

*Translated from the original in spanish*

## **Formative evaluation in Physical Education to school children with intellectual disabilities**

### **Evaluación formativa en Educación Física, a escolares con discapacidad intelectual**

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#### **ABSTRACT**

In the present article, the results of an investigation directed to the application of the evaluation in Physical Education are exposed, in the students with intellectual disability, when verifying the poor correspondence between the objectives of the program that is imparted and the objectives proposed in the model of current evaluation through ministerial resolution 238 / 2014. The objective focuses on developing a methodology of formative assessment in Physical Education, in schoolchildren with intellectual disabilities, in the Pinar del Río municipality. To this end, different research methods were applied, such as observation of Physical Education classes, at different times of the evaluation, survey of teachers of the subject who teach classes to schoolchildren. As a result, a methodology is presented where the evaluation of motor skills and physical abilities are integrated, enhancing the playful actions in which practical and social learning are stimulated which influence the improvement of their health and preparation for an adult life and independent of the school.

**Keywords:** intellectual disability; physical education; formative evaluation.

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#### **RESUMEN**

En el presente artículo, se exponen los resultados de una investigación dirigida a la aplicación de la evaluación en Educación Física, en los escolares con discapacidad intelectual, al constatarse la pobre correspondencia entre los objetivos del programa que se imparte y los objetivos propuestos en el modelo de evaluación actual, a través de la resolución ministerial 238/2014. El objetivo se centra en proponer una metodología de evaluación formativa en Educación Física, en los escolares con discapacidad intelectual, en el municipio Pinar del Río. Para ello se aplicaron diferentes métodos de investigación como la observación a clases de Educación Física en diferentes momentos de la evaluación y encuesta a profesores de la asignatura que imparten clases a los escolares. Como resultado, se presenta una metodología donde se integran la evaluación de habilidades motrices y capacidades físicas y se

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potencian las acciones lúdicas en las que se estimulan aprendizajes prácticos y sociales, que influyen en el mejoramiento de su salud y preparación para una vida adulta e independiente de los escolares.

**Palabras clave:** discapacidad intelectual; educación física; evaluación formativa.

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## INTRODUCTION

Authors such as López, A. (2006), Calderón, C. (2008), Ruiz, A. (2010) Blázquez, D. (2017), agree in basing the process of Physical Education from the discipline of Theory and Methodology of Physical Education, which has, among its objectives, fulfill tasks that allow it to act in the planning, organization, dosage and systematization of activities, both through the classroom and through sport for all; both in turn influence the development of motor skills and physical abilities.

The theory and methodology of Physical Education, like the pedagogical disciplines, has as its object of study the specialized operationalization of different components of the teaching-learning process, through the development of abilities and motor skills, with the purpose of guaranteeing the integral development of the practitioner, while its field of study is very wide; it includes all the theoretical-methodological knowledge of Physical Education, sports and recreation. Mirabal, N. (2010)

The didactics of Physical Education is based on laws, principles that govern the formation of the socialist personality, which govern the development of the individual, both biologically and socially; therefore, taking Morphology, Physiology, Biomechanics, Movement Theory, as well as Psychology and Pedagogy. Valdés, Y. (2009)

The process of Physical Education must be systematically planned, organized and directed; for this it is important to take into account the components of the teacher-educational process, where the objectives are projected as a guide in its conduction, behaving as a guiding category together with its basic functions. Collective of authors, (2014b)

López, A. (2003) refers to the process of Physical Education from an integral-physical-educational approach as a theoretical-methodological support, while Ruiz, A. (2010) considers it a reference pattern due to its influence on the formation of the personality of schoolchildren.

López and García (2018) also address the problem of attention to students with disabilities in the Physical Education class, from the perspective of permanent teacher training.

In the research, the criteria Núñez et al., (2018) are assumed when considering the educational inclusion in Physical Education as one of the challenges to be in line with the new conceptions of the improvement of the evaluation process. Hence, compensatory corrective actions for schoolchildren are characterized by measuring performance, where constructive feedback prevails, so it is also included that it be personalized.

