# QUALITY OF EARLY CHILDHOOD EDUCATION: A STUDY IN SIX BRAZILIAN STATE CAPITALS

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## ABSTRACT

*This article presents results from a research on the quality of Early Childhood Education in Brazil that was conducted in a collaborative effort between Fundação Carlos Chagas, the Ministry of Educations and the Inter-American Development Bank. Data were collected in*

*147 crèches and preschools in six state capitals, during the second semester of 2009. The instruments applied for the observation of classes were the translated versions of the Infant/Toddler Environment Rating Scale–Revised Edition and the Early Childhood Environment Rating Scale–Revised Edition. Questionnaires for principals and for teachers of the observed classes were also applied. The main results are: crèches and preschools average scores were in the basic level; the lowest scores received were related to Activities (crèche and preschool), Personal care routines (crèche), and Program structure (preschool); if changes were promoted in some of the institutions characteristics, those scores could be significantly improved.*

*EARLY CHILDHOOD EDUCATION – DAY NURSERIES – PREPRIMARY EDUCATION – QUALITATIVE EVALUATION*

Towards the end of the twentieth century there had been major changes in education for the under-sevens in Brazil, both as to the expansion of the number of children attending school and as to the legal and institutional framework. There had been increased access to crèches and pre-school institutions for the under-sevens ever since the 1970s, driven both by social processes – urbanization, economic growth, social struggles, changes in women's role in society – and by public policies in the fields of education, social welfare, health and labor.

New legal frameworks brought in by the Federal Constitution of 1988 reinforced and legitimized these processes. Municipalities were given the responsibility of providing this education with priority, which accelerated a trend that had been taking shape in the previous period.

In turn, the new legislation showed that there were changes that needed to be encouraged and demanded of the educational systems, such as the need for higher education courses to train teachers for early childhood education, just as was demanded for primary school teachers.

However, the major change brought in by the new legislation was undoubtedly the inclusion of crèches within the education sector, since early childhood education was now defined as the first stage of basic education, encompassing crèches for the 0-3 year-old age group, and pre-school for the 4 to 6-year-olds.

Although it was not made mandatory, childhood education was defined as a right enjoyed by children and families, and the State was obliged to provide it in accordance with

demand. Municipal governments were thus under pressure, even from the judicial system, to increase the number of places for early childhood education.

As of the first decade of the twenty-first century, a number of changes in legislation and in educational policy boosted this trend toward the growth and recognition of the importance of this educational stage. With the setting-up of the Basic Education Funding System (*Fundo de Manutenção e Desenvolvimento da Educação Básica e de Valorização do Magistério* – FUNDEB) to replace the previous Primary Education Funding System (*Fundo de Manutenção e Desenvolvimento do Ensino Fundamental e de Valorização do Magistério* – FUNDEF), itself created in 1996, soon after the enactment of the General Law of Education (*Lei de Diretrizes e Bases da Educação Nacional* – LDB), the funding of crèches and pre-schools was for the first time laid down in law, alongside the other stages in basic education.

Despite that difficulties have been accompaning and still accompany the process of including this stage within the educational sector, crèches are slowly finding their own space within municipal educational systems, now that they are included within in-service training programs, pedagogical supervision, curriculum reformulations, and in programs for school meals and the distribution of learning materials, among other measures.

Several teacher training programs (such as Proinfantil) have been set up at all three levels of government (municipal, state and federal) for the lay teachers who made up the largest contingent of people employed in crèches. This effort has borne fruit, as statistics show. However, the so-called "auxiliaries" are still employed in school systems. The same levels of training are not required of them although they are often the people who spend the longest time with the children in full-time institutions. This problem has not yet been suitably solved by teacher-training policies.

Access to educational institutions has grown steadily and significantly since 1998. According to the Applied Economic Research Institute (*Instituto de Pesquisa Econômica Aplicada* – IPEA, 2009), using data from the National Household Sampling Survey (Pesquisa Domiciliar por Amostra de Domicílio – PNAD), the rate of children attending crèches doubled from 1998 to 2008, reaching 18%, and  pre school attendance among four to six-year-olds rose 40%, to 80%, including children enrolled in primary school. However, as the same report points out, this access to schooling is unequally shared among the population.

The Mid-West, South and South-East regions of Brazil have a higher growth rate, among 0 to 3 year-olds, than the other regions, and virtually doubled their rates of attendance. All regions grew significantly in the 4 to 6-year-old age bracket.

There is still a huge gap between urban and rural areas in early childhood education coverage, above all in the case of crèches, with no more than 7.2% coverage in rural areas. Grouping the population by per capita income, the highest growth was among the 3rd and 4th fifths of the population, which doubled their coverage rates in crèches. White children continue to enjoy greater access to childhood education than black and mixed-race children.

Thus progress in early childhood education has been very uneven over the last two decades, when different ages and social, cultural and political situations in Brazil are taken into account. This continued development depends on complex processes, which may suffer setbacks, and have very little public visibility. The survey reported in this paper came face-to-face with a national situation that is undergoing continuous intense changes that do not always pull in the same direction, and that are interpreted in a number of ways at local level.

The study in question is entitled *Early childhood education in Brazil: a qualitative and quantitative evaluation[1],* conducted by Fundação Carlos Chagas (FCC) in partnership with the Ministry of Education and Culture – MEC, and the Inter-American Development Bank – IDB. The study took into consideration the history of early childhood education in Brazil up until the first decade of this century, and the state of knowledge about this educational stage, and made the following assumptions:

- there has been an increase in the provision of early childhood education in recent years, but this expansion has not always been accompanied by suitable quality standards;
- although MEC has developed National Quality Standards for Early Childhood Education, most early childhood education institutions have only partially implemented them;
- the quality of provision of early childhood education is variable and depends on institutional characteristics of the school in question (such as whether it is a public,

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[1] The study was coordinated by Maria Malta Campos, and the following team of researchers: Yara Lúcia Esposito, Eliana Bhering, Nelson Gimenes, Beatriz Abuchaim and Sandra Unbehaum (Campos, coord., 2010).

private, public, private or private with some state support-community philanthropic and faith institutions),

- the positive impact of early childhood education on primary education is greater when the service provided is of suitable quality.

These assumptions enabled the three main objectives of the study to be outlined, as follows.

1.  To evaluate the quality of 150 early childhood education institutions in six State capitals of Brazil, namely: Belem, Campo Grande, Florianopolis, Fortaleza, Rio de Janeiro and Teresina.

2.  To estimate the impact of attending crèches and pre-schools on students' performance in the early years of primary school[2].

3.  To describe the municipal policy for early childhood education for each of the six capitals mentioned[3].

This article will focus on the results obtained in response to the objective[4].

## REVIEW OF LITERATURE

The definition of quality in education and the selection of criteria to enable quality measures are topics constantly being discussed in the educational field. In early childhood education this is a hot topic and the specialized publications have harbored several different positions.

Actually, the debate on quality in education has followed a different path in early childhood education, when compared with other educational levels. In primary and secondary school the debate has become indistinguishable from disputes about the introduction of

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[2] Data on the study are available in Campos et al., 2011.

[3] The financing of early childhood education in the six state capitals, a study carried out within the scope of the same project, is the subject of an article by Marcos Bassi in this number.

[4] The Final Report on the study is available for consultation in the Fundação Carlos Chagas library (Campos, coord., 2010) and on this website: www.fcc.org.br.

centralized, quantitative, student performance assessment systems, adopted in many countries including Brazil as of the 1990s (Campos, 2000).

The different trajectories of crèches and pre-schools have led to concepts of quality focusing on children's rights. In the case of crèches especially, social movements fighting for women's rights eventually recognized that gains in quality would only be obtained insofar as the education focused primarily on the developmental needs of young children. This concern led to several initiatives aiming at spreading concepts of early childhood education that aimed to distance themselves both from the custodial welfare model and from the school model[5].

This is a debate that is still very much alive and open among specialists in this area. In the present study, the starting-point we have adopted acknowledges, as many authors point out (including the document entitled 'National Quality Parameters for Early Childhood Education' – *Parâmetros Nacionais de Qualidade para a Educação Infantil*), that

> ...quality: 1. is a socially constructed concept, subject to constant negotiation; 2. is context-dependent; 3. is based on rights, needs, demands, knowledge and possibilities; 4. the definition of quality criteria has been constantly challenged by these different perspectives. (Brasil, 2006, v. 1, p.24)

This definition of quality therefore includes a consideration of: the rights of children, women and families that are upheld in the legislation and in the commitments that Brazil has undertaken at an international level; the range of needs of small children, taking their age group into consideration; their families' living conditions, the cultural characteristics of their environment, and their individuality; social pressures demanding support for families, for the employment and social participation of women, and for early childhood education; the knowledge accumulated by science in the fields of education, psychology, health sciences and social science; and the real possibilities of agencies responsible for the management of early childhood education and of society as a whole in turning these demands into reality.

