Teacher Expectations and Learning: Exploring Data from Prova Brasil 2015 Questionnaire*

Eloisa Maia Vidal[1]
ORCID: 0000-0003-0535-7394
Willana Nogueira Medeiros Galvão[1]
ORCID: 0000-0002-1136-0648
Sofia Lerche Vieira[1]
ORCID: 0000-0002-0271-6876
João Bosco Chaves[1]
ORCID: 0000-0001-7994-0772

Abstract

The literature on teacher expectations about student learning is situated in an interface between psychology and education and dates back to the works of Rosenthal and Jacobson (1968), Palardy (1969), Alvidrez and Weinstein (1999), and others. One of their findings is that the chances of success in learning are directly related to teacher expectations about students, which allows constructing the idea of self-fulfilling prophecy. This article further reflects on such finding through the analysis of a set of items in *Questionário do professor do Saeb 2015* [Saeb 2015 Teacher Questionnaire], which were organized in out-of-school, in-school and student-dependent variables. We used the microdata relative to the 2,274 fifth grade teachers of primary education of the public systems of three state capitals: the best Ideb in 2015 (Curitiba city, Paraná state – 6.3), the worst Ideb (Maceió city, Alagoas state – 4.3) and the greatest variation in Ideb in the 2005-2015 period (Fortaleza city, Ceará state – 63.6%). The data show that, of the three categories in which the items were organized, the lowest coefficients of variation are present in the out-of-school variables, while the highest are found in in-school variables. Observing the coefficients of variation of the student-dependent variables, it is verified that their values are much higher than those of out-of-school variables and at least 50% lower than those of in-school variables. These results show that teacher expectations about student learning problems are more strongly associated with the social environment, educational level and lack of parental support to students' school life.

Keywords

Teacher expectation – Learning problems – Large-scale assessment – Self-fulfilling prophecy.

Educ. Pesqui., São Paulo, v. 45, e201657, 2019.

1

Introduction

The initial motivation for the article was a study on data from Prova Brasil 2013 contextual questionnaire (VIDAL; VIEIRA, 2017), which identified elements of the profile of teachers who worked in the 5th year of primary education and the 4th year of lower secondary education in public schools, with a sample of more than two hundred thousand teachers. The data showed that Brazilian teacher perceptions of learning problems are related, to a large extent, to out-of-school factors, and that students have little chance of school success and progression of schooling. Teachers feel powerless in the exercise of their profession and present a pessimistic view that has repercussions on their practice (ROJAS; GASPAR, 2006; HERNÁNDEZ-CASTILLA; MURILLO; MARTÍNEZ-GARRIDO, 2014), which leads to school ineffectiveness.

The objective of this study is to deepen the discussion about the same set of items, in a sample of three education systems that present different behaviors in relation to Índice de Desenvolvimento da Educação Básica[2] (Ideb – Compulsory Education Development Index) in the 5th year of primary education – Curitiba city (Paraná state), Maceió city (Alagoas state), and Fortaleza city (Ceará state) – and seeks to identify the perceptions of the teachers of these systems when Prova Brasil 2015 was applied.

The interest in studying the microdata of the contextual questionnaires of Sistema de Avaliação da Educação Básica (Saeb - Compulsory Education Assessment System) is due to the quantity and quality of information made available by Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira (INEP), which, since 2005, due to the changes implemented by Law 931/2005, has allowed constructing historical series, making space and time cuts as varied as possible. Databases allow stratifying samples using previously selected criteria, such as administrative dependency, state, city, location, grade application etc., a level of detail that makes it possible to design, structure and implement public policies customized for local contexts.

Inspired by academic studies on different approaches to large-scale assessment (BARRETO; PINTO, 2001; POLTRONIERI; CALDERÓN, 2012; SOUSA; PIMENTA; MACHADO, 2012; BAUER; ALAVARSE; OLIVEIRA, 2015), we observed that most of the studies can be classified into three groups: (i) works that address the emergence of large-scale evaluation policies in the context of educational reforms and the methodology used for their operationalization, and discuss the motivations, the international and national settings

---

2- **Translator's note:** In this article, educação básica has been translated as compulsory education. In Brazil, the term educação básica comprises four stages of the International Standard Classification of Education (ISCED): (i) ISCED 0, or early childhood education; (ii) ISCED 1, or primary education, for children aged 6 to 10 years; (iii) ISCED 2, or lower secondary education, for children aged approximately 11 to 14 years; and (iv) ISCED 3, or upper secondary education, for 15 to 17 year-olds, when there is no age-grade distortion. ISCED 1, 2 and 3 correspond to anos iniciais do ensino fundamental, anos finais do ensino fundamental and ensino médio respectively.

around which they move, the instruments used by the evaluation and their proficiency scales; (ii) studies that analyze the data collected from the evaluations, associating them with specific questions, such as the study of language acquisition or the level of mathematical literacy of children, and also, albeit in a smaller number, studies on the relation of data with gender and race diversity, using the students' answers to the socioeconomic questionnaire of Prova Brasil; and (iii) studies on the implications of large-scale assessments for school's daily life and the uses of results, consequences on the curriculum, on the school dynamics and the conception or perception of managers and teachers about these processes. The study developed in this article falls within the third group.