The teaching method is decisive for the direction of cognitive activity; its selection depends on the purpose and tasks of Physical Education, on the nature of the study material, on the particularities of the students: age, sex, level of physical development, working conditions, the qualities of the teacher. In the present research, the group of productive methods is recommended, which is characterized by the execution of activities that develop the integrality that is sought in the new generations.

The evaluation process in Physical Education is based on a model that presents an orderly, rigorous and systemic approach, which constitutes a significant contribution to the new contemporary conceptions of evaluation, aimed at perfecting and optimizing the teaching-learning process, in which it is necessary to take into account fundamental aspects.

Among these fundamental aspects are the schoolchild, the teacher, and pedagogical strategies, where the principles are to carry out a systematic and integrative evaluation of the teaching-educational process, and where individual differences are prioritized. Evaluation for its application requires different means and has among its purposes the transition from diagnosis to obtaining data for research. Blázquez, D. (2008 and 2017).

Authors such as Janero and others, (2014), consider that schoolchildren with educational needs in Physical Education need treatment of their potentialities and possibilities that allow them to improve their health, preparation for adult and independent life, as well as socialization.

The evaluation in Physical Education goes through several phases, among which are: diagnosis and initial, progressive formative and summative or final. The progressive formative classification of evaluation is that which is carried out continuously, according to the rhythm of learning, through the systematic observation of relevant aspects; in this, progress in learning, new knowledge, reasoning and the mental representations of the schoolchild are evaluated. This form of evaluation is of great importance in the integral formation of schoolchildren with intellectual disabilities, since it requires a personalized, conscious and systemic process that occurs in cooperation with the teacher and the group. The objective of formative progressive evaluation is to provide teachers and schoolchildren with information on how the teaching-learning process of the Physical Education subject behaves. With this type of evaluation, the teacher knows the possible causes of the mistakes made by the students.

Formative progressive evaluation consists of evaluating, in order to construct and support the construction of learning, for which reason the author assumes the criteria of Álvarez, C. (1990), in selecting the following as dimensions of the content for formative evaluation:

- System of knowledge of the moving object, in which are immersed facts, phenomena, concepts, magnitudes, laws, principles, theories.
- System of abilities, which includes the relations of man with the object through intellectual abilities, methods and learning strategies.
- System of values that includes feelings, interests and modes of action.

It is defined as formative evaluation in Physical Education to schoolchildren with intellectual disability, the fusion of the components and methodological principles of Physical Education and Special Pedagogy, which allows to solve a practical problem in the evaluation process. Páez, M., (2018)

Formative evaluation, based on the criteria of Blázquez, D. (2017), makes it possible to determine the difficulties of schoolchildren in their learning process, as well as their successes in adapting the activities detected and planning their improvements and means for regulation, for which it recognizes three forms of regulation: interactive, retroactive and proactive.

Hence, formative evaluation is defined operationally as a pedagogical process in which the regulation is basically that of the schoolchild, and therefore responds to three objectives: pedagogical regulation, the management of errors, the reinforcement of successes, and the communication and representation of objectives, as well as the anticipation and planning of action, are added to it as a priority.

According to Blázquez himself, D. (2017), the formative evaluation phase is fundamentally based on the feedback that has as a platform the individualized realization, and with it, a concrete orientation on their strengths and weaknesses, as well as an orientation on how to improve.

In this research, the theoretical references of Leyva, M. and Barreda, M. (2017) are assumed, considering that schoolchildren should be treated in a personalized manner since they present limitations in tasks or activities that imply precision in visomotor coordination, general motor and manual clumsiness, as well as difficulties that affect the achievement of practical and social learning, to convert objects and facts into symbols and memorize them, assimilate progressively more complex and abstract information, recover information and use it adequately in the solution of problems.

Given the cognitive-affective development and the rhythm of learning, these subjects are slower, alter the balance between chronological age and the degree of their development, so there is a difference between their learning and the learning achieved by their peers of the same age, which is most evident from adolescence.

Hence the importance of being well motivated, because it makes it easier for them to learn routines, to understand images better than words, to memorize and unite concrete information, given the characteristics of their thinking.

