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## **Revista de Cercetare si Interventie Sociala**

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

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Revista de cercetare și intervenție socială, 2019, vol. 66, pp. 315-327

<https://doi.org/10.33788/rcis.66.18>

Published by:  
Expert Projects Publishing House



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 (Web of Science) -  
Social Sciences Citation Index  
(Sociology and Social Work Domains)

# Application of an Observation System in the Practice of Psychomotor Circuits in Early Education

Carmen Cecilia ROZ FARACO<sup>1</sup>, Isabel PASCUAL GOMEZ<sup>2</sup>

## Abstract

Numerous authors point out the importance of psychomotor education during the early stages as a means to achieve progress in the cognitive, social, affective – emotional, and physical fields. In Venezuela, which is the focus of this study, early education teachers have to deal with the reality of lacking official studies that tackle in full this field of knowledge. The current job pretends to offer evidence about the benefits of teachers training in the psychomotor area. It describes an observation study made on two initial stages physical education teachers. The teachers conducted a training course on psychomotor circuits and were observed after this period to check the changes in their teaching practice. The study analyzes their practice from three perspectives: teacher's attitude, the management of spaces and resources in the psychomotricity room and the communication with the student. An ideographic follow-up and multidimensional design was carried out. To make the observation, an ad hoc estimation scale was created base on the instrument designed by Camps (2008). The observation was made by 9 teachers from the center during four sessions. The calculated statistics (Cronbachs alpha = 0.8 and CCI= 0.871) guarantee the observation system and the positive evolution in the teaching practice.

*Keywords:* observational design, observational methodology, educational psychomotricity, teacher training.

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## Introduction

Psychomotricity must be an educational instrument in the hands of teachers, educators or pedagogues that contributes to adequately establish the bases of children's learning (Berruezo Y Adelantado, 2000; 2009), acquiring its full meaning when it ceases to be considered as a partial and distant subject. The educational programs and it is used as a psychoeducational methodology of integral development (Martinez, 2014). It is a mistake to approach the study of movement, and, therefore, of the methodology of Physical Education, from an exclusively motor level (Pradillo, 2002; 2007). Therefore, it should be considered as an area that stimulates both the intellectual and emotional processes necessary for academic and intellectual development. This stimulation occurs if psychomotricity is approached using body activity and its symbolic expression as mediators, making it an objective to increase the subject's ability to interact with the environment (Garcia Nunez & Fernandez Vidal, 1994). "An educational psychomotricity that supports a school whose objective is not to inculcate only knowledge, thinking or doing, but also to feel with pleasure and know how to live (Mendiara, 2008: 201).

The Bolivarian curriculum in Initial Education has undergone important changes since 2007. Psychomotor skills are not recognized as a specific discipline or as an area of knowledge. It is approached from all areas and must be developed in each of the learning environments in which the students relate in the school day; depending on the teacher include it globally and internalized in the curriculum. The absence of teaching specialization in this field has led to inadequate use of the spaces dedicated to its practice and the abandonment in the classrooms of a specific and intentional psychomotor planning.

One of the interventions that allow psychomotricity rooms to be designed with intentional planning is the psychomotor circuit, which contemplates in its design and development the intentional use of spaces, materials and moments. Authors such as Lapierre and Aucouturier (1985) have developed it extensively. An adequate planning of the circuits promotes the integration of the factors that most favor children in this stage: the unification between the body and the mind; and the stimulation of their maximum cognitive potentialities, in a stage of maximum neurological, corporal and psychological importance. Improvements in teacher training for an adequate psychomotor pedagogical practice are therefore necessary in the current Venezuelan context. The training that must address different content: a work of corporal training "is about achieving in the adult a greater awareness of his body, tending to develop the ability to resonate tonic-emotionally, in short, achieve a better encounter with his own body that makes the encounter with the other more flexible" (Mila, apud. Camps 2008: 138); a training that enables attitudes based on listening, availability and empathy, that is, awareness of the emotional aspects that are mobilized; and finally training to guide the use of space, time, materials and language to promote meaningful, experiential and manipulative learning. The objective of this work is to describe, after the application of a systematic

observation procedure, the results of a didactic training process in motor skills in a Venezuelan center. Finally, the coherence of the observations made will be checked.