Analyses focusing on Saeb contextual questionnaires have not significantly been on the agenda of the research groups of Brazilian universities. The relevance of this information justifies the interest in the subject and stresses the importance of these data collection instruments to support possible diagnoses which can help shed light on problems related to the quality of education in Brazil.

Methodology, selection and analysis of data

The creation of Saeb dates back to the 1990s and since then the evaluation of student performance has been associated with the application of contextual questionnaires to teachers, principals, students, and assessment agents. As Soares and collaborators (2010, p. 2) explain,

> All this information is collected with the purpose of explaining student proficiency and finding factors associated with efficacy and equity of education provided by schools. Most of the works of contextual analysis of Large-Scale Assessments are intended to explain student proficiency based on in-school and out-of-school factors. However, the interrelation between such factors is placed in the background. As a result, the conditions that affect them are not studied and, consequently, intervention strategies based on these interrelations are not designed.

Prova Brasil or Avaliação Nacional do Rendimento Escolar (Anresc – National Assessment of Educational Achievement) is one of the components of Saeb,[3] and is applied in all public schools with at least twenty students enrolled in the 5th year of primary education and the 4th year of lower secondary education, located in urban and rural areas. In 2015, *Questionário do professor da Prova Brasil* [Prova Brasil Teacher Questionnaire], consisting of 125 items, was applied to 143,784 fifth grade teachers and 121,203 fourth grade teachers of 53,849 lower secondary public schools.

This study focuses on teacher expectations about student learning problems (questions 70 to 82) and works on the microdata of 2,274 5th grade teachers of primary education of public systems of three Brazilian state capitals: the ones with the best and

---

3- Avaliação Nacional da Educação Básica (ANEB) [National Assessment of Compulsory Education] seeks to maintain the objectives, characteristics and procedures of assessments previously undertaken by Saeb, and is applied to a sample of the school population, which ensures the continuity of the historical series of the data on the proficiency of the students of public and private systems in Brazil.

the worst Ideb in 2015 (Curitiba – 6.3 and Maceió – 4.3) and the one with the greatest variation of Ideb in the 2005-2015 period (Fortaleza – 63.6%).

We chose 5th grade due to the significant advances in Ideb results that the school systems obtained in the 2005 - 2015 period, which led the country to exceed the target set for 2017, a phenomenon that did not happen to the 4th grade of lower secondary education or the 3rd grade of upper secondary education. Although the selected items concern teachers, it is important to recognize that these professionals are not the only actors in the educational process capable of altering student performance results, as Soares et al. (2010) stress.

For data analysis, we used descriptive statistics, considering: 876 teachers from Curitiba, all of them from the municipal system; 417 teachers from Maceió, of whom 84 work for the state system and 333 for the municipal one; and 981 from Fortaleza, of whom only nineteen teachers work for the state system. It is important to emphasize that the process of municipalization of primary and lower secondary education established by Lei de Diretrizes e Bases da Educação (LDB) (BRASIL, 1996) [Law of Guidelines and Bases of Education] defines the characteristics of these school systems, in which the presence of the state supply is still relevant only in Maceió city.

We also sought to identify the dispersion of positive responses, calculating the mean, variance, standard deviation and coefficient of variation (CV), a relative dispersion measure used to analyze the variability of the data, in which the lower the coefficient of variation, the greater the conviction of the respondents about their opinions. The calculation considered the number of positive responses (yes) of each block of questions per capital.[4]

Centrality of large-scale assessment in educational policy

The presence of large-scale assessments in compulsory education has expanded to such an extent that what should be only a dimension of public policy has taken on the leading role and today it is seen by many managers and scholars as the very policy. It is no wonder that the performance results of countries in the Programme for International Student Assessment (Pisa), an international evaluation promoted since 2000 by the Organization for Economic Co-operation and Development (OCDE), have been given more and more publicity.

The trajectory of the educational policies of countries loses importance and the ranking of student performance is highlighted every three years, focusing on a set of cognitive domains, skills and abilities considered relevant for life in society in the 21st century. According to Carvalho (2009, p. 1010), Pisa is "an international comparative

---

4- For in-school variables, we performed the mean, variance, standard deviation and coefficient of variation statistics as follows:

$$\mu = \frac{1}{6}\sum_{i=70}^{75} Qi \quad ; \quad \sigma^2 = \frac{1}{6}\sum_{i=70}^{75}(Qi - \bar{x})^2 \quad ; \quad \sigma = \sqrt{\frac{1}{6}\sum_{i=70}^{75}(Qi - \bar{x})^2} \quad ; \quad Cv = \frac{\sigma}{\mu}$$

. For the out-of-school variables, the same statistics were calculated with the group questions (items 76 to 78). With the student-dependent variable, we took into account the quantitative of the four questions of the group (items 79 to 82).

evaluation of the performances of schools which has become, over the course of the present decade, one of the main means of action of the OECD in the field of education". It is intended to be recognized as "compulsory information for debate and political decisions centered on scientific evidence" (CARVALHO, 2009, p. 1029).

