

Coordinates of a differentiated approach of physical education classes in compulsory school

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Abstract

The problem of applying differentiated training modalities at the physical education class in compulsory education – and, related thereto, the application of differentiated evaluative modalities – is too little studied in Romania.

In this article, the author brings a series of psychological and pedagogical arguments regarding the necessity and emergency of adopting in compulsory education a new curricular vision taking into account the fundamental purposes of the inclusion of the physical education class in the school program, *i.e.: students' education in the spirit of maintaining and preserving a harmonious physical development, maintaining and preserving the health condition of the body, introducing movement and exercise in the personal lifestyle*. Such strategic options are reflected in the evaluation system through the skilful alternation of quantitative with qualitative criteria.

In order to justify such strategies, scientific and methodological arguments are presented in a reflective manner.

Key words: differentiated learning in physical education, postulates for differentiated learning in PE, differentiated evaluation in PE

1. Necessity to differentiate training at physical education classes in compulsory education

At this time, in many countries, debates were created on the necessity to review some evaluative practices frequently met at the physical education classes in compulsory education, which are deemed defective.

It is about teachers' habit – to treat certain students as winners or losers, and determine the abilities and subjectivities that will be recognized and celebrated – or not (Penney, D., Evans J., Taggart, J., 2005).

From a pedagogical point of view, it means that students' success at the physical education class is established through their capacity to go through norm-referenced criteria – which usually establish identical performance standards for all students.

Such practices do not take into account the peculiarities of students' psycho-physical development, their differentiated learning/development needs and, especially, do not observe the main reasons based on which the physical education class was included in compulsory education, *i.e.:*

- creating certain opportunities so that students know their own physical potential;
- exercising behaviors which may lead to the optimization of such potential;
- driving students in activities resulting in strengthening the health condition and ensuring an optimum physical development for different age categories;
- introducing movement and physical exercise as the supreme value in each student's lifestyle.

The psychological concept of *learning* has, of course, a particular meaning at the level of the physical education class where the stress is laid on the exercise and obtainment of motor behaviors.

In terms of the used pedagogical strategies, one thing is essential: in order for students to be able to “learn” with good results different motor behaviors it is important for teachers to know, from the very beginning of activities, the *learning/development potential* of each student (preferred concept in the English literature) or the *learning capacity* of each student (preferred concept in the specialized Romanian literature). Both concepts (*learning potential* or *learning capacity*) render a cumulative product, a mixture of the natural, original predispositions of the individual, and the activity results.

The *learning potential* concept - in its most generalized meaning – has been studied for a long time by numerous researchers.

So, several trends can be distinguished in learning potential research, depending on the theoretical background and the methodology of studying this concept. The most prominent representatives of research in this area are Guthke (1993), Budoff (1970), Budoff & Corman (1976), Feuerstein and his associates (1980), Campione and Brown (1987), Campione and his associates (1985).

In most of such studies, the learning potential issue is approached in terms of cognitive performances.

The aspects related to the knowledge of the different learning potential of the students involved in the fulfillment of motor tasks are missing from the specialized literature.

Most of the studies approaching the different potential issue in the case of children of the same age are rather focused on aspects regarding *inclusive education* and *differentiated education*. From this point of view, a differentiation is worth being made: if the *inclusive education* concept proposes that *no differences are made* which would result in the exclusion of certain subjects from certain learning contexts through the affection of fundamental human values, the *differentiated education* concept proposes, on the contrary, *that differences are made* among individuals through respecting the natural peculiarities distinguishing one from the other.

Through the alternation of the two strategies, the application of the pedagogical principle of *ensuring the basic education for all*, which, in the context of the physical education class, supposes to lay stress especially on *education for movement* or on *education for health* and less on the idea of competitiveness and performance, becomes possible.

In a pragmatic approach, it means that “teachers need to be responsive to the learning needs of their students through... implementing teaching strategies that are responsive to a diverse clientele” (Dill, 1990).

2. Are teachers ready to apply the principles of a differentiated education at the physical education class in compulsory education?