## Methodology

In the field of research on the teaching of physical activity and sports, the observational methodology is endorsed by numerous authors (Anguera, Blanco and Losada, 2001; Anguera, 2003; 2010; Anguera, Blanco-Villasenor, Hernandez-Mendo & Losada, 2011; Losada & Anguera, 2013; Anguera, Hernandez-Mendo, 2004). Observational studies conducted in the field of physical activity and sport have increased significantly in the last two decades. All of them conform to a basic structure of the scientific method, but, in addition, they gather a series of specific characteristics of a methodology, the observational, which is basically characterized by the perceptivity of behavior, habituality in the context, the spontaneity of the behavior observed, and the tailoring of observation instruments (Anguera, Blanco-Villasenor, Hernandez & Losada, 2011: 64).

The observational design serves as a guideline in decision-making that must be addressed both in the construction of the data collection instrument and in its subsequent analysis. The structure of an observation design is configured through the definition of three criteria: units of study, temporality, and dimensionality (Anguera, 2010). In the case at hand, an ideographic design is planned -on the effectiveness of the work of each one of the participants in the study - dynamic -interests to verify its evolution over time- and multidimensional - where several dimensions of behavior are observed.

### *Participants*

The study was conducted in a private center in Venezuela. Two physical education teachers, who teach in the initial education cycle, were part of this study. Eight teachers of the cycle also participated. The permission of the center's management was obtained, as well as the consent of the participants both to participate voluntarily in the training sessions and in the observation sessions. He was assured both in anonymity and the confidentiality of the dissemination of the conclusions obtained.

### *Instrument*

Instruments to register behavioral and temporal variables related to the behavior of teachers and students are common in the area of physical education. Lozano, Viciano and Pieron (2006) mention some pioneers like Physical Education Teachers Professional Functions of Anderson (1975) that analyzes the interactive functions

between teacher and student. In the specific case of the psychomotor field, authors such as Camps (2008) defend its value. For the design of the instrument, the phases that guarantee its validity were taken into consideration, in accordance with the guidelines present in the scientific literature (Anguera, 1990). This revision resulted in the delimitation of the indicators, categories and units of behavior to observe. The observation patterns in the psychomotor intervention recommended by authors such as Camps (2008) or Sanchez Rodriguez and LLorca LLinares (2008) were taken into consideration and an intervention adjusted to the student to be able to accompany him in his process of psychological growth and maturation and to consider both the corporal aspects, like other aspects of the operation. These aspects were taken into consideration, but certain adaptations were also made to the observable parameters, taking into account the contents addressed during the training period, as well as the space and the population to be attended. The observation scale consists of 7 dimensions and 31 categories described below:

1. Body attitude. Composed of the following categories:

Movement: makes movements within the psychomotor room.

Posture: the position of the body is upright, with a positive attitude and willing to interact.

Tone: the muscle tone is in line with the activity, relaxed, loose, relaxed.

Listen: take care of the child and understand their needs.

Empathy: is able to understand and put in the child's place.

Wait: the child is not anticipated.

Attention: is pending the demands of the child

2. Availability. This reflects the ability to have full ability to meet the needs of children. Composed of :

Look: observe the children and establish eye contact with them, communicating in a physical and emotional way

Touch: establishes kinesthetic contact with the child, touching him in an appropriate way when he needs it, in a communicative and affective way.

Voice: use an appropriate tone of voice, without being too loud or too low. With an accurate tone of voice for work in each space, soft and slow for the moment of relaxation, dynamic and flexible for the other spaces.

Collaboration: participates in the resolution of situations without interfering, and respecting the established processes to mediate, invite and structure children.

Agreement: it is flexible and capable of establishing agreements regarding the participation and execution of the circuit.

Reinforcement: verbally and corporally reinforces the children in the room.

Invitation: encourages children to participate in the circuit spaces

Creativity: do not always use the same forms.