In Brazil, the situation is no different, especially with regard to Saeb, which, since the creation of Ideb[5] in 2007, has emphasized the large-scale assessment of education systems and schools. Its creation enabled implementing a policy of accountability of education managers, which culminated in the proliferation of mechanisms of awards and bonuses, conceived by the governments of states, of the Federal District and of municipalities, aiming to achieve the goals set by the Federal Government. Fernandes and Gremaud (2009, p. 231) explain that the investment in accountability policy started gaining ground in Brazil due to the dissemination of results by school and systems, which Prova Brasil made available. The creation of Ideb has "strengthened the consolidation of accountability"; in this regard, Plano Nacional de Educação (PNE – National Education Plan), approved for the 2014-2024 period, chose Ideb as an indicator of compulsory education quality, in goal 7, strengthening Ideb as an inherent mechanism of state policy (NARDI, 2014).

Despite the fact that the effort to include Brazil in the culture of results has been expanding for more than fifteen years, the situation of the country in international examinations has not improved significantly yet. In Pisa, Brazil is among the ten countries with the highest percentage of students at the lowest performance levels, which correspond to almost 70% in mathematics and approximately 50% in reading and science (OCDE, 2016). This fact occurs even among students whose families are among the 25% with the best socioeconomic status in the country, among which 45% of young people perform poorly. According to OECD (2016), poor school outcomes have short-, medium- and long-term consequences. Students who do not acquire the knowledge needed in these subjects are at greater risk of dropping out of school and find difficulties in developing studies and effectively participating in the labor market in the future, which impacts the countries' economic growth. In the latest evaluation applied by LLECE in 2013, the Third Regional Comparative and Explanatory Study (Terce) in sixteen Latin American countries, Brazil draws attention because of its internal inequality in the education systems and the prevalence of students at the lowest performance levels (UNESCO, 2014, p. 18).

In regard to Saeb, although Ideb results in primary education in public systems have shown significant improvements,

> The analysis of the distribution of 5th grade students by the Portuguese Language (reading) and Mathematics proficiency scales indicates that there is a considerable number of students at the lowest levels of the scales. Thus, from a pedagogical point of view, these data show that learning is heterogeneous among 5th grade students in the two areas evaluated. (BRASIL; INEP, 2016, p. 169).

The results in lower secondary education have not reached the projected goals and a significant portion of the students are at the lowest proficiency levels of the Portuguese

---

5- The proposed indicator is the result of a combination of two other indicators: (i) mean of student score in standardized exams at the end of primary education, lower secondary education and upper secondary education; and (ii) mean of pass rate of students from the corresponding education level (FERNANDES, 2007, p. 16).

Language and Mathematics scales. The situation of upper secondary education reproduces what has been happening in primary and lower secondary education, and is exacerbated by stagnation, as pointed out in the report of the first cycle of monitoring of PNE goals – 2014-2016 biennium:

> The analysis of the trajectory of the two constitutive dimensions of Ideb – pass rate and performance (average proficiency) of students – shows that the pass rate increased from 2007 to 2013, while performance, expressed by the mean of standardized proficiency, remained stagnant from 2009 to 2011 and decreased in 2013, returning to the same value observed in 2007. (BRASIL; INEP, 2016, p. 180).

The data related to Brazil in the three large-scale assessments described show that student academic performance has been a challenge and strategies to overcome it within school systems have not yet been identified. Although considerable progress has been made, largely associated with the growth in the pass rate, which is not negligible, problems involving student learning still persist.

Teacher expectations about learning according to the literature

The impact of teacher expectations on student performance has been studied for more than five decades. In one of the pioneering works, Rosenthal and Jacobson (1968) carried out a study in a public school in the United States, in which teachers were told that students were of high potential (*growth spurters*), supposedly based on results of cognitive tests. A group of students was chosen randomly, that is, they did not actually take the test and, one year later, the result was that the students said to be of high potential showed an increase in their proficiencies on average 50% higher than that of the other students, which shows that there is interaction between teacher expectations and student performance.

Palardy (1969) also developed a study on teacher expectations for student performance in reading with primary and lower secondary boys and girls of the American middle class. Teachers were classified into two groups: one who considered that boys could learn to read as well as girls and another who thought girls would be more successful. Reading performance tests were applied on comparable groups of children. In retest, it was found that, in classes where teachers expected less from boys, boys actually achieved a much lower reading performance level than girls.

Alvidrez and Weinstein (1999) studied the association between teachers' evaluation of intelligence and personality in a group of 110 four-year-old children attending pre-school and the performance of these children in two tests performed at the end of upper secondary school: Scholastic Aptitude Test (SAT) and Grade Point Average (GPA). In addition to teacher evaluation, an objective test provided a measure of intelligence. Children with higher socioeconomic status and perceived as independent were evaluated by teachers as more intelligent than the objective test indicated. On the other hand, children with lower

socioeconomic status and perceived as immature were evaluated as being less intelligent than the test indicated. After controlling for the socioeconomic status of the student, the under or overestimation of intelligence relative to the measure obtained in the objective test significantly predicted the results in SAT and GPA.