Several current indicators enable information to be obtained on the working of the set of early childhood education institutions in Brazil, and although they cover only a few of the quality aspects of teaching establishments, they enable a preliminary approach to be made to this reality. The studies show that differences in quality combine with social and regional

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[5]  See the document containing quality criteria for crèches, initially published by MEC in 1995 (Campos; Rosemberg, 2009).

differences; in other words, the quality of education, like access itself, is distributed unequally across different segments of the population.

For example, a study by Kramer and Kappel (2000), based on PNAD data, showed that the material conditions of private crèches and pre-schools are markedly better than those found in the public school system: "more private institutions have books, texts, videos, televisions, computers and laboratories" (2000, p. 83).

Data compiled by UNICEF on expenditure by student/year in the public early childhood education system in 1999 also reveal major regional disparities: while this expenditure was 1,269 Reals (Brazil's currency) in the South-East, it was 560 Reals per student annually in the North-East (Unicef, 2005, p. 69). In the same report, data on the working conditions of crèches and pre-schools showed that while works of literature could be found in 76.7% of crèches and 89.8% of pre-schools in the South-East, percentages for the North-East were 37.2% and 46.3% respectively. Specialized literature shows the importance of small children coming into contact with children's books even before they have learned how to read. Most of the children enrolled in early childhood education institutions in the North-East do not have this opportunity (p. 71-72).

From the perspective of the curriculum and the pedagogical guidance adopted in early childhood education, the working conditions and working methods adopted with the children are heterogeneous, and this has repercussions on the quality of schooling provided, with crèches generally being in a worse situation than pre-schools (Unesco/OECD, 2005). In many regions, crèches are still in the process of being incorporated into educational systems, particularly in the case of private establishments in poorer neighborhoods, both those that receive some public support and those that are fully private and thus escape the supervision of educational agencies.

A review of studies published between 1996 and 2003 using empirical data on the quality of crèches and pre-schools classified the major problems by the following dimensions: training of staff; curriculum; pedagogical practices; infra-structure conditions; and relations with families (Campos, Füllgraf; Wiggers, 2006). In the several aspects taken into consideration:

> The crèches always appear in a more precarious situation, both in regard to staff training and to material infrastructure, adopting rigid routines nearly exclusively based on feeding, cleaning and controlling the children. Comparatively speaking, better conditions are observed among pre-schools in terms of staff

training and material infra-structure. Routines, while still very inflexible, focus on schooling activities. Both institutions face difficulties as far as communication with family is concerned. In turn, families are often seen by crèche and pre school profissionals from negative and prejudice perspective. (Campos; Füllgraf; Wiggers, 2006, p. 117-118)

These and other conclusions of the survey approach the problems observed during the visit of the Unesco/OECD Commission to Brazil as part of the comparative study into early childhood education in four countries: Brazil, Kazakhstan, Indonesia and Kenya (Unesco/OECD, 2005, 2005a[6].

One particularly serious issue is the "lack of concern about the educational program carried out with the children", pointed out both in the commission's document and in the article by Campos, Füllgraf and Wiggers (2006, p. 119). In fact, one of the major tasks of early childhood education is to favor the full development of the child, including the learning and mastery of new skills. Children who have the opportunity to go to a good early childhood education institution are more likely to get good results in primary and middle school, as recent Brazilian and international surveys have shown (Sylva et al., 2010). This advantage is particularly important in a country like Brazil, where rates of school failure are still very high.

Two Brazilian studies (Carvalho, Pereira, 2008; Lima, Bhering, 2006) using the same crèche quality evaluation instruments as the present study showed that quality in the education of infants and toddlers, especially worring regarding personal care and activities available to children.

The results of studies carried out in 21 early childhood education institutions in the city of Rio de Janeiro in 2005 and 2006 are presented in a book organized by Sonia Kramer. Seventeen institutions were public, two were community schools and two were private. The texts in the book give detailed descriptions of the different aspects of the working of these institutions, based on observations, interviews and a wide variety of records. The authors' conclusions are:

The result provides important examples and interesting facets of these institutions' daily routines for the children. However, it makes a mirror that is sometimes hard to look into: what we see reflected in it is the very image of what has not yet been achieved in practice, although it is the target of policies and of

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[6] Texts on this study were published in Portuguese by MEC and Unesco in 2009 (Brazil), 2009.

theoretical and empirical research. This image shows that there is still much work to be done to assure quality in early childhood education as regards training, management and educational interventions. (Kramer, 2009, p. 217)

The results of a longitudinal study carried out in the United Kingdom (Sylva et al., 2010), although obtained in a very different context from Brazil, enable the characterization of quality in early childhood education, since many of its conclusions are borne out by studies carried out in other countries. The major findings of the study in its initial stages are summarized below:

- pre-school experience, compared with none, favors the child's development. These effects are still clear in intellectual and social development in the first years of primary school;

- the duration of attendance (in months) is important, and commencement before three years of age correlates with greater intellectual development at the ages of 6 and 7 and with an improvement in autonomy, concentration and sociability at entry into primary school at 6 years of age;

- full-time attendance does not lead to better results for the children, compared with part-time attendance;

- poorer children in particular may derive significant benefit from a quality pre-school experience, above all if they attend centers receiving a population of heterogeneous social origin;

- the quality of pre-schools is directly linked to enhanced results in the children's intellectual and socio-behavioral development, and these effects persist in assessments carried out at six years and over;

- centers with more qualified staff, above all those with a good proportion of trained teachers, are of a better quality and their children show greater progress (Sylva et al., 2003, 2004, 2004a).

Analysis of the educational practices of the daily routine of 150 early childhood education institutions in six State capitals of Brazil representing the country's five geographical regions enabled the present study to explore on a wider scale aspects of ECE quality already identified in the previous studies. The challenge we faced was to investigate in

a systematic and detailed fashion the conditions of the institutions and environments in which the children receive schooling, including staff in those units, since these conditions are what provide children with a greater or smaller opportunity for the development and learning.

The premise we adopt is that attending a quality crèche or pre-school makes a difference in the children's lives, not only in the positive effect on their later school career, but above all with regard to the nature of the experience they undergo during their time in these institutions, enabling full experience of their childhood and increasing their chances of understanding and interacting with the world around them and their fellows.

## METHODOLOGY[7]
### Sample

The six state capitals included in the sample were defined by MEC so as to cover all the different regions of Brazil: Belem, Teresina, Fortaleza, Campo Grande, Rio de Janeiro and Florianopolis. Institutions in each capital were chosen from the 2008 School Census database made available by MEC/INEP, taking the following set of variables into consideration: the institution's administrative profile; the type of establishment; number of students; working hours; location in neighborhoods/districts and average Education Development Indicator (*Indicador de desenvolvimento da educação* – IDEB) for primary and middle schools located near the early childhood education institutions.

The classes to be observed were selected by random draw in each institution, one with children at daycare age and one with children at pre-school age, making up a total of 229 classes. Table 1 shows the number of crèche and pre-school classes evaluated in each of the six cities. 147 institutions were evaluated[8], 102 (69.4%) of which were municipal, 22 (15.0%) private, and 23 (15.6%) were private with some state support. With regard to the type of educational service provided, 93 (63.3%) exclusively schooled early childhood education students and 54 (36.7%) catered for children from other stages of schooling.

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[8] Three instituitions were lost from the 150 initially planned for.

**TABLE 1**
**NUMBER OF PARTICIPATING INSTITUTIONS FROM DIFFERENT SECTORS**

| Cities | Administrative profile | | | |
|---|---|---|---|---|
| | Municipal | Private with some state support | Private | Total |
| Belem | 9 | 3 | 7 | 19 |
| Campo Grande | 25 | 5 | 0 | 30 |
| Florianopolis | 23 | 7 | 0 | 30 |
| Fortaleza | 9 | 1 | 10 | 20 |
| Rio de Janeiro | 10 | 3 | 5 | 18 |
| Teresina | 26 | 4 | 0 | 30 |
| Total | 102 (69.4%) | 23 (15.6%) | 22 (15.0%) | 147 (100%) |

Source: Campos (coord) 2010.

## Instruments

*Instruments for observation in classrooms/groups of children*

Special attention was needed for choosing and adapting the observation check lists, since these instruments were intended to meet several criteria, such as: to be coherent with official Brazilian documents containing curriculum guidance, parameters and quality indicators[9] for crèches and pre-schools; to be sufficiently detailed as to enable quality evaluation, taking a broad range of aspects into consideration, covering the major early childhood education quality dimensions identified in the literature; and to feasibly enable adaptation to the goals of the survey within the planned time frame.