<p>3. Containment. It is the ability to support the needs of children and establish a limit between action and thinking:                  Peripheral look: watch carefully what happens in the room                  Containment through the word: calm, contains emotions through phrases or conversations.                  Clarity in the limits: it expresses the instructions of the activities and limits of these.</p>
<p>4. Spaces. The circuit of psychomotricity must contemplate the following spaces: entry ritual, sensorimotor, presymbolic, symbolic, representation, relaxation and collection of materials                  Novelty of the proposal                  Construction: the proposal evaluated all the times and the uninterrupted sequence of the psychomotor circuit.                  Signaling of time at different times.                  Organization distributes time effectively in the spaces of the session, and making adjustments if necessary.</p>
<p>5. Material. It includes the following categories:                  Quality: use the materials taking into account the chronological age of the group, and the objectives set.                  Relationship with motor skills: materials are related to movement                  Diversity: works with different materials, stimulating children in all their senses.</p>
<p>6. Relationship. Observe how the teacher interacts with the group. Its categories are:                  Modalities: see if this interaction occurs from the motor, affective, and verbal point of view.                  Construction: the way to approach the relationship with students who have more difficulties is observed                  Management: observe if you have the ability to lead the class, enforcing the agreements.</p>
<p>7. Language settings. It includes the following categories.* Adjustments at the level of the child, it is checked if he uses a language according to the population and his chronological age.                  Expressiveness                  Consonance between verbal and non-verbal language, the coherence of the classroom teacher is appreciated between what is expressed verbally and with the body, avoiding giving confusing information for children                  Units of observation, units of measurement, the location, extension and frequency</p>

of the observation periods were also delimited. Present in the psychomotricity room, the participation of the observers is taken as a criterion. Regarding the registration procedure, direct coding was chosen in the estimation scale. Consensus agreement was used (Anguera, 1990; Pons Rodriguez & Arufe Giraldez, 2015) in all observations. Below, all the specifications are synthesized:

Table 1: Observation design specifications

Unit	Description
Observation Units Units of Measure	These are the behaviors and interactions executed by the teachers of the Psychomotricity Room. The frequency developed in a score from 1 to 5
Place	In the psychomotor room
Observers	9 observers
Time	The observation has an estimated time of 20 to 30 m.
Observed	The two physical education teachers who perform functions in the psychomotricity room and who were trained to do so will be observed.
N sessions	Four sessions were held in the different levels of initial education, from maternal to third level.
Consensual agreement <i>Procedure</i>	Each of the behaviors to be observed was carefully explained; the teachers entered the psychomotricity room and, without interaction, recorded their answers; Once the observation was concluded, the records were delivered to the researcher.

The psychomotor training was developed during two months. Subsequent observation sessions were conducted in the psychomotor room in group sessions of 30 minutes duration in which the teachers interacted with the children. During the sessions the teachers put into practice circuits in which various elements that favor a multisensory stimulation were incorporated. In the activities of the circuit, through experimentation, and combining various sensory factors in the activities (visual, tactile and olfactory), both motor goals and intellectual objectives were put into practice. A total of 4 observation sessions were recorded, with 9 observers participating in each of the sessions. Several pilot sessions were carried out in order to (1) minimize reactivity and reactance errors (2) decide the definitive location of the observers and (3) test the observational tool.



*Data Analysis*

For the analysis of the data, the statistical program IBM SPSS Statistics version 23 for Windows was used. First, a check was made of the normality and homogeneity of variance of each of the categories observed. The descriptive statistics to summarize the average ratings of teachers in each of the observed categories. To assess the concordance between the evaluations made by the observers, the Cronbach's Alpha coefficient and calculation of the Intraclass Correlation Coefficient were calculated. This index was chosen because it is appropriate to quantify the agreement between different measurements of a numerical variable and extends its use to the case in which more than two observations are available per subject



## Results

The charts that appear below show the evolution of each of the teachers in the observed categories. To facilitate the interpretation of the results, the categories have been grouped according to 3 criteria: attitude of the teacher (body attitude, listening ability, and availability), resource management (spaces, time and material) and ability to interact with students (relationship and language adjustments).