A study carried out by INEP and called *Melhores práticas em escolas de ensino médio no Brasil* [Best practices in upper secondary schools in Brazil] (BRASIL, 2010, p. 67) indicates that the high expectations of school teams for themselves and the students is one of the key factors for school success, which leads students to perceive the school as demanding, to value the fact that they study there, and to be able to face challenges.

Studies by Bandura (1993) show that teachers with high self-efficacy beliefs in their pedagogical practice and especially in their students are able to stimulate and motivate students, because they believe in their potentialities and in the transformative capacity of the school. Therefore, student motivation and positive school performance are associated, among other aspects, with teachers' beliefs and the challenges presented to them.

The report *Alunos de baixo desempenho: por que ficam para trás e como ajudá-los*? [Low-performing students: why do they fall behind and how can we help them?] (OCDE, 2016) presents an analysis of the Pisa 2012 data and states that the percentage of poor performers is significantly higher in schools where teachers expect less from their students. This study reveals that 74.5% of Brazilian students with poor performance in mathematics attend schools whose teachers have low expectations for them, while the OECD mean is 30.6%. In Brazil, 60% of teachers from schools with low socioeconomic status do not believe that most of their students will complete upper secondary education, while 100% of teachers from schools with a higher socioeconomic status said they believed that most of their students would complete upper secondary education (OCDE, 2016).

The report in question emphasizes that:

> Students from schools in which teachers support their students more and maintain high morale are less likely to have low performance, whereas students whose teachers have low expectations about them and are absent more often are more likely to have low performance in mathematics, even if one takes into account the socioeconomic status of students and schools. (OCDE, 2016, p. 6).

The concept of self-fulfilling prophecy has been used and developed historically by psychology. Allport (1950) discussed the fact that the expectation of one person in relation to the behavior of another can contribute to the behavior of the second individual to be shaped according to what is expected of him or her. This issue has been in the agenda of the discussions and meetings of psychologists and educators around the world, who have been concerned about the possibility of teacher expectations helping or hindering the development of the learning process of their students.

In the face of these concerns, the relation between teacher expectations and student performance has been investigated and it has been perceived that the more positive the perspective of the teachers towards each student, the greater the probability of success in their school career or school year. Therefore, it is observed that the chances of success in

learning are directly related to teacher expectations, which refers to the aforementioned idea of self-fulfilling prophecy.

In a 1963 study, Clark (quoted in Rosenthal and Rubin, 1978) indicated that the children of American ghettos were often victims of the self-fulfilling prophecies of their teachers since the latter believed that those children did not have conditions to learn and obtain good results. Thus, the question that materializes for reflection is: didn't the teachers believe in the progress of the students because the latter lived in a setting of socioeconomic vulnerability or did students have learning difficulties at school because that was what teachers expected of them?

The literature shows that self-fulfilling prophecies are highly likely to become present in students' school life and guide, even if unconsciously, the teaching action in the classroom. Consequently, investigating teacher perceptions of student learning problems in the three state capitals selected is relevant to help grasp the ethos that guides these teachers.

Teacher Expectations about Learning on the Teacher Questionnaire

Questions 70 to 82 of Prova Brasil 2015 Teacher Questionnaire are shown in Table 1. In order to facilitate the analysis, they were organized into three categories.

Table 1 – List of items sorted by category in *Prova Brasil* 2015

In your opinion, possible student learning problems in the grade(s) or year(s) evaluated in this school are due to:	Category
70. Lack of physical infrastructure.	In-school variables
71. Lack or inefficiency of educational supervision, management and guidance for teachers.	
72. Curricular content inadequate for students' needs.	
73. Failure to cover curricular contents throughout the student's school career.	
74. Teachers' work overload, making it difficult to plan and prepare for classes.	
75. Teacher dissatisfaction and discouragement regarding the teaching career.	
76. Social environment of the student.	Out-of-school variables
77. Educational level of students' parents.	
78. Lack of parental support and involvement in the student's school life.	
79. Low self-esteem of students.	Student-dependent variables
80. Student's lack of interest and lack of effort.	
81. Lack of student discipline in the classroom.	
82. High student absenteeism.	

Source: *Questionário do professor, Prova Brasil 2015*, adapted by the authors, 2018.

Thus, of the thirteen items, we can classify: six as in-school variables or variables related to the school effect (Q.70 a Q.75), which in the literature refer "to the school itself and can be described through teachers, principals, pedagogical project, inputs, facilities, institutional structure, school 'climate' and intersubjective relations in school daily life" (BRASIL, 2004, p. 45); three as out-of-school variables (Q.76 a Q.78), which concern "the living conditions of students, their families and their social, educational and economic context" (BRASIL, 2004, p. 45); and four variables related to the student, associated to behaviors and attitudes regarding the school environment and the teaching-learning process (Q.79 a Q.82).