The studies carried out on curricular adaptations by Leyva, M. and Barreda, M. (2017), made it possible to organize formative evaluation in Physical Education in the didactic-curricular order with regard to curricular adaptations in schoolchildren with intellectual disabilities.

As a didactic strategy, a simple vocabulary should be used to give them instructions, to relate the classes with the experiences of daily life, so that they can start with what they are capable of doing and then move on to the most difficult phase, as well as to praise and encourage the results obtained. The main objective of this work is to propose a formative evaluation methodology in Physical Education classes, aimed at schoolchildren with intellectual disabilities.

## **MATERIAL AND METHODS**

The research was carried out in the municipality of Pinar del Río, through physical education classes, with schoolchildren with intellectual disabilities; 42 schoolchildren and 16 teachers were selected to teach the classes.

Research methods and techniques were applied to achieve the objective:

A total of 32 classes of Physical Education were observed, to teachers of the subject, given to students with intellectual disabilities, in the municipality of Pinar del Rio, in different phases of the evaluation (diagnostic or initial, systematic and partial).

Surveys were applied to the 16 Physical Education teachers who work with schoolchildren with intellectual disabilities, with the purpose of basing the methodology through the philosophical, pedagogical and didactic characteristics, as well as the definition of the system of motor, organizational and communicative skills and the system of values to be developed by teachers and schoolchildren. The method consisted of five indicators and its results are reflected in one way or another in each of the methodological steps that were followed.

## **RESULTS AND DISCUSSION**

### **Results of observations.**

These were carried out at different times: a first moment, in the realization of the evaluation regulated in Ministerial Resolution 238 / 2014, where the following weaknesses were noted:

- It is not enough to proceed with Ministerial Resolution 238/2014, which normalizes the evaluation process in Physical Education, for school children with intellectual disabilities, by weighting the summative phase over the formative phase.
- Poor compensatory treatment in the actions proposed to evaluate in Physical Education, in schoolchildren with intellectual disabilities.
- Insufficiencies in the methodological treatment of evaluation in Physical Education, as there is no correspondence between the objectives of the programme and the objectives of the mode of evaluation that is carried out.

In this first moment, the need for a methodology coherent with its characteristics is evident, which impacts on the quality of the process of Physical Education and takes advantage of the available potentialities as aspired in the current pedagogical conceptions.

In a second moment in which the observation was made, some time after the proposed methodology was applied in the sample, positive results were observed (Table 1).

The teacher was able to create the conditions in his students to stimulate the execution of motor, organizational, and communicative skills. In the same way, he pondered the feedback of the motor actions, in a personalized way, as well as the participation through the self-evaluation phase and the co-evaluation, which is located in the object and subject of his own process.

**Table. 1** - Overall quantitative results of the observation

Indicators	First moment	Second moment
Evolution of the schoolchild	28 %	88 %
Compensatory corrective treatment	25 %	75 %
Methodological strategies	24 %	76%

### **Methodology for formative evaluation in schoolchildren with intellectual disabilities**

#### **First methodological step.**

##### **Foundation of the methodology.**

The methodology on formative evaluation in Physical Education, in schoolchildren with intellectual disabilities, is characterized by its influence from the philosophical, from a dialectical-materialist approach that is concrete in the relationship of cooperation and mutual aid (teacher-school), where their modes of action strengthen the system of harmonious relations that improves health in general sense. Similarly, the pedagogical influence is manifested from the theory and methodology of Physical Education, a science that is considered by Ruiz, A. (2010), as the specific pedagogy of the process in which the regularities of said process are the object of study, where knowledge of other sciences that affect the different spheres: social, affective, cognitive and motor are integrated in a coherent manner. In the same way, didactics is manifested in the methodology, from a physical-educational approach, when dealing with methods and styles of teaching with productive character.

##### **Second methodological step. Existing problem in the evaluation**

In the evaluation of the subject, there is an insufficient correspondence between the objectives of the Physical Education program that is taught for schoolchildren with intellectual disabilities and the objectives of the evaluation mode that are carried out through Ministerial Resolution 238/2014; hence the need to improve the evaluation in Physical Education, in schoolchildren with intellectual disabilities.