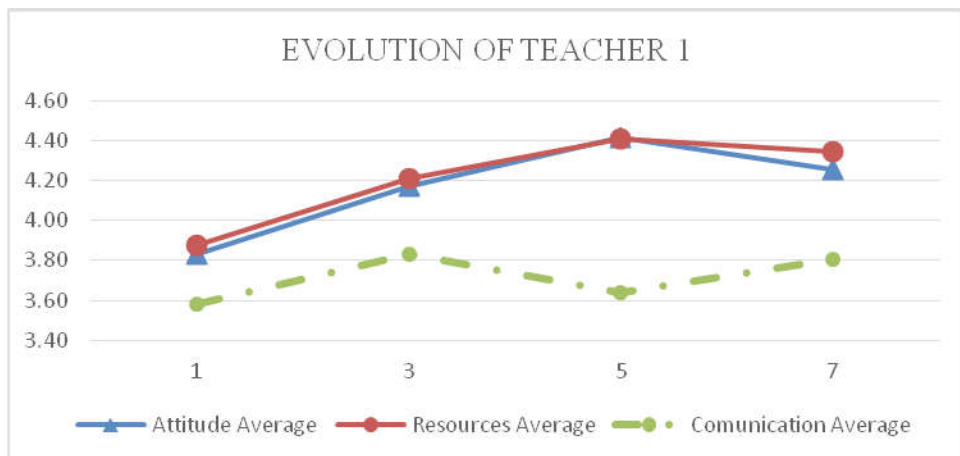


Figure 2: Average scores of teacher 1 in the observed categories

There has been a positive evolution of teacher 1 in the three observed categories. Regarding the attitude category, it should be noted that the average scores of teacher number 1 are high in all the corporal indicators observed (average between 3.8 and 4.26). It should only be noted that this section is where the minimum values observed (average between 2 and 3 points) are shown. Specifically in the category that registers the attitudes expressed through the body that allow the teacher to communicate directly or indirectly with the child. This ability to express oneself with the child through the body must be reinforced. Regarding the use of material spaces and time, the averages are still very high (between 3.88 and 4.35), with lower values in the category creation and use of different materials. Finally, regarding communicative interactions, all scores are high without notable exceptions. In the case of teacher 2, the means are also high in the indicators that reflect his corporal attitude (range between 4.2 and 4.4) showing lower values in the capacity for dialogue and communication with children through the body.

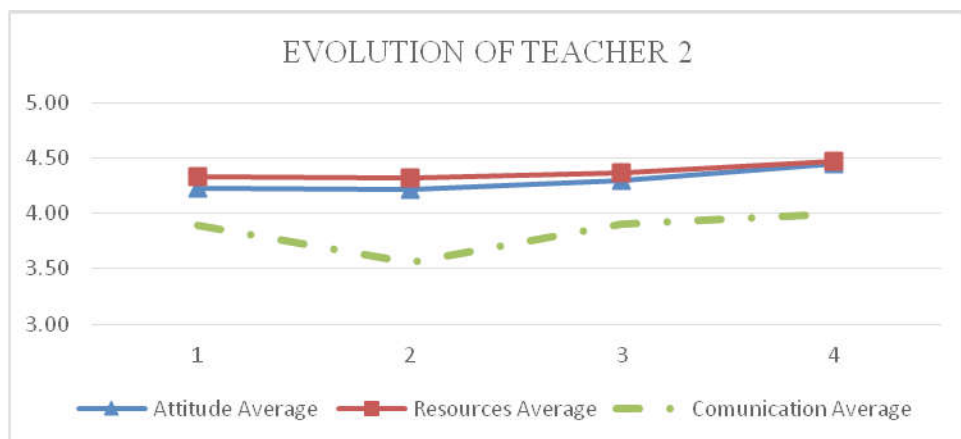


Figure 3: Average scores of teacher 2 in the observed categories

As in the previous case, spaces and time are well used (range of values between 4.3 and 4.47) with the exception of the use of diverse materials. Good general communicative ability of the second teacher (range of scores between 3.8 and 4) with lower scores in the use of an appropriate tone of voice to communicate with children, which should be calm, but firm. You must also improve the consonance by working so that there is a match between what you express verbally and corporally. The level of vocabulary must be consistent with the level of the children and the rejection of difficult children continues to present the lowest levels.

Figures 3 and 4 summarize the degree of coincidence in the ratings of the different observers. Figure 5 shows the observations related to the teacher 1. The statisticians of the 9 observers participating in the analysis indicated that the means in the categories are in a close range (attitude between 3.5 and 4.7, resources between 3.1 and 5, communication between 3.5 and 4.5) which indicates that the ratings of the observers are very close.

