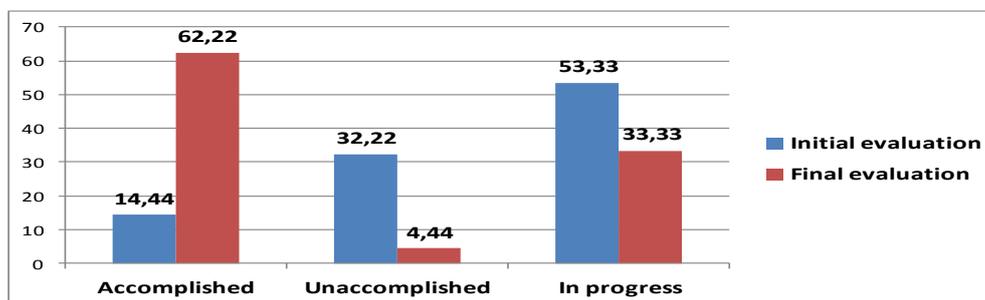
After analyzing the results for standard 3, on using fundamental motor skills, it was found that the training program considerably improved the student achievements. Thus, if at the beginning of the training, only 14.44% of the indicators were achieved, in the end the percentage reached 62.22%. The indicators in progress improved from 53.33% to 33.33%, while the unachieved indicators dropped in frequency from 32.22% to 4%. (Graph 3) the highest progress was achieved for the locomotor skills.



Graph 2. Results for Standard 3 assessment (%)

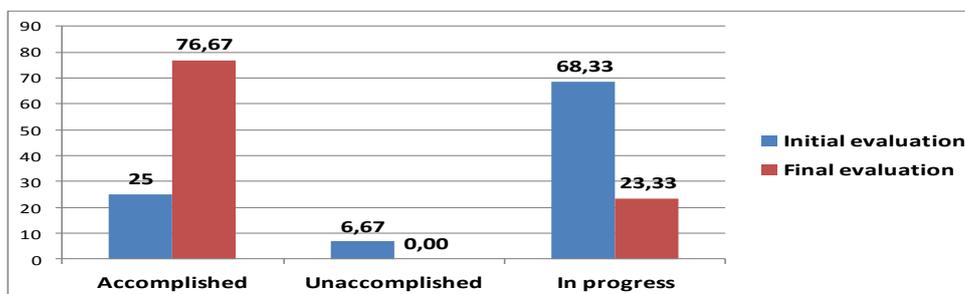
Concerning the standard 4, the use of fine motor skills for the execution of various tasks, it has been observed that from 14.44%, the percentage of indicators rose to 62.22%. The unaccomplished indicators decreased from 32.22% to 4.44%, while the indicators in progress decreased from 53.33% to

33.33%. (Graph 3) For this indicator, the fine motor skills (to use writing and self-service tools) recorded a similar relative progress, as a result of the exercise practices by students during lessons.



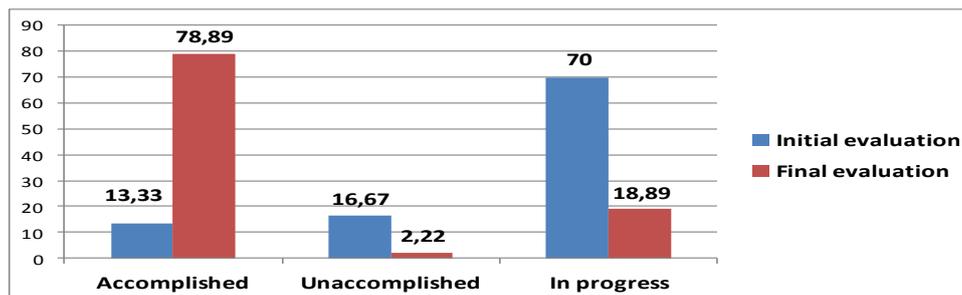
Graph 3. Results for Standard 4 assessment (%)

Regarding the standard 5, manifestation of the perceptive-motor conduct according to different pointers, notice that from 25% the percentage of accomplished indicators rose to 76.67%. The unaccomplished indicators decreased from 6.67% to 0%, while the indicators in progress have dropped from 68.33% to 23.33%. (Graph 4) For this indicator, the greatest progress was achieved for the indicator regarding the reproduction through motor actions of the whole body and its segments, natural forms and phenomena; followed by the structure of movements based on temporal pointers and execution of coordinated movements based on spatial pointers. We consider these results as being important milestones for the design of didactical activity and for the orientation of the content of lessons to those indicators whose progress is slower.