The selected cities – Fortaleza, Curitiba and Maceió – are considered metropolises, with population ranging from 1 to 2.5 million inhabitants, which leads them to have quite complex school systems, since they need to incorporate, into the educational policy implementation, aspects related to social vulnerabilities, diversity of the student body, socioeconomic conditions of families, work relationships of school teams, which together or separately are responsible for the results in student learning (BATISTA; ÉRNICA, 2012).

Fortaleza distributes the public supply of primary education in 227 schools serving 87,959 students; Curitiba has a public system of 187 primary schools for 85,672 students; and Maceió has 36 state schools and 88 municipal ones, which total 124 public primary schools that serve 37,528 students (BRASIL; INEP, 2018).

Some social and economic variables can be understood by observing the Gini coefficient, the Municipal Human Development Index (MHDI) and the Gross Domestic Product (GDP) per capita, as shown in Table 2.

Table 2 – HDI and GDP *per capita* in Brazil and in the selected state capitals

Capital	Gini index	MHDI 2010	GDP per capita 2013 (R$)
Curitiba	0.5652	0.823	42,934.38
Brazil	0.6086	0.727	26,444.63
Fortaleza	0.6267	0.754	19,494.40
Maceió	0.6378	0.721	16,439.48

Source: http://www.atlasbrasil.org.br/2013/pt/consulta/ and IBGE, in partnership with the State Statistics Bodies, State Government Departments and Superintendência da Zona Franca de Manaus (Suframa – Manaus Free Zone Superintendence).

The Gini Index "measures the degree of concentration of household income distribution per capita of a given population in a particular geographical area",[6] and the closer to unity (1.0) the greater the inequality in income distribution. Among the Brazilian capitals, Maceió has the 5th highest Gini index; Fortaleza ranks 11th and Curitiba ranks 26th. When the HDI of the capitals is observed in relation to the country, it is verified that Curitiba has the highest of them, which is 13.2%, 9.2% and 14.1% higher than those of Brazil, Fortaleza and Maceió respectively.

6- Available at: <http://fichas.ripsa.org.br/2011/b-9/?l=pt_BR>. Access on: 18 June 2017.

With regard to GDP per capita, the index in Curitiba is 62.4%, 120.2% and 161.2% higher than that of Brazil, Fortaleza and Maceió respectively. Studies related to the student performance in large-scale evaluations show that socioeconomic factors have significant impacts, accounting for a significant portion of the performance gap between students (BROOKE; SOARES, 2008; ALVES; SOARES, 2007; RIANI; RIOS-NETO, 2008).

Graph 1 presents data from the three municipalities related to the categories in which the items were organized, starting with in-school variables, considering the frequency of positive responses associated with the six variables selected for this category.

Chart 1 - Perception of the causes of possible learning problems associated with in-school factors in the classes you teach at this school, 5th grade, Saeb 2015
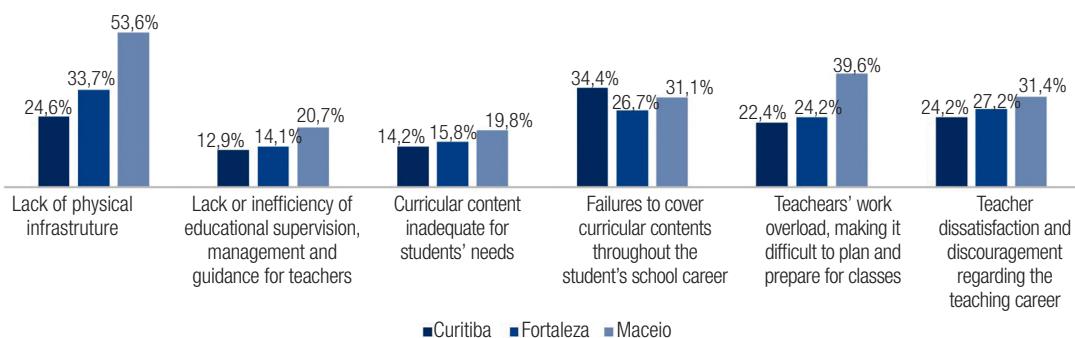
Sources: Prepared by the authors drawing on data from Prova Brasil 2015.

In regard to physical infrastructure, in Maceió, 53.6% of teachers believe that lack of infrastructure is a factor that influences learning, whereas 33.7% in Fortaleza and 24.6% in Curitiba perceive this factor as responsible for possible student learning problems, which updates Soares's (2004, 98) affirmation that "we have not yet passed the phase of basic investment in schools yet", especially in the capital of Alagoas state, which has the lowest Ideb.

The lack or inefficiency of educational supervision, management and guidance for teachers is considered by 14.1% of teachers in Fortaleza, 20.7% in Maceió and 12.9% in Curitiba as a possible cause of student learning problems. In this case, it is necessary to consider the possibility that these services are not thought to be relevant by the teachers or that the actions related to these functions are not directly associated with student learning problems. In one case or another, it is surprising how little importance teachers give to these functions.