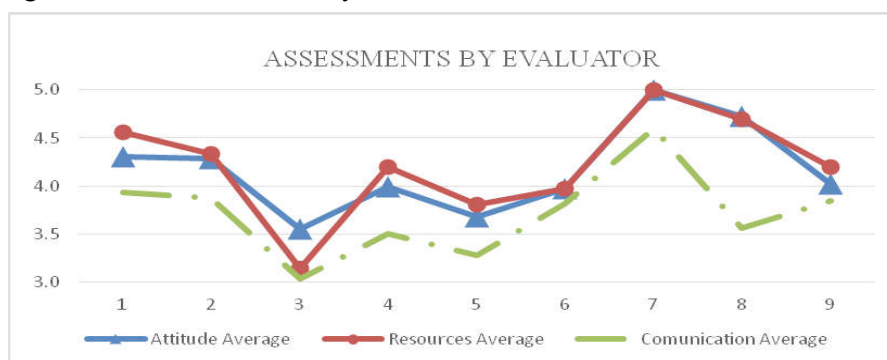


Figure 4: Summary of the teacher's average scores of Profesor 1

In the case of Professor 2, the statisticians of the 9 participating observers also showed slight differences between the evaluators (range between 3.5 and 5 points, in the attitude category; between 3.8 and 5 in the resources category; between 3.4 and 4.5 in the communication category).

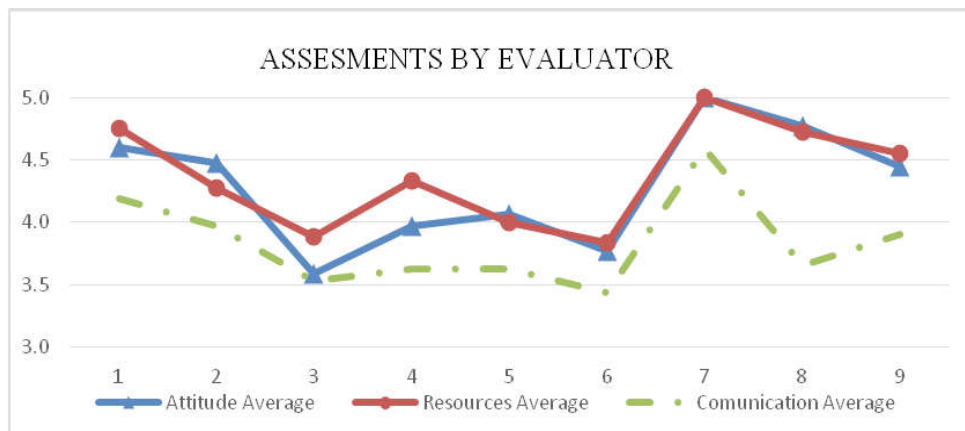


Figure 5: Summary of the average scores of Professor 2

The results of the reliability coefficient obtained are acceptable (Cronbach's Alpha = 0.871). Also the results of the Anova and the intraclass correlation coefficient (CCI = 0.871 sig. = 0.00) as can be seen in Tables 2 and 3.

Table 2: Anova

	Sum of squares	gl	Quadratic Half	F
Intersubjects	59.952	71	0.844	
Intrasubjects				58.325*
Between elements	12.754	2	6.377	
Residues	15.525	142	.109	
Total	28.279	144	.196	
Total	88.231	215	.410	

\*p<0.01.

Table 3: Intraclass correlation coefficient

	Intraclass correlation	Lower limit	Upper Limit	F Valor	gl1	gl2
Single Measurements	.691a	.585	.782	7.723*	71	142
Average Measurements	.871c	.808	.915	7.723*	71	142

\*p<0.01.

### Conclusion

The analysis of the interaction between teachers and students requires observation designs that incorporate valid and reliable procedures. In the present work, the minimum required values are exceeded (Prieto, Lamarca, & Casado, 1989). According to the results obtained, it can be affirmed that the observation instrument can be useful for the analysis of teachers' behavior in psychomotricity sessions. The limited number of teachers evaluated and the large number of variables that have been considered are the main limitations of this work, which probably could have distorted the results. It would be advisable, in future works to have in consideration these two aspects. It would also be advisable to improve the quality of the records made by incorporating into the procedure the observation of qualitative and not exclusively quantitative variables.

The results obtained by the teachers observed guarantee the benefits of this type of training. A process of personal formation in which learning experiences are developed that overcome mechanistic practices that do not value the interest of the boy and the girl (Rodriguez Aceituno & Hernandez Pina, 2018). A training in which teachers have the ability to acquire the skills and training required by psychomotor skills to be able to apply it in their school facet (Mendiara, 2008). In short, training committed to integral development (Aucouturier, 2004) that allows the teacher to develop learning contexts of active participation.

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