The results of relatively recent studies regarding the fundamental purposes pursued by the physical education teachers in compulsory education highlighted different opinions. Kirk, D. (1995, p. 370), for instance they mention that “when questioned, some physical educators blamed the school for only giving them two periods of PE per week,” whilst “... few teachers blamed PE, its aims, content, and pedagogy”. The questioned individuals proved to be concerned, first of all, with performance, and less with the personal gain of the students participating in the physical education class.

On the other hand, there are studies within which “teachers of PE have stressed the importance of self-efficacy in relation to motivation and enjoyment for children” (Chase, 1998, p. 87).

From our direct relations with the teachers in compulsory education, we establish, on the other hand, that some physical education teachers try to apply the methods and principles of differentiated education, while others do not do it for the simple fact that, most of the time, they do not know how to proceed. From this point of view, Golder (2003) suggested that without a developmentally appropriate pedagogy, which targets the level of each child in the programme, we are likely to inhibit meaningful movement experiences for all.

The student-centered approach is potentially an important focus for the development of school PE pedagogy and curriculum.

As a general observation we keep in mind the fact that good teachers reflect students’ different needs and interests in their programmes.

3. Are teachers ready to apply the methods of a differentiated evaluation?

At the level of educational practices, the conclusion is that in Romania there are quite a lot of deficiencies in the application of differentiated strategies in the teaching-learning processes.

The teachers teaching physical education in compulsory education are not excepted from this point of view.

In one of our studies (Ezechil, L. 2005) 47 gymnasium teachers were questioned on the differentiated strategies they resort to during physical education classes. The three strategies defined and described by Harrison (1997): differentiation by task, differentiation by outcome and differentiation by support were taken as reference.

The processing of answers revealed that: only 6 teachers resort to the differentiation of the tasks they propose to students, 8 of them establish certain differences at the level of results (which they refer to the different learning effort potential that each of them holds) and that 45 of the 47 teachers consider that they apply differentiation methods as support, being aware of the fact that students are very different from one another at least in terms of sensitiveness.

Usually, in rating, norm-referenced criteria are adopted – supposing reference to standard values not taking into account individual differences.

Due to the fact that teachers are aware of the necessity to change some of their behavioral habits, it was not very difficult to attract them in a reflection exercise finalized with the formulation of a set of definitive questions for reviewing their own professional style:

a. Questions helping the teacher to prepare for a differentiated approach of training:

- Do I hold enough information about each student based on which to conceive differentiated learning/evaluation tests and tasks?
- Did I identify clear and safe sources for collecting information about students?
- Can I correctly appreciate how much each child can be solicited through control tests?
- Do I have a series of pedagogical methods to differentiate training at the physical education class to apply taking into account the different learning potential of students but also their individual physical development needs?

b. Questions helping the teacher organize a differentiated training environment:

- When I evaluate students do I create a favorable context to assert the natural differences existing among them?
- Do I encourage, through my behavior, the manifestation of differences?
- Are the materials I use adequate to each student?

c. Questions helping the teacher to identify differentiated evaluation methods:

- Are the tasks/tests the students are subject to conceive so as to satisfy their different capacities and their needs?
- Are the evaluation strategies capable to signalize the sensitive differences existing among students?

We estimate that, by involving teachers in reflection exercises of such kind, the first step - which is the most important! - to methodological innovation is made.

4. Postulates in favor of applying differentiated strategies in teaching physical education in compulsory education

The first postulate (biological determinations): human subjects have a different development physical potential. For this reason, they do not have the same availabilities for movement, the same biorhythm..., or the same resistance to effort.

The second postulate (psychological determinations): human subjects do not have the same psychological peculiarities of manifestation (capacity to react to the action of some stimuli, the same reaction speed, the same characteristics of will and attention, the same types of emotions, feelings, passions or the same learning capacities).

The third postulate (receptivity to the educative/pedagogical influence): not all human subjects are equally receptive to the educative influence/action. For this reason, it is necessary that differentiated methods are applied in teaching: working in small groups, independent activities, one-on-one instruction, cooperative learning groups.