The variables – Curricular content inadequate for students' needs; Failure to cover curricular contents throughout the student's school career; Teachers' work overload, making it difficult to plan and prepare for classes; Teacher dissatisfaction and discouragement regarding the teaching career – are not considered by teachers as factors that greatly

influence student learning, since, according to Chart 1, 39.6% is the highest percentage of teachers who perceive these factors as influencers.

A 2008 study by Riani and Rios-Neto, using a hierarchical model of binary response, sought to identify aspects related to family and school structure of Brazilian municipalities which contributed to reduce age-grade distortion. The research finding:

> [...] corroborates the hypothesis that the improvement of the school system of municipalities is an important factor to reduce educational stratification, due to both its direct effect on the average increase in the probabilities evaluated and the decrease in the importance of the factors related to the student's family environment, reducing intergenerational inequality. (ALMEIDA; ARAÚJO JUNIOR; RAMALHO, 2016, p. 140).

Thus, teacher perceptions of in-school factors, by prioritizing infrastructure conditions, point to issues of a systemic nature. It is noteworthy that only about one third of the teachers in the three school systems associate possible student learning problems to the failure to cover curricular contents throughout the student's school career. At the same time, it is surprising that teachers attach little importance to services of educational supervision, management and guidance for teachers and to the inadequacy of the curriculum for the students' needs, a phenomenon that requires qualitative studies to be better explained.

In the three capitals surveyed, heterogeneity was observed in the responses of the items that make up the group of in-school variables. For the positive answers of the six questions of the group, i.e., for teachers who believe that these factors influence student learning difficulties, the coefficient of variation of the positive responses was 28.6% in Fortaleza, 32.4% in Curitiba and 35.5% in Maceió (see Table 1). It is possible to infer that, in the teachers' opinion, the six variables that make up this group exert different influences on student learning, and this occurs in the three cities studied.

Table 1 – Dispersion of teacher positive responses to the group of out-of-school variables

Municipality	Mean	Variance	Standard deviation	CV
Fortaleza	226.5	4190.9	64.7	28.6%
Maceió	134.5	2279.9	47.7	35.5%
Curitiba	191.7	3860.9	62.1	32.4%

Source: Prepared by the authors drawing on data from Prova Brasil 2015.

Graph 2 presents data on the positive responses to the three questions considered out-of-school factors.

Graph 2 - Perception of the causes of possible learning problems associated with out-of-school factors in the classes in which you teach in this school, 5th grade, Saeb 2015
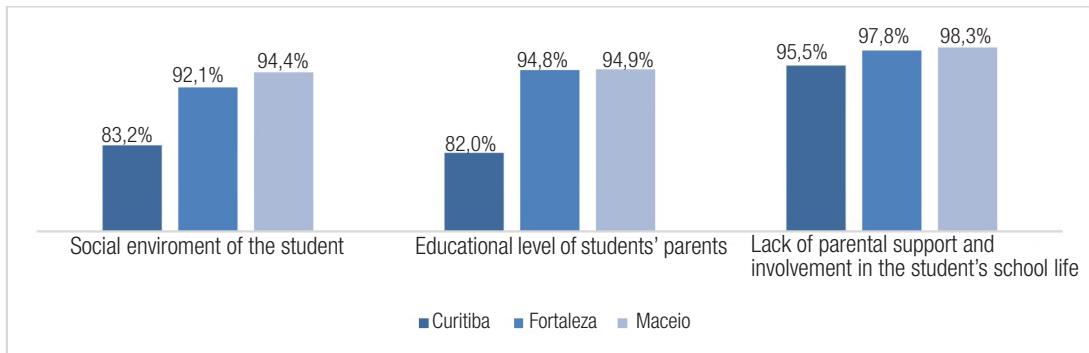
Source: Prepared by the authors drawing on data from Prova Brasil 2015.

It is possible to notice that more than 80% of the teachers in Curitiba and more than 90% of the teachers in Fortaleza and in Maceió consider that the social environment of the student and the educational level of parents contribute to possible learning problems. More than 95% of the teachers in the three capitals consider that the lack of parental support and involvement in students' school life is associated with learning difficulties. It is worth highlighting that the teachers in Curitiba, a city with the best per capita income and HDI, present the lowest percentage regarding the contribution of out-of-school factors to student learning problems. A study by Weinstein (2015, p. 6, italics in the original, freely translated) corroborates these perceptions in that it shows that:

> [...] household is the main source of *explanation* for the level of school work performed by students. Families appear as the factor that most affects the students, which shows a limit to the transforming capacity of teaching work, constituting significant dissonance with respect to the transforming potential attributed to (or made possible by) the teacher.

Silva Junior and Sampaio (2015, p. 278) indicate studies (MILLER; MULVEY; MARTIN, 1997; LEE; BARRO, 2001; BARROS, 2001; ERMISCH; FRANCESCONI, 2001; RIOS-NETO; CÉSAR; RIANI, 2002; SACERDOTE, 2002; WÖSSMANN, 2003; RIANI; RIOS-NETO, 2008; OLIVEIRA, 2010) which show the importance of the family background for academic achievement, but raise the hypothesis that some factors such as lower proportion of students per teacher and class size contribute to higher academic attainment and an improvement in education, drawing attention to the fact that "an increase in investment in education can be used to reduce inequalities in education and, consequently, in income", since in the short term it is easier to "improve the quality of the school than to alter the family background".

