

**Editors**

**Gianina-Ana MASSARI**

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# **HANDBOOK ON LEARNING SPACE**



**PEDAGOGICAL  
GUIDELINES  
FOR EDUCATORS**



**[Text]**





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## **CHAPTER 4**

# **TEACHER COMPETENCE, ASSESSMENT AND INSTRUMENTS**

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### **1.1. EDUCATOR AND TEACHER SKILLS TO ASSESS THE QUALITY OF THE EDUCATIONAL ENVIRONMENT**

The teaching-learning process is characterized by holistic nature by integrating dimensions related to the design and development of the curriculum, organization of educational environments, planning, observation, evaluation, and many others. In this text, we focus on the educational environment where the skills of educators and teachers are highlighted, promoting their quality and the use of some tools to assess them.

It should be emphasized that we consider an educational environment quality that is a facilitator of learning and teachers must reflect on the educational opportunities that these environments offer and promote their construction and evaluation.

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According to the curricular guidelines for preschool education – OCEPE, in Portugal (Silva, Marques, Mata, & Rosa, 2016) the organization of the educational environment must include different levels of interaction: organization of the institutional environment; relationship with parents and other partners; systemic and ecological approach; organization of the group, space and time.

Concerning spaces, their organization and existing materials condition the development of the teaching-learning process. The constant reflection about functionality and organization translates the intention of teachers to create an innovative process, and at the same time dynamic to answer to children's needs and interests, with the main objective of developing their autonomy and their active participation in decision-making. So, it is essential to have an educational environment capable of enhancing and stimulating the child's development, a welcoming environment that enables interactions, the expression of multiple forms of language and the free experience of the imagination of the child. According to Cardona (2007), the teaching-learning process depends on how the work is planned, the organization of the group, and how the organization form the activities to use with the children.

As a way of responding to the dimensions presented, teachers should develop several skills that enable them to ensure the quality of the educational environment. In this sense, Decree-Law No. 241/2001 provides that educators and teachers develop skills that allow them to:

- a) Organize the space and materials, designing them as resources for curriculum development, to provide children with integrated educational experiences;
- b) Make available stimulating and diverse materials, including those selected from the context and experiences of each child.
- c) Organize time in a flexible and diversified manner, providing the apprehension of temporal references by children;
- d) Mobilising and managing educational resources, in particular, those linked to information and communication technologies.
- e) Create and maintain the necessary conditions for the safety, monitoring and well-being of children.

Considering that the evaluation can determine the nature of the teaching-learning process, we agree with Council for the Curriculum, Examinations and Assessment (CCEA, 2013) that evaluation is an essential professional competence that requires educators and teachers to:

- a) Use a series of assessment strategies to assess students' learning;
- b) To analyze the uses and limitations of spaces and materials;
- c) Make an evidence-based assessment based on relevant criteria;
- d) Involve students in the assessment of their learning;

- e) Evaluate students' performance based on relevant data;
- f) Understand the relationship between evaluation, goal setting and student progression;
- g) Use evaluation information to make teaching more effective;
- h) Collaborate with others to make the assessment more effective in the educational context.

The evaluation, as a process of monitoring the educational action, should be an integrated and integral part of the educational process involving all actors. Also in the CCEA (2013), a quality assessment should: be complementary and support learning; be valid and reliable; respond to the purposes and be manageable; support the professional judgment of teachers; and support responsibility.

Teachers have a set of instruments that can help them in this process. We describe some of these instruments below.

## 1.2. INSTRUMENTS TO ASSESS THE QUALITY OF THE EDUCATIONAL ENVIRONMENT

Several instruments allow educators and teachers to evaluate educational environments. We highlight the Classroom Assessment Scoring System (CLASS), Effective Early Learning, an Early Childhood Environment Rating Scale-Revised Edition – ECERS-R, the Infant/Toddler Environment Rating Scale-Revised Edition – ITERS-R, and the Marzano Protocol.

### **Classroom Assessment Scoring System – CLASS**

It is an observational instrument developed at the Curry School Center for Advanced Study of Teaching and Learning. It is widely used in the evaluation of the quality of the educational environment, because it allows for evaluation of the quality of the classroom, for research, and evaluation of programs. It is also an important tool to help younger and less experienced teachers develop their practices. It describes several dimensions of teaching that are linked to student performance and development and has been validated in more than 2000 classrooms (Center for Advanced Study of Teaching and Learning, 2019). CLASS is the instrument used internationally in quality research in Australia, Finland, and Chile, among others.