The following scales were selected after a literature survey: the *Infant/Toddler Environment Rating Scale–Revised Edition* – Iters-R[10] (Harms, Clifford, Cryer, 2003 – and the *Early Childhood Environment Rating Scale–Revised Edition* – Ecers-R[11] (Harms, Cryer, Clifford, 1998). They are well-known and applied internationally[12] as evaluation instruments for the quality of early childhood education institutions. The scales were constructed for use in observing and rating environments and/or programs intended for children from zero to two

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[9] The document entitled Quality Indicators in Early Childhood Education (*Indicadores de qualidade na educação infantil* Brasil, 2009) was published after the study had commenced.

[10] Iters-R was translated into Portuguese by Campos-de-Carvalho and Bhering (2006).

[11] Ecers-R was translated into Portuguese by Abreu-Lima et al. (2008). We used an adaptation into Brazilian Portuguese for this study (see Harms, Clifford, Cryer, 2009; Harms, Clifford, Cryer, 2006).

[12] See Tietze *et al.* among others (1996) and Loeb et al. (2004).

and a half years of age (Iters-R) and from two years and seven months to five years (Ecers-R) in the presence of the teacher responsible.

Their check lists contain aspects that include the major quality criteria adopted by Brazilian official documents. The target age groups closely correspond to those served in Brazil by crèches and pre-schools. Covering a wide range of situations, they also have application manuals and videos for the guidance of users. These scales have also been used in studies published in Brazil, and proved suitable for the situations found in Brazilian institutions (Souza, Campos-de-Carvalho, 2005; Lima, Bhering, 2006; Carvalho, Pereira, 2008). The two observation instruments were translated into Portuguese and adapted to Brazilian Portuguese.

The Iters-R has an observation script that includes seven sub-scales (Space and furnishing; Personal care routines; Listening and talking; Activities; Interaction; Program structure and Parents and staff) with 39 items made up of 455 indicators. The Ecers-R has a script that also includes seven sub-scales (Space and furnishing; Personal care routines; Language-Reasoning; Activities; Interaction; Program structure and Parents and staff) with 43 items made up of 470 indicators. Items on both scales may be scored from 1 to 7 points, where 1 corresponds to an inadequate quality level, 3 is the minimum, 5 is good and 7 is excellent. The average of the points scored for the set of items making up each of the seven sub-scales indicates the institution's level of quality in schooling. In the survey entitled 'Early Childhood Education in Brazil: a qualitative and quantitative evaluation' – *Educação infantil no Brasil: avaliação qualitativa e quantitativa*, the total points score for the scale, the sub-scales and the items comprising them was transformed so as to become a scale from 1 to 10 points, the classification for which is shown in Chart 1.

**CHART 1**
**POINT-SCORING AND CLASSIFICATION CRITERIA ADOPTED IN THE STUDY**

| Rating | Score |
|--------|-------|
| Inadequate | 1 l-------3 |
| Basic | 3 l-------5 |
| Adequate | 5 l-------7 |
| Good | 7 l-------8.5 |
| Excellent | 8.5l-------10 |

Source: Campos (coord.) 2010

The subscales are made up of items assessing a range of aspects in the crèche and pre-school environments. The seven sub-scales of the Iters-R and Ecers-R scales deal with:

1.  Space and furnishing: a set of indicators enabling classification of aspects such as state of maintenance, level of comfort, degree of safety, accessibility to children with disabilities, and suitability of the environments and equipment designed to stimulate the children's learning, independence and development;

2.  Personal care routines: the six items are primarily related to routine personal care procedures that promote the children's health, safety and welfare;

3.  Listening and talking (Iters-R) and Language – Reasoning (Ecers-R): these contain three items assessing the stimuli children receive to develop their language skills. This includes verbal communication (both speaking and listening), the use of books, and the development of reasoning through language;

4.  Activities: evaluates activities provided for children and the materials for these activities. The quantity, suitability, and variety of the materials are considered, as well as for how long they are available for the children's use;

5.  Interaction: the quality of interactions among the children, and between children and adults is one of the aspects evaluated. The type of discipline and the modes of oversight adopted by the team are also observed;

6.  Program structure: the focus is on evaluation of the rhythm of the daily schedule, including personal care routines, and free and group activities. The program is also assessed for its flexibility in meeting the individual needs of the children, respecting their wishes and interests and the institution's ability to include disabled children;

7.  Parents and Staff: the strategies used by the institution to meet the personal and professional needs of the staff and to involve parents in the program. Emphasis is given to relations between staff members, and between the staff and children's parents.

*Questionnaires for staff at early childhood education institutions*

The questionnaires were used in order to gather information about the institutions and professionals working there, as described below:

- Institution Description Questionnaire (118 questions) and Questionnaire for the Director (121 questions with varying formats): instruments that describe a wide range of issues concerning the management of the institution;

- Questionnaire for the supervisor (123 questions): a research instrument given to the professional responsible for pedagogical guidance activities, when there is one working at the institution. To overcome issues when there is no pedagogical surpervisor or similar professional at the institution, many pedagogical aspects were also included in the questions for the Director;

- The Questionare for the Teacher (168 questions): a research instrument answered by the person responsible for classes at the crèche or pre-school that was selected to be a part of the sample for the early childhood education quality study. The aim of this questionnaire was to gather data about the teacher's profile and to cover aspects of the daily routine of crèches and pre-schools that could not be covered by direct observation.

**Field work**

Six field work teams of five or six researchers were created for the study, coordinated locally by teachers[13] from the local Federal Universities (Universidade Federal do Pará; Universidade Federal do Ceará; Universidade Federal do Piauí; Universidade Federal do Rio de Janeiro; Universidade Federal de Mato Grosso do Sul; Universidade Federal de Santa Catarina).

Each researcher visited five or six institutions, staying for at least three or four days in each, during which time they gave out the questionnaires to the professionals. In the end, 147 institutions took part in the survey, as shown in Table 2.

Not all institutions catered to the two different age-brackets, which explains the different numbers of classes observed in each capital. In total, 91 crèche classes (0 to 3 years) and 138 pre-school classes (4 to 5 years) were evaluated.

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[13] The local researchers coordinating the field research were: Ana Maria O. Tancredi Carvalho, in Belem; Regina A. Marques de Souza, in Campo Grande; Jodete B. G. Füllgraf, in Florianopolis; Silvia H. Vieira Cruz, in Fortaleza; Eliana Bhering, in Rio de Janeiro and Olivette R. B. Prado Aguiar, in Teresina.

**TABLE 2**
**DETAILS OF THE NUMBER OF INSTRUMENTS APPLIED, BY CAPITAL**

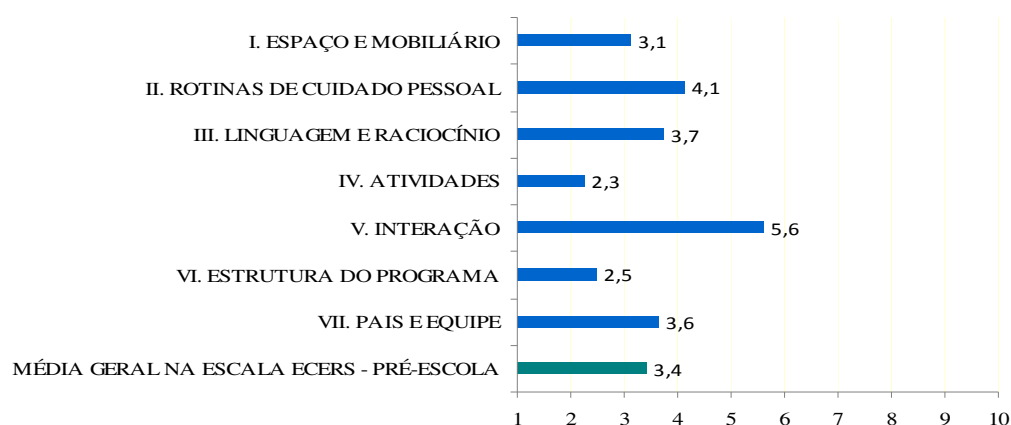| | | | SCALES | | QUESTIONNAIRES | | | | |
| Cities | Expected number | Participations institutions | ITERS-R | ECERS-R | Creche teachers | Pre school teachers | Director | Institution profile | supervisor |
|---|---|---|---|---|---|---|---|---|---|
| Belem | 20 | 19 | 4 | 19 | 4 | 19 | 19 | 19 | 12 |
| Campo Grande | 30 | 30 | 19 | 28 | 19 | 28 | 30 | 30 | 13 |
| Florianopolis | 30 | 30 | 30 | 30 | 29 | 30 | 29 | 29 | 22 |
| Fortaleza | 20 | 20 | 12 | 16 | 12 | 16 | 20 | 20 | 9 |
| Rio de Janeiro | 20 | 18 | 7 | 15 | 7 | 15 | 18 | 18 | 16 |
| Teresina | 30 | 30 | 19 | 30 | 19 | 30 | 30 | 30 | 22 |
| Total | 150 | 147 | 91 | 138 | 90 | 138 | 146 | 146 | 94 |

Source: Campos (coord.) 2010

# THE EVALUATION OF CRÈCHES AND PRE-SCHOOLS

## Crèches

91 classes in crèches were observed in the six capitals. The means for the 'Activities' (2.2) and 'Personal care routines' (2.9) subscales (Graph 1) are the lowest and indicate Inadequate quality. The means for the 'Space and furnishing' (3.1), 'Listening and talking' (3.8) 'Program structure' (3.2) and 'Parents and staff' (3.6) subscales are of Basic quality. The 'Interaction' subscale received the highest mean score (5.7), achieving Adequate quality.