In the group of out-of-school variables, coefficients of variation with respect to positive responses were low, which shows that there is homogeneity of responses to the three questions of this group. It can be inferred that, in the teachers' opinion, the three

variables that make up this group exert the same influence on student learning, which occurs in the three municipalities.

Table 2 - Dispersion of teachers' positive responses to the group of out-of-school variables

Municipality	Mean	Variance	Standard deviation	CV
Fortaleza	909.3	560.9	23.7	2.6%
Maceió	395.0	50.7	7.1	1.8%
Curitiba	755.3	2882.9	53.7	7.1%

Source: Prepared by the authors drawing on data from Prova Brasil 2015.

Graph 3 presents data on the four variables that were considered dependent on the students. They are related to behaviors or attitudes of the students and, therefore, are influenced not only by out-of-school factors, such as socioeconomic status and family education, but also by in-school factors, like school climate, school attractiveness, curriculum, teaching methodologies etc.

Graph 3- Perception about the causes of possible learning problems that depend on students in the classes you teach at this school, 5th grade, Saeb 2015
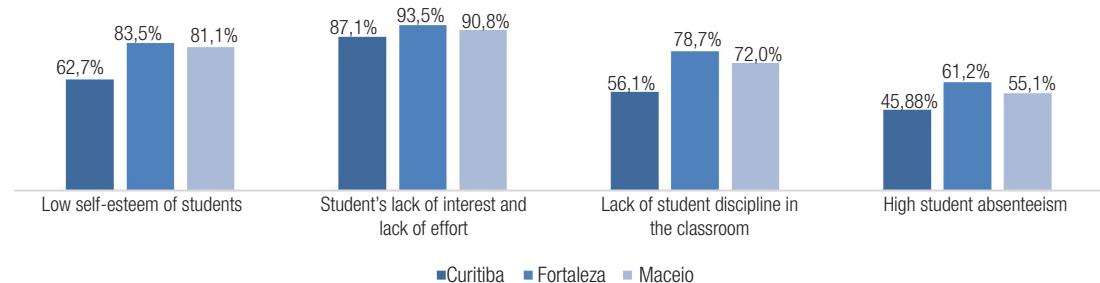
Source: Prepared by the authors drawing on data from Prova Brasil 2015.

Regarding the low self-esteem of students, 83.5% of teachers in Fortaleza see it as a variable that may be the cause of possible learning problems, a greater percentage than that in Maceió (81.1%) and Curitiba (62.7%). More than 85% of the teachers in the three capitals agree that the student's lack of interest and lack of effort is responsible for learning problems. Lack of student discipline in the classroom is the highest in Fortaleza (78.7%), followed by Maceió (72.0%) and Curitiba (56.1%), i.e., the schools in Fortaleza face the biggest classroom management problems. High student absenteeism is recognized as a variable that can cause student learning problems by 61.2%, 55.1% and 45.8% of the teachers in Fortaleza, Maceió and Curitiba respectively.

In Curitiba, the state capital with the highest Ideb, teachers have better expectations about student-dependent variables. What is striking is that, in the capital that made the

most progress in Ideb in the 2005-2015 period, the teachers present the highest percentage of expectation for learning problems associated with student-dependent variables. Considering such teacher perceptions, it is necessary to ask what factors have contributed to the evolution of Ideb in this period.

Just as it occurs with in-school variables, the positive responses to the four questions that make up this group are dispersed in relative terms around the means of the responses. The coefficient of variation is 14.8% in Fortaleza, 17.6% in Maceió and 24.2% in Curitiba, which allows affirming that, in the teachers' opinion, the four variables that make up this group exert differentiated influences on student learning, which occurs in the three cities.

Table 3 - Dispersion of teachers' positive responses to the group of student-dependent variables.

Municipality	Mean	Variance	Standard deviation	CV
Fortaleza	759.5	12619.3	112.3	14.8%
Maceió	307.8	2934.2	54.2	17.6%
Curitiba	545.8	17476.2	132.2	24.2%

Source: Prepared by the authors drawing on data from Prova Brasil 2015.

It was observed that results similar to those presented in the literature were found in this study. The teachers of the three capitals indicate that out-of-school factors appear to have a greater weight as factors associated with school failure than in-school factors. When student learning is associated with aspects that are external to everyday school life, one assumes that the possibilities of intervention of the school are limited, which creates a tendency not to take responsibility for the situation, since the solution to the problems would not be within reach of the school professionals. In this regard, Soares and Andrade (2006, p.109) emphasize that it is only by analyzing in-school and out-of-school variables together that it is possible to advance in the effort to explain student academic performance:

> Today, it is recognized that the factors that determine student cognitive performance fall into three broad categories: The school structure, the family and characteristics of the student himself or herself. In this field of educational research, rather than relying on just one area, the best analyses incorporate all these factors. In other words, neither out-of-school factors alone can explain cognitive performance nor does the school make all the difference.