This instructor has a quality classification criterion that covers 11 dimensions, organized into three perspectives: emotional support, classroom organization and instructional support. From the set of these three measures, it is possible to evaluate whether teachers, through their pedagogical practice,

provide the development of social and academic skills to students (Pianta, La Paro & Hamre, 2008).

It is considered that this observation instrument is useful because it allows the evaluation of certain dimensions in the educational context and the quality of social and educational interactions between the teacher and the students. It evaluates the quality of implementation and the use of the curriculum and the materials that the teacher uses. It also allows the evaluation of the intentionality and productivity evidenced in the context of the classroom. This instrument also allows the collection of data on the involvement of the child. This last parameter allows analyzing the degree to which children are concentrated and participating in learning activities.

Typically observers using CLASS select two segments 20 to 25 minutes from the room to apply the instrument. During these periods they follow rubrics that guide them to look for specific behaviors of each dimension. For each behaviour, the CLASS provides concrete guidance on the score to be attributed: "low" (scores 1-2), "average" (scores 3-5) or "high" (scores 6-7). Thus, each teacher has access to the scores of each domain and the overall score on a scale of 1 to 7. Research suggests that scores in the three dimensions are highly correlated (Pianta, La Paro & Hamre, 2008).

### **Effective Early Learning – DQP**

The DQP Project is a reference for quality assessment in early childhood education, which has at its centre the assessment of children's and adults' learning (Bertram & Pascal, 2009). The evaluation process is operationalized through several instruments to assess the involvement of the child (scale of the child's involvement) (Laevers, 2005), adult engagement (adult commitment scale) (Bertram & Pascal, 2009) and opportunities - Target (Bertram & Pascal, 2009).

The Leuven Involvement Scale for Young Children (LIS-YC) (Laevers, 1994) consists of two components: a list of indicators/signs characteristic of an involvement behaviour and levels of involvement on a 5-point scale (Oliveira-Formosinho & Araújo, 2004). The list of signs of child involvement comprises concentration; energy; complexity and creativity; facial expression and posture; persistence; accuracy; reaction time; verbal comments and satisfaction.

About the levels of involvement, they are organised into five points. At level 1, there is no activity and includes those times when children seem to be active, but in fact, are absent. Some action can be observed which is merely a repetition of very elementary stereotypical movements.

Level 2 does not have great reach, where there are moments of activity, but with many interruptions.

At level 3, some activity can be observed in the behaviour of children, in which they are more or less committed, continuously, to the Activity. No real signs of involvement, lack of concentration, motivation and true pleasure in the activity are visible.

At level 4 there are moments of intense mental activity. This has real importance for the child, as it can be observed by its concentration, persistence, energy or satisfaction.

At level 5 the child is absorbed in his activity and his involvement is total, expressed in concentration and absolute implication. Any disturbance or interruption is experienced as a frustrating rupture of an activity that is flowing (Oliveira-Formosinho & Araújo, 2004; Portugal, 2012).

The adult commitment scale was developed to allow the evaluation of the effectiveness of the teaching-learning process in kindergarten by observing adult-child interaction styles (Bertram & Pascal, 2009). This scale is based on the works of Carl Rogers (1983), in which Ferre Laevers (1994) identified 3 categories of teacher behaviour that allow us to measure the quality of interactions between adults and children, namely (Bertram & Pascal, 2009, p. 136):

1. Sensitivity: the attention and care that the adult demonstrates to have for the feelings and emotional well-being of the child. It also includes sincerity, empathy, responsiveness and affection.
2. Stimulation: how the adult implements his/her intervention in the learning process and the content of this intervention.
3. Autonomy: the degree of freedom that the adult grants to the child to experience, issue judgments, choose activities and express ideas and opinions. It also encompasses how adults deal with conflicts, rules, and behavioural problems.

Each of the categories, after observation, is marked on a scale of 1 to 5. As Mesquita (2013) points out, the scale of adult engagement corresponds to a continuum. This degree is between points 1 to 5. Each point on the scale reflects the degree to which the actions observed reflect attitudes to support children's learning.