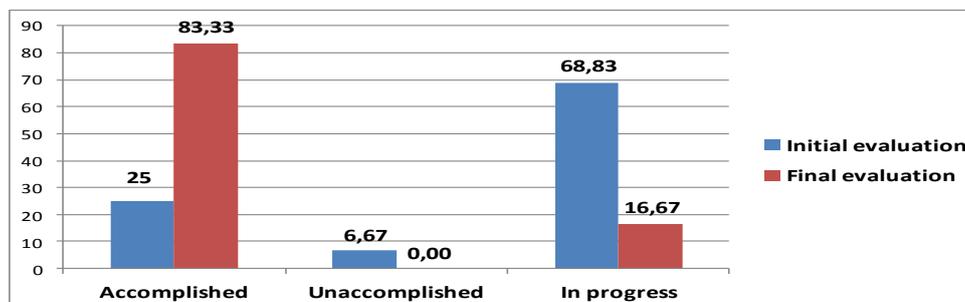
Graph 4. Results for Standard 5 assessment (%)

Regarding standard 6, manifestation of an age-appropriate exercise capacity, the student progress is noticeable, by the increase of the accomplished indicators (by 65.56%) in the final assessment, compared with the initial assessment. The unaccomplished indicators decreased to 2.22%, while indicators in progress dropped from 70% to 18.89%. (Graph 5) Under this standard, students record better results in covering distances in uniform tempo, compared to the varied efforts, specific for outdoor motor activities.



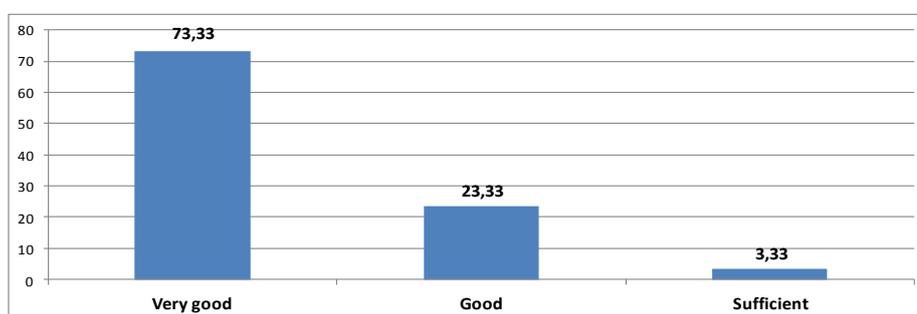
Graph 5. Results for Standard 6 assessment (%)

Regarding standard 7, demonstrating the behaviours aimed at preserving health and personal hygiene, note the student progress by increase of the accomplished indicators during the final assessment (83.33%), compared with the initial assessment. Unaccomplished indicators decreased to 0%, while indicators in progress decreased from 68.83% to 16.67%. (Graph 6) Under this standard, students recorded well-balanced results in all indicators within the standard.



Graph 6. Results for Standard 7 assessment (%)

Please note that in preparatory classes, 73.33% of students manage to obtain at the end of the school year a “very good” rating. (Graph 7) This rate was proposed by the teacher, even it is not compulsory for this class, just in order to establish a comprehensive rate for the children.



Graph 7. Pupils' results at the end of the school year (%)

As it can be noticed in table 1, the final results (reflected by the total number of indicators achieved by the children) are significantly different from the initial evaluation, at $p=0.05$. So, we can confirm the positive influence of the educational program, but especially the capacity of our evaluation model to identify the modifications at children physical and motor level, but also at attitudinal level.

Table 1. T-student test results between initial and final evaluation of standards achievement level

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
<i>Initial – Final evaluation</i>	-8,70000	2,49344	,45524	-9,63107	-7,76893	-19,111	29	,000

4. Conclusions

As a result of the model application, we consider this could be a relevant tool to be used in preparatory class. Its well informed theoretical basis allowed identifying the main evaluation directions proper for this pupils' age.

During physical education activities we noticed a significant progress in some initially achieved indicators, and in some that were initially declared unachieved. Among the proposed standards, one failed to capture the changes, namely the one regarding body posture, which was correct both in the initial and in the final assessment. The result enables us to state that although this standard reflects an important aspect of health it may remain optional and can be used only in cases where the teacher identifies certain faults in attitudes. From another perspective, it is confirmed that posture deficiencies are not obvious at this age yet. The risk increases with age, when sitting for too long in school benches favors posture disorders.

Regarding other assessments standards, we notice significant differences between the initial and the final evaluations, in relation with the share of certain indicators that are already underlined in the literature as reflecting the characteristics of children from 6 to 7 years. (the body scheme, reproduction through motor actions of the whole body and its segments natural forms and phenomena, locomotor skills, fine motor skills, covering distances in uniform tempo).

Our results highlight the advantages and limitations of the evaluation model, in relation to the training methodology applied at preparatory class.

We believe the close cooperation between professionals (teachers, physical education teachers, school medic, and parents) is very important to assess preschoolers. Compliance for a successful assessment is necessary in order to develop some decision aimed at the improvement of activity. So, we support the assessment in the preparatory class, even if currently could be only partially achieved. The model proposed in this paper is an alternative for the quality increase of physical education evaluation.

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