##### **Third methodological step. Determination of the objective:**

The aim of the methodology is to carry out motor and recreational actions that allow the stimulation of practical and social learning, with emphasis on strengthening the area of communication, through personalized feedback.

##### **Fourth methodological step. Definition of the system of skills (schoolchildren and teachers).**

- Skills to keep in mind for teachers.
- Motor skills. These are determined by the teacher, based on the sport being taught (football, basketball, athletics) and in dependence on the physical capacity developed through the motor skill being worked on.



- Organisational skills. These are those that the teacher carries out when he selects the method to be applied. In the methodology it is didactic game, it has a productive character and it is used for the primary learning of sport motor skills, as well as the exercise of physical capacities, the procedures to use (groups), with the organizational forms, (rows), that allow to strengthen in the schoolchildren the socialization.
- Value system. The methodology promotes values such as cooperation and mutual help, self-confidence, discipline and a taste for physical education and sport.
- Skills to be developed in schoolchildren:
- Communication skills. Through dance actions, dances already known in the subject of Musical Education, imitation of motor skills, preferred animals through language, singing, reading words, completion of phrases, among others.
- Sixth methodological step. Determination of the evaluation system (qualitative evaluation)
- Qualitative evaluation.
- MB: if the student executes the motor and communicative ability, stated in the objective of the evaluation; it is manifested in correspondence with the proposed system of values.
- B: if the student presents difficulties in executing the motor and communicative ability, stated in the objective of the evaluation and manifests difficulties in the correspondence with the proposed system of values.
- A: if the student presents significant difficulties in the execution of the motor and communicative ability, raised in the objective of the evaluation and manifests difficulties in the correspondence with the proposed system of values.

### **Methodological guidelines for formative evaluation in Physical Education, in schoolchildren with intellectual disabilities.**

- The coordination of movements will be stimulated through the execution of motor skills, organizational skills and communication skills.
- Priority will be given to feedback on individual motor actions, as well as concrete guidance on the strengths and weaknesses of schoolchildren in order to improve their future repetitions.
- The teacher will stimulate the schoolchildren's participation in their evaluation through self-evaluation and co-evaluation, making them the object and subject of their own process.

### **Example of corrective playful corrective actions in schoolchildren with intellectual disabilities: a way for formative evaluation in Physical Education.**

Grade 5<sup>th</sup>.

Units of study. Football and basic gymnastics.

It can be used in the phase of initial diagnostic evaluation, systematic evaluation and partial evaluation.

Name: hit and return

Objective: to carry out motor actions that allow the stimulation of practical and social learning from the area of communication, through body and physical movements.

Description of the activity.

Materials: soccer balls and basketball or others.

Organization: formed in rows, with equal number of students. In front of each row, at a distance of five meters and in a circle, a ball is placed, accompanied by a card that indicates the dance action (already known) to perform.

Development: the first students in each row, when they hear the whistle, will move forward according to possibilities and when they reach the circle they will hit the ball towards the mini-goal; then, they take one of the cards and execute what is indicated there. They return moving, according to their possibilities, until they make contact with the companion that follows them and they join at the end of the row and so on.

Rules:

Schoolchildren will move, according to their possibilities, running, walking, among others.

The beating will take place towards the mini-goal.

They will execute the dance action that the card says.

The game will have at least three repetitions.

At the end of the game, the team with the best formation is stimulated.

Motor skills: displacements, hits and leg strength.

Organisational skills: method: didactic game, procedure: groups.

Organisational form: rows.

Communication skills: perform dance actions as indicated on the card.

Value system: cooperation and mutual help, discipline.

Taste and love for Physical Education and sport.

Qualitative evaluation.

MB- If the student executes the displacement and hit, executes the action that names the card, cooperates in a disciplined manner to maintain the formation of his team.  
B If the student presents medium difficulties in motor skills, communication and values.

A- If the student presents severe character difficulties in motor, communicative and values skills.



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