Level 5 represents a style of total adult commitment; level 4 represents a predominant style of commitment but with some attitudes of lack of commitment; level 3 represents a style where neither attitudes of commitment nor lack of commitment predominate. In this context, the adult shows neutral attitudes towards commitment; level 2 represents a predominant style of non-commitment, but where there are some attitudes toward commitment; and level 1 represents a style of total lack of commitment (Bertram & Pascal, 2009).

Concerning the observation of educational opportunities - Target, a sample of children is followed during the day which develops the routine of

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kindergarten to understand the child's quotidian. In this way, we can obtain information on five aspects: learning experiences, the level of choice provided to children, their involvement, the forms of group organisation and the predominant modes of interaction between children and adults. (Bertram & Pascal, 2009).

To register the observations, a form of educational opportunities must be applied following the instructions of Bertram and Pascal (2009), which indicate: identify the children to be observed taking into account gender, ethnicity, age, etc.; each observation lasts 5 minutes; follow the child during two sessions, on different days and Include, if possible, morning and afternoon periods; make 2 observations per child, per period/session, for a total of 4 observations per child; record the observations in the Observation Sheet; use a different registration form for each of the observations; check your notes on the choices of the children observed; if you want to observe how children with communication difficulties interact with adults and other children, you should use the reverse of the Observation Form and observe a maximum of 5 children each time.

The observations made allow us to classify the degree of the initiative of the child, classifying it into 4 levels: level 1 - no choice is given to the child who has to do the proposed activity; level 2 - a limited number of choices are offered between certain activities; level 3 - some activities cannot be chosen; and level 4 - total freedom of choice is given (Bertram & Pascal, 2009, p. 118).

The form also allows to observe of the predominant form of interaction, presenting the following possibilities of registration: CA  $\longleftrightarrow$  The balanced interaction between target child and adult; CA  $\longleftrightarrow$  C balanced interaction between target child and child; CA  $\rightarrow$  Target child interacts with adult; CA  $\rightarrow$  C target child interacts with another child; CA  $\rightarrow$  GC target child interacts with a group of children; A  $\rightarrow$  Adult CA interacts with the target child; C  $\rightarrow$  CA another child interacts with the target child;  $\rightarrow$  CA  $\leftarrow$  target child speaks to itself; CA absence of interaction; CG  $\rightarrow$  CA group of children interacts with target child; CA  $\longleftrightarrow$  GC balanced interaction child target group of children (Bertram & Pascal, 2009, p. 119).

**Early Childhood Environment Rating Scale-Revised Edition - ECERS-R**

ECERS-R emerges through the National Association for the Education of Young Children (NAEYC) Accreditation Program (Harmes, Clifford & Cryer, 2008). It is an instrument that allows to evaluation the levels of quality in activity rooms in educational environments that have children aged between two and a half to five years.

Originally designated ECERS includes indicators to assess the three basic needs common to all children: health and safety protection, support and

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guidance for social/emotional development, and language stimuli and cognitive development. It was later revised and renamed ECERS-R, maintained the comprehensive orientation of ECERS, but included important format improvements that allowed more refined quality discrimination, such as specific numbered indicators to be marked at each quality level; limitation of the use of the scale for kindergarten programs that respect children from 2 and a half years to 5 years of age; and extended scoring form that included a grid to facilitate accurate registration (Harms, 2013).

Observations are recorded on a seven-point Likert scale in a scoring system with 37 items organized into seven subscales: space and furniture; personal care routines; language and reasoning; activities; interaction; structure of the programme; and parents and staff. This observation instrument requires a classroom observation of at least three hours, followed by a short interview with the educator about indicators that are not easy to observe, namely additional materials stored (Harms, 2013).

**Infant/Toddler Environment Rating Scale-Revised Edition - ITERS-R**

This instrument enables the evaluation of the quality of educational environments provided to children between the ages of 0 and 30 months. It also assesses the impact of the childcare environment and the relationships between children and educators on children's development and health. The instrument takes a phenomenological approach with a focus on participatory education. It consists of 39 items, categorized into 7 subscales, similar to ECERS-R: material and furniture, routines and personal care, oral language and comprehension, learning activities, interaction, program structure, and adult needs (Harms et al., 2006).