**GRAPH 1**
**OVERALL MEAN AND MEANS FOR SUB-SCALES OF THE ITERS-R SCALE – CRÈCHES**



| Sub-scale | Value |
|---|---|
| I. ESPAÇO E MOBILIÁRIO | 3,1 |
| II. ROTINAS DE CUIDADO PESSOAL | 4,1 |
| III. LINGUAGEM E RACIOCÍNIO | 3,7 |
| IV. ATIVIDADES | 2,3 |
| V. INTERAÇÃO | 5,6 |
| VI. ESTRUTURA DO PROGRAMA | 2,5 |
| VII. PAIS E EQUIPE | 3,6 |
| MÉDIA GERAL NA ESCALA ECERS - PRÉ-ESCOLA | 3,4 |

Overall mean for ITERSs
Source: Campos (coord) 2010.

On the 'Personal care routines' subscale, the items 'Meals/snacks', 'Nap' and 'Health practices' were given Inadequate average scores[14]. Simple but very important habits like washing one's hands after toileting and/or diapering are included there.

Activities provided for the children, the materials available and the conditions of the spaces were given worryingly low evaluations. The lowest averages (below 2 points) were found in 'Music and movement'; 'Blocks'; 'Nature/sciences' and 'Promoting acceptance of diversity'. It should be pointed out that a rating of Inadequate means that in the average for classes observed no material was found to be available for the activities in that area of the curriculum, such as pictures books, materials or objects related to that item.

The absence of books in the classes is also worrying. For this item, part of the Listening and talking subscale, the average score was 1.5. Specialized literature shows the importance of young children being given the chance to handle books as part of their reading and writing learning processes.

After applying the same scale to 12 crèche classes in a town in the state of Santa Catarina, Lima e Bhering (2006, p. 585) found that the lowest scores were also obtained in the 'Personal care routines' and 'Activities' subscales. Carvalho e Pereira (2008, p. 274), applying the Iters-R scale in 16 early childhood education institutions in one town, found that the lowest average score was obtained in the 'Personal care routines' subscale, and noted the lack of attention paid to procedures like washing children's hands and hygiene when changing diapers.

On the 'Interaction' subscale, which obtained the highest average score, as it did in these two other surveys, the item with the highest evaluation was 'Peer Interaction'. In this case it seems that adults encourage relations between peers, which is a positive characteristic.

Averages obtained on the Iters-R Scale in the crèches observed in each capital are shown on Graph 2. Although Florianopolis and Rio de Janeiro have the highest point scores, this is only for the 'Basic' quality level, and there are no statistically significant differences between the averages in these two cities. The other averages are Inadequate.

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[14] In an appendix there are Tables (one for the Iters-R Scale and the other for the Ecers-R Scale) with the points obtained for each item on the sub-scales.

**GRAPH 2**

**OVERALL MEAN ON THE ITERS-R SCALE - CRÈCHES, BY CAPITAL**



ITERS-R - MÉDIA GERAL

| Capital | Score |
|---------|-------|
| Belém | 2,7 |
| Campo Grande | 2,8 |
| Florianópolis | 4,4 |
| Fortaleza | 2,7 |
| Rio de Janeiro | 3,9 |
| Teresina | 2,3 |
| GRUPO TOTAL | 3,3 |
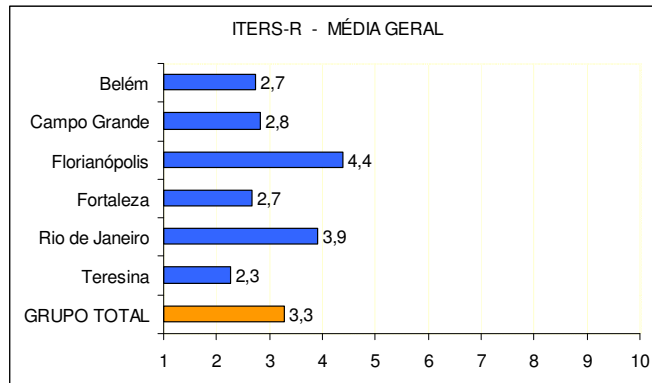
Source: Campos (coord.) 2010.

Analysis of these scores differences should be cautiously done, since the six state capitals are very different in their social and economic situations, and this is reflected in the data obtained by the survey concerning the financial resources available (Bassi, in this number) and for the social development indicators for each capital.

**Pre-schools**

The Ecers-R Scale was applied in 138 pre-school classes in the six capitals studied. The average scores for the subscales shown in Graph 3 range from 2.3 to 5.6 points. Average scores for the 'Activities' (2.3) and 'Program structure' (2.5) subscales are rated Inadequate; 'Space and furnishing' (3.1), 'Parents and staff' (3.6), 'Language reasoning' (3.7) and 'Personal care routines' (4.1) rank as Basic; and only the 'Interaction' subscale (5.6) is Adequate.

**GRAPH 3**

**OVERALL MEAN AND MEANS FOR SUB-SCALES OF THE ECERS-R SCALE – PRE-SCHOOL**
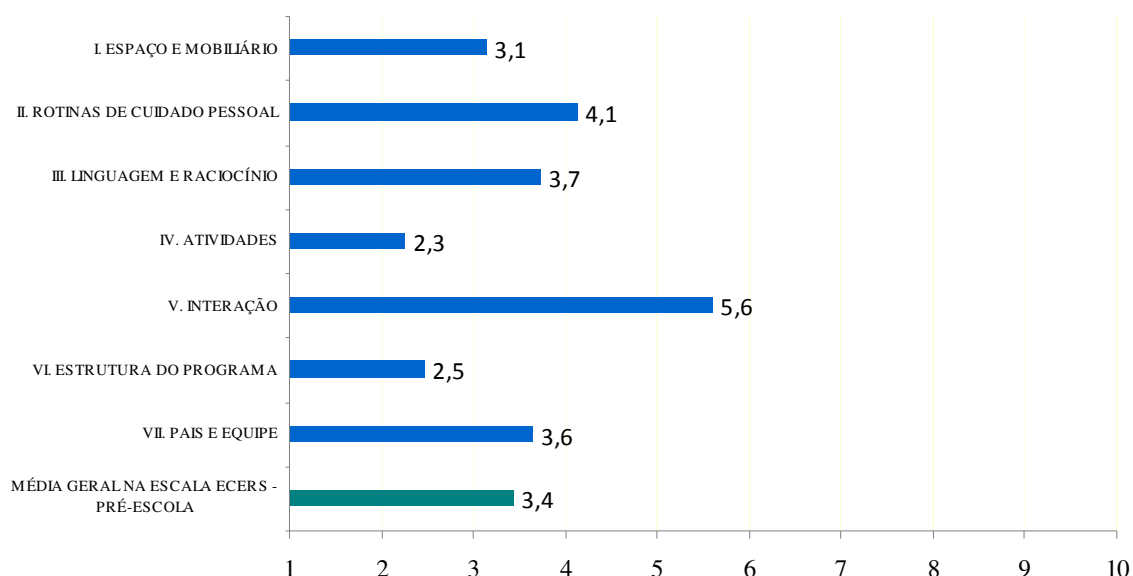


Source: Campos (coord.) 2010.

As with the crèche classes, the aspects evaluated on the 'Activities' subscale obtained the lowest averages. The only item receiving an average score above Inadequate was 'Math/numbers', with 3.3 (Basic). Of the set of items, 'Nature/Sciences' obtained the lowest score (1.6). According to the Scale, the lowest score is awarded when "There are no accessible games, materials or activities about nature/sciences" (adapted Ecers-R, p. 56). In this case it seens that the children have had no possibility to develop their sensitivity and knowledge about the environment, an increasingly important issue for future generations.

Since the subscale Activities refers to material available for the several areas of the curriculum and respective activities, one may conclude that pre-school classes have limited access to materials that could allow them to explore a range of experiences that small children should be able to enjoy at this stage of their education, and that some meaningful areas are being virtually neglected.