On the other hand, *school learning never starts on an empty place, but always has before it a certain stage of infantile development, that the child runs through until it goes to school* (Vigotski, 1971). From here, the necessity to find the adequate pedagogical method /methods to activate, determine, develop the students' different learning potential. It would suppose – said the same Vigotski – to know how to progressively go in learning from *other-regulation* to *self-regulation*.

5. What does it mean to use qualitative criteria in the evaluation of learning performances/results at the physical education class in compulsory education?

Scriven (1969, 1989) published a variety of writings on the topic of the logical sequence of concepts that defines how people try to connect data to value judgments that the evaluand is good or bad, better or worse, passing or failing, or the like. In 1980 Scriven outlined the four steps for a 'sensible' evaluation:

- selecting criteria of merit, those things the evaluated person must do to be judged good
- setting standards of performance on those criteria, comparative or absolute levels that must be exceeded to warrant the appellation "good"
- gathering data pertaining to the evaluated person's performance on the criteria relative to the standards
- integrating the results into a final value judgment.

Even if through the use of such criteria the evaluation becomes more sensible, in essence it continues to be focused on performance. In compulsory education it is important that no student is left *outside* the physical education class due to the formulation of requirements it cannot meet.

For this reason, we plead for the creation, in compulsory education, of a psycho-individual referential to be used not quite for evaluating performances but especially learning progresses. The evaluation shall thus become qualitative.

The main modalities that may be used for collecting such information are:

- the psycho-individual sheet making reference to certain parameters of physical development;
- the application of questionnaires to identify preferences;
- the use of grids to notice behaviors, the biorhythm, the psycho-physical dynamics.

Although physical education teachers are not specialized in psychology, they can use such instruments quite professionally.

By correlating the information collected by means of a behavior observation grid like that below (Fig.1) the physical education teacher creates for itself a realistic image on the *psycho-physiological peculiarities* of students at the beginning of workouts which may be oriented to the obtainment of foreseeable progresses, relatively easy to anticipate.

Targeted behaviors	Expression degrees				
	1	2	3	4	5
reaction speed (slow/quick)					
capacity of attention					
bioenergetic regime (from <i>without energy</i> - to <i>full of energy/vivacious</i>)					
power of will					
motivations for movement and for sports activities					
aspirations level					
temperament (from very introvert to very extrovert)					
sociability degree					

Fig.1. Behavior evaluation grid

From a technical point of view, it would be desirable that the teacher gives the children a variety of choices in the way they approach a task and challenges them to find the level that is not too hard or not too easy to be fulfilled.

It is in this spirit that we should also understand the recommendation of Penney, D., Evans J., Taggart, J., (2005) suggesting that in the evaluation the *outcomes* of related *aspects* should be studied and *scales of achievement* should be used. In conceiving such scales of achievement, a combination of *quantitative criteria*, focused on contents (How much of the task was fulfilled?) with *qualitative criteria* (How can each subject fulfill the entrusted task?!) would become appropriate

6. Application of a curricular vision in evaluating learning results

The new curricular conceptions offer a series of methodological suggestions to correlate learning objectives to evaluation modalities.

Please find below an operational model to achieve such correlations:

Centers of interest	Pedagogical approach	Evaluation manner
a.1. Focus on the individual. (observance of the child physical development level)	Establishment of the effort solicitation degree by reference to physical development parameters	Measurement of effort resistance through reference to physical development parameters (height, weight, relations between different body components....)
a.2. Focus on the individual (observance of the child psychological development level)	Establishment of the effort solicitation degree by reference to psychological development parameters	Use of behavior observation grids (filled in- if applicable - in collaboration with a psychologist)
a.3. Focus on the individual. (on the knowledge of the learner's attitudes)	Encouragement and stimulation of the attitudes which are favorable to the knowledge and development of own physical potential	Use of attitude scales
b. Focus on the learning content. (on the establishment of learning tasks based on the adaptation of such tasks to the students' potential and learning needs)	- Prerequisite identification - Establishment of learning objectives by reference to the child psycho-physical development parameters Decomposition of complex tasks into personalized learning tasks	Measurement of the degree of achieving the training objectives established in a differentiated manner. Comparison of learning results to the requirements formulated through <i>level indicators</i>
c. Focus on the learning process (on the manner of acquiring new behaviors)	-Monitoring the tasks fulfillment rhythm (individual aspects or modifications when working in group). -Identification of learning difficulties and granting of individual assistance (or group assistance, when working in a team) -Continuous assurance of feedback (individual or group feedback, when working in a team).	Sequential evaluations through specific tests and reference to level indicators Progress scales for highlighting and evaluating progresses.
d. Focus on the child personality development level	Monitoring the behavioral changes relevant for the child personality formation and development process	Simple personality tests targeting: the physical, mental, social maturity degree; the decision-making capacity, the autonomy, the capacity of cooperation etc...

Fig.2. Correlation of the criteria evaluating learning results to the psycho-physical development parameters

We estimate that physical education should be focused not only on the motor tasks and performances but – especially – on the psycho-physical characteristics which may contribute to the formation/development of strong personalities, of favorable attitudes regarding the maintenance and the optimization of the body health condition. For such considerations, in our opinion, the evaluations made at the physical education class should target a complexity of learning results: some of them which are related to the specific nature of physical education classes, others which are not directly related to this but which pursue the formation/development of the autonomous/independent child personality.

From among such types of results, we retain some which we consider more significant:

- motor performances (differentiated);
- psycho-physical characteristics: resistance to effort, reaction speed;
- psychological characteristics: (*motivations*: desire for progress, aspiration level; *will qualities*: tenacity, perseverance);
- attitudes to own physical development (wish to discover/ maintain/improve own health condition).

Many of such types of results are qualitative, and not quantitative, and are specific to the achievement of the purpose for which the physical education class was introduced in the school curriculum in compulsory education: *i.e.* to make a physical education.

Such point of view is also supported by Penney, D., Evans J., Taggart, J., (2005) according to whom: A critical challenge is not only to connect content to the curriculum purposes, but to do so in *contexts* that are relevant to students and that will best support their achievement of the outcomes.

Conclusions:

For putting into practice the new principles proposing the review of the routine professional behaviors of physical education teachers in compulsory education, important paradigm changes are necessary to be made at the level of the didactical process. From a synthetic point of view, they aim at changing the finalities of the physical education class and the entire learning context. As an action manner “Were to provide more access to more knowledge (or to more physical development, *we note*) for more early adolescence children in a positive and nurturing climate, efforts would have to be made to emphasize collaborative learning, get rid of tracking, create heterogeneous grouping, develop integrative curricula, involve students in curriculum planning, celebrate (bio and psychological, *we note*) diversity, respond to diverse learning styles, and connect school to community life” (J.A. Beane, 2001).

The significance and the psychological and pedagogical consequences of the occurrence of such strategic changes are major, first of all through transferring to practice the principle of focusing the didactical process on the learner.

The particularization of such actions for the specific nature of the physical education class is, of course, important, but the assimilation to practice of the new principles may determine essential optimizations of any didactic activity, irrespective of the content areas which may be of interest to us in certain circumstances.

The added value acquired at an individual level is highlighted through the evaluation system, which should be reviewed through the application of other new strategic options. Some of them target the evaluative process in procedural terms, other target the change of evaluation criteria and functions:

1. Focus on the child more than on the curriculum
2. Establishment of reference standards for measuring learning progresses, more than measuring performances (in themselves)
3. Use of evaluation qualitative criteria for rewarding the most significant personal/individual learning results
4. Necessity to prepare teachers so that they know how to work with children in a new curricular approach.

Any of these strategic options may be, at a certain moment, subject to specific reflections. Through their cumulation we shall reach the conclusion that, very often, education is even more important than performance.

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