Each item in the scale contains descriptions that guide observations, which are rated on a scale from 1 to 7, indicating the quality of the offered environment. The ratings are as follows: (1) inadequate, (3) minimum, (5) good, and (7) excellent. To assign any of these four levels, all the conditions described for that level must be present, except for score 1, which is assigned if any part of the description applies to the observed situation. Intermediate scores of 2, 4, and 6 are used when all the conditions of the lower score and at least half of the conditions of the higher score are present. Generally, the decision of the assigned level for each item on the scale is made simultaneously with the observation of the group.

**Program Quality Assessment - PQA**

This instrument enables the evaluation of program quality in the context of preschool education, focusing on both physical spaces and adult-child

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interactions. There are three distinct instruments available: one designed for spaces catering to children aged 0 to 3 years (Infant-Toddler PQA), another for spaces with children aged 3 to 5 years (Preschool PQA-R), and a third dedicated to family child care settings (Family Child PQA Care).

The Infant-Toddler PQA assesses the quality of the program across 20 dimensions, organized into 4 domains: 1) Learning environment (comprising 6 items); 2) Schedules and routines (comprising 9 items); 3) Child-adult interaction (comprising 6 items); and 4) Curriculum planning and observation of children (comprising 4 items). The domains are evaluated on a scale ranging from 1 (low) to 5 (high). Evaluators should select the appropriate indicator data for levels 1, 3, and 5, and provide a brief justification for the evidence supporting their selection.

The Preschool PQA-R has undergone revision and simplification. It now covers 20 dimensions of program quality, organized into 3 domains: 1) Learning environment (comprising 4 items); 2) Teaching and learning routines and interactions for children (comprising 12 items); and 3) Curriculum, planning, evaluation, and parental involvement (comprising 4 items). The domains are evaluated on a scale ranging from 1 (low) to 4 (high). Descriptor data is provided for each level, and evaluators must select the appropriate level for each point and provide a brief justification for the evidence.

This document is designed to be used continuously and should be adapted according to the preferences of adults and institutions. For example, it can be implemented periodically to assess program quality.

### **Children Observation Record - COR**

This instrument facilitates the evaluation of preschool education contexts, with a specific focus on the interaction between children and their environments.

The COR (Contextualized Observations and Ratings) assessment tool comprises 36 items, which are categorized into the following eight domains: 1) Approaches to learning (3 items); 2) Social and emotional development (5 items); 3) Physical development and health (3 items); 4) Language, literacy, and communication (7 items); 5) Mathematics (5 items); 6) Creative arts (4 items); 7) Science and Technology (4 items); and 8) Social studies (3 items).

Each domain is evaluated on a scale ranging from 0 to 7, where 0 indicates no engagement and 7 indicates the highest level of engagement.

### **Marzano teacher evaluation model – Protocolo Marzano**

The Marzano teacher evaluation model document, here called the Marzano Protocol, is used to evaluate the quality of the educational environment in the context of the 1st Cycle of Basic Education. This instrument focuses on measuring the teacher's performance to improve its development. It should be

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noted that this document was carried out in the educational context of the United States of America. This fact leads to the need to make some adjustments for application in other contexts.

Until 2014, it was organized into 41 categories of instructional strategies, organized into nine broader categories expressed in the form of questions, which are organized into three lesson segments (Marzano et al., 2013). Currently, it has changed and is now composed of 23 categories, organized into four broader categories that are now evaluated from 0 to 4, taking into account the level of complexity.

## 2. FINAL CONSIDERATIONS

Undoubtedly, we believe that educators and teachers should privilege didactic-pedagogical practices that favour a quality educational environment. They should promote a learning-friendly environment, as it plays a key role in supporting the development and learning of children. Based on the premise of holistic learning, the educational environment comprises several dimensions, such as the organization of space, materials and educational resources; the diversity and quality of educational materials and resources; the organization of time; adult interactions with the child and between children; parental involvement; safety, monitoring and well-being of children. In this sense, they need to reflect and intervene, whenever necessary, in their educational environment, in the different perspectives of the context in which they practice their didactic-pedagogical practice. During this process, they must collect data and evidence of the work developed and reflect on it. In this sense, the available assessment tools can serve as an API for monitoring/evaluating the quality of the educational environment and the development of quality. However, it should be noted that its use and selection depend on several factors, namely the characteristics of the group, age group and the nature of the environment. The use of these instruments and their impact should always be analysed in a given context and supported by a clear methodological approach.

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