Observing points scored by item (see Appendix), it can also be seen that most of the pre-school classes in the study failed to include temporal and spatial organization models that would enable the children to be more independent, allowing them to choose between several types of activity and working in small groups. This is reflected in items on the 'Space and

furnishing', and 'Program structure' subscales that were assessed as Inadequate: 'Furnishings for relaxation and comfort'; 'Room arrangement'; 'Space for privacy'; 'Scheduling' and 'Group time'. There also seems to have been little opportunity in the pre-school classes for play and activities involving gross motor skills: these items – 'Gross Motor Equipment', 'Sand/water' and 'Dramatic play' – were also rated Inadequate.
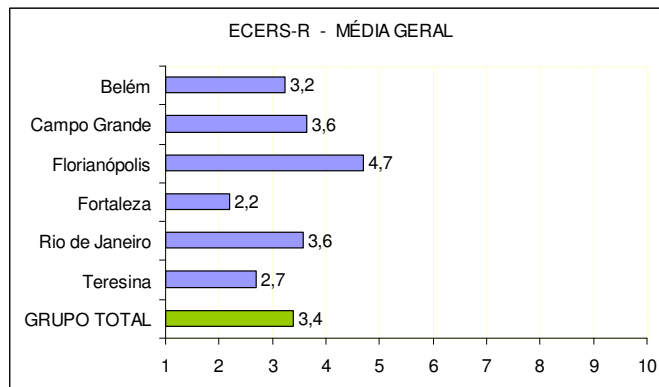
As was the case in the crèche classes, the highest average scores for the pre-school classes were in the 'Interaction' subscale (5.6 – Adequate). This aspect deserves to be more widely explored in the Brazilian context. A study conducted in California and Florida using other types of observation instruments apart from the Ecers-R scale identified the effects of social interactions between adults and children on child development, both on the cognitive and on the behavioral dimensions (Loeb et al., 2004, p. 62). Another study of 2,400 four-year-olds in eleven US states using the Ecers-R, found that

> ...the quality of affective interactions was not associated with the development of academic and language skills, but the quality of instructional interactions was positively associated with the five measures of academic and language skills [adopted in the study]. (Mashburn et al., s.d., p. 25)

An analysis of the items making up the subscales shows some important quality dimensions in the institutions evaluated in the six capitals. This analysis shows that in the crèches and pre-schools that obtained the highest scores there was a greater likelihood of supervision being adequate when the children were sleeping; of the children being familiar with safety rules; of there being a good balance between speaking and listening; of not working mechanically and repetitively on mathematics; of individual expression being more respected; of toys, materials, equipment and clothes being more available for children to play make-believe; of there being a larger amount of material for fine motor skills; of the children not having to wait a long time between daily activities, and of there being greater opportunity for the children to choose their partners in games and activities.

Graph 4 shows that the average for the total set of institutions in the cities was 3.4 points, which is equivalent to a Basic level of quality (a range from 3 to 5 points); but that in two cities the averages were Inadequate.

**GRAPH 4**
**GENERAL MEAN ON THE ECERS-R SCALE – PRE-SCHOOL, PER CAPITAL**



ECERS-R - MÉDIA GERAL

| | |
|---|---|
| Belém | 3,2 |
| Campo Grande | 3,6 |
| Florianópolis | 4,7 |
| Fortaleza | 2,2 |
| Rio de Janeiro | 3,6 |
| Teresina | 2,7 |
| GRUPO TOTAL | 3,4 |

Source: Campos (coord.) 2010.

In a city-by-city analysis it can be seen that pre-schools in Florianopolis achieved the best results and the lowest average was found in Fortaleza, followed by Teresina and Belem. As has been said, these results must be assessed within the social and economic context of each city.

The data gathered about municipal policies showed that they had followed very different paths with regard to the organization of early childhood education systems. To which extent priority is given to full-time attendance; age-groups attended in the public sector; types of support given to non-public institutions; – these are some facets of the diverse range of situations.

This situation makes any comparison between the results of quality measurements between public, private and semi-private institutions very complex, although that was one of the aims of the study. Small differences were found in certain aspects, but owing to the heterogeneity of situations observed in each of these segments, any generalizations based on the sample defined for this study would be risky.

## FACTORS ASSOCIATED WITH MEASURES OF QUALITY IN EARLY CHILDHOOD EDUCATION

This part of the study sought to find which features of the institutions that were evaluated (such as infrastructure conditions, staff profile, and characteristics of the region where the crèches and pre-schools were located) could be proved to be associated with the

variations in the scores obtained on the early childhood education quality evaluation scales. The procedure adopted was Multiple Regression Analysis.

In applying this technique to crèches, the score obtained by applying the Iters-R scale was used as the response variable, and in the case of pre-schools the response variable was the score obtained by using the Ecers-R scale. Indicators constructed on the basis of the analysis of information obtained from the questionnaires given out by the researchers in the institutions that were assessed were used as explanatory variables[15] . Some data characterizing the institutions from the Census of Schools 2008 (*Censo escolar de 2008* Brasil, 2008) and other indicators of the Census of 2000, from the FIBGE database (Brazilian Demographic and Statistical Institute Foundation – *Fundação Instituto Brasileiro de Geografia e Estatística*) were used as explanatory variables for demographic and socio-economic characterization of the neighborhoods where the early childhood education institutions visited are located.

Since the set of explanatory variables to be taken into consideration was very large, the "Forward" method was used to select the variables for inclusion in the analysis model. The set of explanatory variables investigated in the models for studying the quality of crèches and pre-schools results from a pre-selection of the most interesting variables from a pedagogical perspective, and was arrived at by means of descriptive statistical techniques. This set of variables included information about the type of schooling offered, the administrative profile, the working hours and the size of the institution; the infra-structure, the institution's supplementary and basic equipment, school transport and the family allowance; information about the training of the director and about remuneration and institutional procedures; information about the training, contractual situation and pedagogical practice of teachers; and data from the 2000 Census about the percentage of children in the neighborhood aged 0 - 3 and 4 - 6, the average monthly income of the heads of household  and the percentage of heads of household in the neighborhood who had from 0 to 7 years of schooling.

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[15]  The Coordinator's questionnaire was not used since not all the institutions employed a professional in this capacity.

**Results for crèches**

The Forward process for selecting variables included nine variables in the model. Two variables had more than two response categories: the teacher's age and the director's gross income. Thus an intermediate step before the final adjustment of the regression model was to see whether the number of categories for these variables could be reduced. Contrasts were carried out, comparing the categories of the variables two by two. It was thus found that the two first categories of the teacher's age variable could be grouped together, as could the second and third categories of the director's gross salary. After final adjustment to the regression model the estimates shown in Table 3 were obtained.

**TABLE 3**
**ESTIMATES (AND STANDARD ERRORS) FOR PARAMETERS FOR THE REGRESSION MODEL ADJUSTED FOR STUDYING CRÈCHE QUALITY**

| Variables | Categories | Estimates (e.p.) | p-value |
|---|---|---|---|
| Intercept | | 4.904 (0.525) | < 0.0001 |
| **Census of Schools 2008** | | | |
| Service provided | Only ECE | 0.783 (0.334) | 0.0217 |
| | ECE and BE | 0 | – |
| **Institution description questionnaire** | | | |
| Infrastructure | Fewer than 5 classrooms | -0.571 (0.227) | 0.0141 |
| | 5 or more classrooms | 0 | – |
| Supplementary equipment | Up to 8 pieces of supplementary equipment | -0.664 (0.244) | 0.0081 |
| | More than 8 | 0 | – |
| School transport | No | -0.465 (0.254) | 0.0708 |
| | Yes | 0 | – |
| **Director's Questionnaire** | | | |
| Gross salary | Up to 4 minimum wages | -1.416 (0.412) | 0.001 |
| | From 4 to 9 minimum wages | -0.835 (0.387) | 0.0344 |
| | Over 9 minimum wages | 0 | – |
| Guaranteed enrollment for children of staff | Yes | -0.632 (0.220) | 0.0054 |
| | No | 0 | – |
| **Teachers' Questionnaire** | | | |
| Age | Up to 44 years old. | 0.973 (0.269) | 0.0005 |
| | 45 or over | 0 | – |
| Frequency of activities carried out with children | Up to 8 activities daily | -0.434 (0.207) | 0.0395 |
| | Over 8 daily | 0 | – |
| **IBGE** | | | |
| From 0 to 7 years of schooling | | -0.013 (0.006) | 0.0312 |

Source: Campos (coord.) 2010

Interpretation of the data shown in Table 3 allows it to be stated that the crèches with the best quality measurements share the following characteristics:

- They operate in establishments catering exclusively to children from early childhood education; they have a better infrastructure (five or more classrooms or spaces) and have a larger number of pieces of supplementary equipment and/or resources (more than eight).
- They cater to children who use some form of school transport.
- Enrollment of the children of staff is not automatically assured.
- The gross salary of the director is over R\$ 4,186.00 (over nine times the minimum wage).
- The teachers are younger (up to 44 years of age) and report that they carry out a set of activities with the children on a daily basis (more than eight daily activities).
- They are located in neighborhoods with a low percentage of heads of household with fewer than seven years' schooling.

A simulation of the quality expected of a crèche with all the characteristics listed above, in other words, a crèche achieving the best conditions in all the variables, showed that the score on the Iters-R scale would be 6.56.[16] Analogously, for the worst scenario, the average quality expected would be 0.07.[17] It should be remembered that the measurement of quality of the crèche obtained by applying the Iters-R scale was on a scale of 1 to 10 points. However, the expected values obtained on the basis of an adjusted model do not necessarily follow the same variation, as can be seen in the calculation of the best and worst scenarios.

When a regression model is adjusted, another relevant item of information is knowing how important each of the selected variables is. This importance is measured by the reduction of variability provoked by the inclusion of the variable in the model.

Thus in order to identify the variables that had the greatest influence on the quality of the crèche, the starting-point is the final model (with all the variables) and then another nine models are adjusted, each one by removing only one of these variables. The reductions in variability caused by the entry of each variable were assessed.

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[16] A value of 7.91% was used for the variable zero to seven years' schooling, corresponding to the lowest percentage observed for the crèches evaluated in the study.

[17] In this case 50% was taken as the variable for schooling from zero to seven years.

The value for the reduction is calculated by the difference between 1 (or 100%) and the ratio between the complete model (0.8350 in this particular case) and the variance of the model without the variable being evaluated. The results of this procedure are presented in Table 4.

**TABLE 4**
**RESIDUAL VARIANCE OF THE REGRESSION MODEL: THE STUDY OF CRÈCHE QUALITY**

| Variable excluded from the model | Variance | Reduction in variability |
|---|---|---|
| Complete Model | 0.8350 | |
| **2008 Census** | | |
| Provision | 0.8884 | 6.00% |
| **Institution description questionnaire** | | |
| Infrastructure | 0.8963 | 6.80% |
| Supplementary equipment | 0.9067 | 7.90% |
| School transport | 0.8676 | 3.80% |
| **Director's Questionnaire** | | |
| Gross salary | 0.9835 | 15.10% |
| Guaranteed enrollment for children of staff | 0.9148 | 8.70% |
| **Teachers' Questionnaire** | | |
| Age | 0.9528 | 12.40% |
| Frequency of activities carried out with children | 0.8776 | 4.90% |
| **IBGE** | | |
| From 0 to 7 years' schooling | 0.8818 | 5.30% |
| **TOTAL** | | **70.90%** |

Source: Campos (coord.), 2010.

The data in Table 4 show that the variables with the greatest impact on the measurement of crèche quality are the director's salary and the teachers' ages, accounting respectively for 15.1% and 12.4% of the reduction in variability. All the variables taken together explain 70.9% of the differences observed in the 'crèche quality' response variable.

**Pre-school results**

As with crèches, the same set of indicators and the same analytical procedure were used, except for the response variable, since the results are now obtained using the Ecers-R

scale. It should be pointed out that only answers given by <u>pre-school</u> teachers were taken into consideration from the teachers' questionnaire.

Again, in analyzing factors associated with pre-school quality, two variables with more than two response categories were chosen: the subject-matter of the teacher's post-graduate course and the director's gross salary. The necessary contrasts were then carried out, and it was found that categories in the variable "post-graduate study area" could be reduced to only two categories: education, with emphasis upon the specific pedagogical field of early childhood education, and other areas.

With regard to the "director's gross salary" variable, the categories were grouped together, producing one variable with only two categories: (1) below 4 minimum wages and (2) over 4 minimum wages, as per Table 5. After final adjustments to the regression model, the estimates shown in Table 5 were thus obtained.

**TABLE 5**
**ESTIMATES (AND STANDARD ERRORS) FOR PARAMETERS FOR THE REGRESSION MODEL ADJUSTED FOR STUDYING PRE-SCHOOL QUALITY**

| Variables | Categories | Estimates (e.p.) | p-value |
|---|---|---|---|
| Intercept | | 5.244 (0.308) | < 0.0001 |
| **Census of Schools 2008** | | | |
| Provision | Only ECE | 1.392 (0.256) | < 0.0001 |
| | ECE and BE | 0 | – |
| **Institution description questionnaire** | | | |
| Supplementary equipment | Up to 8 more sophisticated types of resource | -0.488 (0.254) | 0.0569 |
| | More than 8 | 0 | – |
| School transport | No | -0.631 (0.224) | 0.0057 |
| | Yes | 0 | – |
| **Director's Questionnaire** | | | |
| Years since training | Up to 14 years. | -0.605 (0.214) | 0.0056 |
| | 15 years or over | 0 | – |
| Does (s)he promote training activities in the school? | No | -0.594 (0.211) | 0.0057 |
| | Yes | 0 | – |
| How did (s)he get the job? | Referral | -0.427 (0.227) | 0.0622 |
| | Public competitive examination, selection process, election, etc. | 0 | – |
| Gross salary | Up to 4 minimum wages | -0.835 (0.219) | 0.0002 |
| | Over 4 minimum wages | 0 | – |
| Challenges at work | Great difficulty | -0.584 (0.207) | 0.0055 |
| | Little difficulty | 0 | – |
| **Teachers' Questionnaire** | | | |

| | | | |
|---|---|---|---|
| | Other | -0.838 (0.248) | 0.001 |
| Post-graduation Field | Specific pedagogical field related to early childhood education | 0 | – |

Source: Campos (coord.) 2010.

Interpretation of the data shown in Table 5 allows it to be stated that the pre-schools with the best quality measurements share the following characteristics:

- They operate in establishments catering exclusively to children in early childhood education and possess a larger number of items of supplementary equipment (more than eight).

- They cater to children who use some form of school transport.

- They are units run by professionals who completed their higher education 15 years or more ago, and who became directors through a public competitive examination, selection process or election.

- The directors hold training activities or courses for teachers and staff in the unit itself.

- The gross salary of the director exceeds four minimum wages (R$ 1,861.00).

- They are run by professionals who report that they face few problems at work concerning staffing, class size, etc.

- Finally, in the top-quality pre-schools, teachers have taken post-graduate courses (specialization or academic courses) in Education, with emphasis on the specific pedagogical field of early childhood education.

A simulation of the quality expected of a top-quality pre-school produced a score of 6.64 in the best scenario, in other words, with all the features listed above. Analogously, in the worst-case scenario, the quality measurement expected would be 0.24.

The same procedure as was previously applied to crèche results was used to identify which variables had the greatest influence on pre-school quality: the final model (with all the variables) was applied, and then another nine models were adjusted, each by removing only one of these variables, assessing the reduction in variability caused by the entry of each one of them.

**TABLE 6**
**RESIDUAL VARIANCE OF THE REGRESSION MODEL: STUDY OF PRE-SCHOOL QUALITY**

| Variable excluded from the model | Variance | Reduction in variability |
|---|---|---|
| Complete Model | 1.1707 | |
| **Census of Schools 2008** | | |
| Provision | 1.4565 | 19.60% |
| **Institution description questionnaire** | | |
| Supplementary equipment | 1.2065 | 3.00% |
| School transport | 1.2476 | 6.20% |
| **Director's Questionnaire** | | |
| Years since training | 1.2804 | 8.60% |
| Does (s)he promote training activities in the school? | 1.2884 | 9.10% |
| How did (s)he get the job? | 1.2170 | 3.80% |
| Gross salary | 1.4133 | 17.20% |
| Challenges at work | 1.2481 | 6.20% |
| **Teachers' Questionnaire** | | |
| Post-graduation Field | 1.2806 | 8.60% |
| **Total** | | **82.30%** |

Source: Campos (coord.) 2010.

It can be seen from the data in Table 6 that the variables that have the greatest impact on pre-school quality are the institution's mode of providing service and the director's salary, accounting respectively for 19.6% and 17.2% of the reduction in variability. All the variables taken together explain 82.3% of the differences observed in scores obtained on the Ecers-R scale.

**Projections about improvements in the quality measurements**

Estimates of the quality of crèches and pre-schools of all the institutions evaluated in the survey were calculated from the adjusted models. Some of the variables that went into the making of the models were selected and a new estimate was calculated for each institution evaluated, based on a hypothetical situation in which all the institutions were in the category associated with the best quality conditions for all the variables selected. The goal of this

exercise was to quantify the impact that some changes in certain characteristics of the early childhood education institutions would have, on average, on the quality of crèches and pre-schools in each of the cities.

The model thus calculated average quality estimates for the crèches, supposing that all the institutions evaluated presented the best conditions in four selected variables (mode of providing service, infrastructure, supplementary equipment and activities carried out with the children). For the other variables, the conditions observed in each institution were preserved.

Table 6 presents the following information for each state capital, beginning with the measurement of crèche quality:

- **n:** number of institutions with crèches evaluated in the city;
- quality of the crèche: average quality of the crèches evaluated in the city (applying the Iters-R scale);
- estimate 1: estimate (via the model) of the average quality of crèches evaluated in the city;
- estimate 2: estimate (via the model) of the average quality of crèches evaluated in the city. In estimate 2, as mentioned, the calculation considered that all the institutions evaluated presented the best conditions in four selected variables (mode of providing service, infrastructure, supplementary equipment and activities carried out with the children). For the other variables, the conditions observed in each institution were preserved.

**TABLE 7**
**OBSERVED AND ESTIMATED VALUES FOR QUALITY OF CRÈCHE BY CITY**

| Municipality | n | Quality of crèche | Estimate 1 | Estimate 2 |
|---|---|---|---|---|
| Belem | 4 | 2.7 | 3.0 | 4.7 |
| Campo Grande | 19 | 2.8 | 2.9 | 3.7 |
| Florianopolis | 30 | 4.4 | 4.0 | 4.9 |
| Fortaleza | 12 | 2.7 | 2.8 | 3.9 |
| Rio de Janeiro | 7 | 3.9 | 3.7 | 4.6 |
| Teresina | 19 | 2.3 | 2.6 | 4.0 |
| **Total** | **91** | **3.3** | **3.3** | **4.3** |

Source: Campos (coord.) 2010.

The values presented in Table 7 show, for example, that: if the service provided in all the crèches evaluated in Belem was only early childhood education; if all the institutions had at least five items from those making up the infrastructure indicator; if the number of items of supplementary equipment available in the institutions was greater than eight; and if the teachers did more than eight activities daily with the children; then the estimate for average quality of crèches would be 4.7, as opposed to the estimate of 3.0 obtained in current conditions.

The data enable one to conclude that the greatest gain in the crèche quality indicator would occur in Belem, with an increase in 1.7 points for the average of institutions from this city that were evaluated. It should, however, be pointed out that the number of crèches evaluated in Belem was very low (only four).

The city that would enjoy the second largest gain (over 1.4 points on average on the scale) would be Teresina, where 19 early childhood education institutions with crèches were evaluated.

However, it is important to stress that smaller gains mean that most of the crèches evaluated in some cities already enjoyed better conditions of quality for the four variables selected.

In the case of pre-schools, Table 7 presents the following information for each capital city:

- **n:** number of institutions with pre-schools evaluated in the city;
- pre-school quality: average quality of the pre-schools evaluated in the city (calculated by applying the Ecers-R scale);
- estimate 1: estimate (via the model) of the average quality of pre-schools evaluated in the city;
- estimate 2: estimate (via the model) of the average quality of pre-schools evaluated in the city. To calculate this estimate all the institutions evaluated were deemed to present the most favorable conditions for three of the variables used in the model (mode of providing service, gross salary of the director, and field of study of the post-graduate course). For the other variables, the conditions observed were preserved.

**TABLE 8**
**OBSERVED AND ESTIMATED VALUES FOR QUALITY OF**
**PRE-SCHOOL BY CITY**

| Municipality | n | Quality of pre-school | Estimate 1 | Estimate 2 |
|---|---|---|---|---|
| Belem | 19 | 3.2 | 3.1 | 5.0 |
| Campo Grande | 28 | 3.6 | 3.5 | 4.9 |
| Florianopolis | 30 | 4.7 | 4.4 | 5.0 |
| Fortaleza | 16 | 2.2 | 2.6 | 5.2 |
| Rio de Janeiro | 15 | 3.6 | 3.3 | 5.3 |
| Teresina | 30 | 2.7 | 2.7 | 4.2 |
| **Total** | **138** | **3.4** | **3.3** | **4.9** |

Source: Campos (coord.) 2010.

The data in Table 8 show that the greatest average gain (in other words, the difference between the value obtained by calculating estimate 2 and the observed value) is enjoyed by Fortaleza, with an additional 2.6 points on the scale. It seems important to point out that in general the improvements in the conditions subsumed under these three variables would result in a gain of approximately 1.5 points in the average quality of the pre-schools evaluated. Florianopolis is the exception, its gain being smaller since most of the pre-schools evaluated there already present the best quality conditions represented by these three indicators.

**FINAL REMARKS**

Generally speaking, the average scores obtained by applying the scales for observing the environments in which children are received in crèches (Iters-R) and pre-schools (Ecers-R) in this study do not correspond to satisfactory levels of quality. Examining the averages for each of the sub-scales that make up these instruments, we found that important aspects of a program intended for children in these age-brackets are being neglected in most of the institutions evaluated.

The analyses seeking to measure the association between the quality indicators obtained from questionnaires for the staff, and data on the socio-economic conditions in the surrounding areas of the schools in the survey showed that if certain basic conditions were assured for these institutions and their professionals, and if certain changes were made in their

pedagogical practices, significantly higher point-scores could be achieved on rating scales for the crèches and pre-school environments.

It should also be observed that some of the variables associated with enhanced quality results have to do with the socio-economic characteristics of the neighborhoods and of the clientele served by the institution, suggesting that not only is it more difficult for lower-income populations to gain access to education, but also that the quality of education provided in the institutions in these neighborhoods tends to be worse.

On the other hand, the differences found between the averages obtained in each capital city should be understood in the context of the major regional inequalities that continue to exist in Brazil. A study of the funding of early childhood education in these cities found huge differences between the sums spent per student/year estimated for the public school system (Bassi, in the present number).

Furthermore, in another part of this study, not approached here, a survey of the history of early childhood education policies in each of the cities revealed very different paths, with very different priorities and lack of continuity between successive city governments. Since the results of the application of the scales paint a portrait of the schooling provisions found in the present, one should consider the history of policies in each case, and the steps taken, whether forward or backward. Access to education has extended more significantly in some cities than in others, and different priorities have been given to the different age ranges, to the modes of providing service and to how long the school day should last (Bassi, in this number). Since the concept of quality should include the goal of more equal access to education, these aspects are important in reflecting upon the situation found in the institutions evaluated.

In any case, the results of the study reinforce how urgent it is to adopt educational policy measures that allow quality gains in early childhood education, both in crèches and in pre-schools. The data obtained indicate specific aspects of the operations of crèches and pre-schools that need more suitable infrastructure prerequisites, enhanced guidance, on-going staff training – which includes managers and Education Secretariat technical teams – and more efficient supervision systems. As seen in the impact study (Campos et al, 2011), these actions may have positive effects not only on the quality of early childhood education, but also in offering the children enhanced learning opportunities and in the continuation of their schooling.

The results of this study broadly confirm results of other investigations in Brazil into the daily operations of crèches and pre-schools.

Academic output on the subject of childhood education has emphasized the importance of children being considered producers of culture and therefore being entitled to their say, with a right to participate and create. The question is knowing whether the real and objective conditions existing in most crèches and pre-schools allow children to fully exercise this right during the long hours they spent in these environments.

It would therefore be important for studies to broaden knowledge of operating conditions and the practices in force in these institutions, but also to move toward showing ways to change these conditions, not just for a single teacher, class or unit but above all for school systems catering for large populations, many of whom face challenging living conditions, as the study showed in these capital cities.

We should remember that it is precisely the children in this least fortunate segment of the population who stand to gain most from quality early childhood education.

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## APPENDICES 1

### RESULTADOS RELATIVOS AOS ITENS DA ESCALA ITERS-R, POR SUBESCALAS

| I – Espaço e mobiliário | | | |
|---|---|---|---|
| Item | N | Média | Classificação |
| 1. Espaço Interior | 91 | 3,6 | Básico |
| 2. Móveis para cuidados de rotina e brincadeiras | 91 | 1,9 | Inadequado |
| 3. Recursos para relaxamento e conforto | 91 | 2,6 | Inadequado |
| 4. Organização da sala | 91 | 3,9 | Básico |
| 5. Exposição de materiais para as crianças | 91 | 3,8 | Básico |
| Total da subescala | 91 | 3,1 | Básico |
| II – Rotinas de cuidado pessoal | | | |
| Item | N | Média | Classificação |
| 6.  Chegada / Saída | 91 | 3,3 | Básico |
| 7. Refeições / merendas | 91 | 2,5 | Inadequado |
| 8. Sono | 66 | 1,8 | Inadequado |
| 9. Troca de fraldas / Uso do banheiro | 91 | 3,3 | Básico |
| 10. Práticas de saúde | 91 | 2,6 | Inadequado |
| 11. Práticas de segurança | 91 | 3,6 | Básico |
| Total da subescala | 91 | 2,9 | Inadequado |
| III – Falar e Compreender | | | |
| Item | N | Média | Classificação |
| 12. Auxílio às crianças para a compreensão da linguagem | 91 | 4,9 | Básico |
| 13. Auxílio para o uso da linguagem pelas crianças | 91 | 5,1 | Adequado |
| 14. Uso de livros | 91 | 1,5 | Inadequado |
| Total da subescala | 91 | 3,8 | Básico |
| IV – Atividades | | | |
| Item | N | Média | Classificação |
| 15. Motora fina | 91 | 2,7 | Inadequado |
| 16. Atividade física | 91 | 2,7 | Inadequado |
| 17. Arte | 91 | 2,7 | Inadequado |
| 18. Música e movimento | 91 | 1,7 | Inadequado |
| 19. Blocos | 91 | 1,7 | Inadequado |
| 20. Brincadeira de faz de conta | 91 | 2,8 | Inadequado |
| 21. Brincadeira com areia e água | 89 | 2,4 | Inadequado |
| 22. Natureza / Ciências | 91 | 1,9 | Inadequado |
| 23. Uso de TV,  vídeo e/ou computadores | 76 | 2,1 | Inadequado |
| 24. Promoção da aceitação da diversidade | 91 | 1,4 | Inadequado |
| Total da subescala | 91 | 2,2 | Inadequado |
| V – Interação | | | |
| Item | N | Média | Classificação |
| 25. Supervisão do brincar e do processo de aprendizagem | 91 | 5,6 | Adequado |
| 26. Interação criança-criança | 91 | 6,3 | Adequado |
| 27. Interação equipe-criança | 91 | 5,8 | Adequado |
| 28. Disciplina | 91 | 5,1 | Adequado |
| Total da subescala | 91 | 5,7 | Adequado |
| VI – Estrutura do programa | | | |
| Item | N | Média | Classificação |
| 29. Programação | 91 | 4,4 | Básico |
| 30. Atividade livre | 91 | 2,6 | Inadequado |
| 31. Atividade em grupo | 85 | 2,8 | Inadequado |
| 32. Provisões para as crianças com deficiência | 19 | 2,7 | Inadequado |
| Total da subescala | 91 | 3,2 | Básico |
| VII – Pais e equipe | | | |
| Item | N | Média | Classificação |
| 33. Estratégias para o envolvimento dos pais | 91 | 2,7 | Inadequado |
| 34. Estratégias para as necessidades pessoais da equipe | 91 | 2,8 | Inadequado |
| 35. Estratégias para as necessidades profissionais da equipe | 91 | 2,5 | Inadequado |
| 36. Interação e cooperação entre a equipe | 80 | 6 | Adequado |
| 37. Estabilidade da equipe | 91 | 4,2 | Básico |
| 38. Supervisão e avaliação da equipe | 87 | 4,6 | Básico |
| 39. Oportunidades para crescimento profissional | 91 | 3,1 | Básico |
| Total da subescala | 91 | 3,6 | Básico |

OBS. As variações no "n" ocorrem por que alguns itens da escala podem ser pontuados com NA (Não se aplica) quando determinado aspecto não pode ser avaliado, por não se aplicar ao grupo observado. Por exemplo, o item "Brincadeira com areia e água" é assinalado com NA  quando todas as crianças do grupo tiverem menos de 18 meses, já que não é esperado por questões de segurança e de saúde que crianças com menos de 18 meses façam atividades com areia e água. Os itens que podem ser pontuados com NA são: 8 , 21, 23 , 32, 36 e 38 .  Quando marcados com NA, os itens não são contabilizados ao se calcular a pontuação de uma subescala ou escala total.

**Resultados relativos aos itens da escala ECERS-R, por subescalas**

| I – Espaço em Mobiliário | | | |
|---|---|---|---|
| Item | N | Média | Classificação |
| 1. Espaço Interior | 138 | 3,8 | Básico |
| 2. Móveis destinados aos cuidados de rotina, brincadeiras e aprendizagem | 138 | 3,9 | Básico |
| 3. Mobiliário para relaxamento e conforto | 138 | 2,2 | Inadequado |
| 4. Organização da sala para atividades | 138 | 2,1 | Inadequado |
| 5. Espaço de privacidade | 138 | 2,3 | Inadequado |
| 6. Exposição de materiais relacionados com as crianças | 138 | 3,8 | Básico |
| 7. Espaço para motricidade ampla | 138 | 4,2 | Básico |
| 8. Equipamentos de motricidade ampla | 138 | 2,9 | Inadequado |
| **Total da subescala** | 138 | 3,1 | Básico |
| **II – Rotinas de cuidado  pessoal** | | | |
| Item | n | Média | Classificação |
| 9.  Chegada / Saída | 138 | 4,8 | Básico |
| 10. Refeições / merendas | 138 | 2,7 | Inadequado |
| 11. Sono | 70 | 2,5 | Inadequado |
| 12. Uso do banheiro/ Troca de fraldas | 138 | 4,7 | Básico |
| 13. Práticas de saúde | 138 | 4,4 | Básico |
| 14. Práticas de segurança | 138 | 5,1 | Adequado |
| **Total da subescala** | 138 | 4,1 | Básico |
| **III – Linguagem e raciocínio** | | | |
| Item | n | Média | Classificação |
| 15. Livros e imagens | 138 | 2,5 | Inadequado |
| 16. Estímulos às crianças a se comunicarem | 138 | 3,8 | Básico |
| 17. Uso da linguagem para desenvolver o raciocínio | 138 | 4,3 | Básico |
| 18. Uso informal da linguagem | 138 | 4,3 | Básico |
| **Total da subescala** | 138 | 3,7 | Básico |
| **IV – Atividades** | | | |
| Item | n | Média | Classificação |
| 19. Motricidade fina | 138 | 2,5 | Inadequado |
| 20. Arte | 138 | 2,7 | Inadequado |
| 21. Música e movimento | 138 | 2,5 | Inadequado |
| 22. Blocos | 138 | 2,1 | Inadequado |
| 23. Areia / água | 138 | 2,3 | Inadequado |
| 24. Brincadeira de faz de conta | 138 | 1,9 | Inadequado |
| 25. Natureza / Ciências | 138 | 1,6 | Inadequado |
| 26. Matemática / número | 138 | 3,1 | Básico |
| 27. Uso de TV,  vídeo e/ou computadores | 122 | 2 | Inadequado |
| 28. Promoção da aceitação da diversidade | 138 | 2,1 | Inadequado |
| **Total da subescala** | 138 | 2,3 | Inadequado |
| **V – Interação** | | | |
| Item | n | Média | Classificação |
| 29. Supervisão das atividades motoras amplas | 138 | 4,9 | Básico |
| 30. Supervisão geral das crianças | 138 | 5,4 | Adequado |
| 31. Disciplina | 138 | 5 | Adequado |
| 32. Interações entre adultos e crianças | 138 | 6,6 | Adequado |
| 33. Interações entre as crianças | 138 | 6,1 | Adequado |
| **Total da subescala** | 138 | 5,6 | Adequado |
| **VI – Estrutura do programa** | | | |
| Item | n | Média | Classificação |
| 34. Programação | 138 | 2,4 | Inadequado |
| 35. Atividade livre | 138 | 3 | Básico |
| 36. Atividade em grupo | 138 | 2,1 | Inadequado |
| 37. Condições para as crianças com deficiências | 47 | 2,1 | Inadequado |
| **Total da subescala** | 138 | 2,5 | Inadequado |
| **VII – Pais e Equipe** | | | |
| Item | n | Média | Classificação |
| 38. Condições para os pais | 138 | 3,2 | Básico |
| 39. Condições para as necessidades pessoais da equipe | 138 | 3,1 | Básico |
| 40. Condições para as necessidades profissionais da equipe | 138 | 3,2 | Básico |
| 41. Interação e cooperação entre a equipe | 92 | 5,4 | Adequado |
| 42. Supervisão e avaliação da equipe | 136 | 4,7 | Básico |
| 43. Oportunidades para o desenvolvimento profissional | 138 | 3,3 | Básico |
| **Total da subescala** | 138 | 3,6 | Básico |

OBS. As variações no "n" ocorrem por que alguns itens da escala podem ser pontuados com NA (Não se aplica) quando determinado aspecto não pode ser avaliado, por não se aplicar ao grupo observado. Por exemplo, o item "Sono" não pode ser observado em um grupo que freqüenta a instituição apenas meio período (menos de 4 horas por dia), sendo assinalado com NA. Os itens que podem ser pontuados com NA são: 11, 27, 37, 41 e 42. Quando marcados com NA, os itens não são contabilizados ao se calcular a pontuação de uma sub-escala ou escala total.