The data obtained in the analysis of the items present in *Questionário do professor da Prova Brasil 2015* [Prova Brasil 2015 Teacher Questionnaire] indicate the need to include teacher perceptions of student learning as an in-school factor, which, albeit subjective in nature and, for the most part, not perceptible, contains a predetermination about the students' academic trajectory, to the point of containing a prophecy that, to a greater or lesser extent, tends to be fulfilled.

Final thoughts

Data analysis shows that teacher expectations for student performance are associated with out-of-school factors, such as social environment and the family and economic status. These associations date back to the Coleman Report (1966) and even after much research and the confirmation of the possibilities that the school has to change the performance of students from these social backgrounds, teacher convictions that the fate of these students is strongly related to their social class still persist.

Of the three categories in which the items were organized, the lowest coefficients of variation are found in the group of out-of-school variables, which means that the teacher's perceptions about them are very strong, while the highest coefficients of variation are found in the in-school variables, which evidences that teacher convictions about them are weaker. When we observe the coefficients of variation of the student-dependent variables, we find that their values are much higher than those of out-of-school variables, and at least 50% lower than those of in-school variables, which shows that, although teachers express a strong opinion on them, it is possible to act on such conceptions in order to (re) construct new perceptions about these variables, so as to contribute to break with what the literature calls self-fulfilling prophecy.

It is important to point out that there is a need to consider teacher expectations in relation to students as one of the factors associated with good school performance. Nevertheless, the studies cited show that aspects related to school management induce effective teachers' work in this direction, which calls for studies on the relations between these two protagonists of the educational process.

References

ALLPORT, Gordon Willard. **The individual and his religion:** a psychological interpretation. New York: Macmillan, 1950.

ALMEIDA, Aléssio Tony Cavalcanti de; ARAÚJO JUNIOR, Ignácio Tavares de; RAMALHO, Hilton Martins de Brito. Esforço da gestão escolar na rede pública de ensino fundamental e o desempenho dos estudantes no Brasil. **Planejamento e Políticas Públicas**, Brasília, DF, v. 1, n. 47, p. 135-166, jul./dez. 2016. Disponível em: <http://www.ipea.gov.br/portal/images/stories/PDFs/161221_ppp47.pdf>. Acesso em: 7 jul. 2017.

ALVES, Maria Teresa Gonzaga; SOARES, José Francisco. Efeito-escola e estratificação escolar: o impacto da composição de turmas por nível de habilidade dos alunos. **Educação em Revista**, Belo Horizonte, v. 45, n. 1, p. 25-28, jun. 2007. Disponível em: <http://www.scielo.br/scielo.php?script=sci_arttext& pid=S0102-46982007000100003&lng=pt&nrm=iso&tlng=pt>. Acesso em: 10 jun. 2017.

ALVIDREZ, Jennifer; WEINSTEIN, Rhona. Early teacher perceptions and later student academic achievement. **Journal of Educational Psychology**, Washington, DC, v. 91, n. 4, p. 731-746, dez. 1999. Disponível em: <https://psycnet.apa.org/doiLanding?doi=10.1037%2F0022-0663.91.4.731>. Acesso em: 10 jun. 2017.

BANDURA, Albert. Perceived self-efficacy in cognitive development and functioning. **Educational Psychologist**, New Jersey, v. 28, n. 1, p. 117-148, dez. 1993. Disponível em: <https://www.uky.edu/~eushe2/Bandura/Bandura1993EP.pdf>. Acesso em: 17 jan. 2019.

BARRETTO, Elba Siqueira de Sá et al. Avaliação da educação básica nos anos 90 segundo os periódicos acadêmicos. **Cadernos de Pesquisa**, São Paulo, v. 1, n. 114, p. 49-88, nov. 2001. Disponível em: <http://publicacoes.fcc.org.br/ojs/index.php/cp/ article/view/584/583>. Acesso em: 13 fev. 2017.

BARROS, Ricardo. Paes et al. Determinantes do desempenho educacional do Brasil. **Pesquisa e Planejamento Econômico**, Rio de Janeiro, v. 31, n. 1, p. 2-42, abr. 2001. Disponível em: <http://ppe.ipea.gov.br/index.php/ppe/article/viewFile/159/94&gt>. Acesso em: 20 jun. 2017.

BATISTA, Antônio Augusto Gomes; ÉRNICA, Maurício. A escola, a metrópole e a vizinhança vulnerável. **Cadernos de Pesquisa**, São Paulo, v. 42, n. 146, p. 640-666, maio/ago. 2012. Disponível em: <http://publicacoes.fcc.org.br/ojs/index.php/cp/article/view/35/55>. Acesso em: 23 abr. 2017.

BAUER, Adriana; ALAVARSE, Ocimar Munhoz; OLIVEIRA, Romualdo Portela de. Avaliação em larga escala: uma sistematização do debate. **Educação e Pesquisa**, São Paulo, v. 41, n. especial, p. 1367-1382, dez. 2015. Disponível em: <http://www.revistas.usp.br/ep/article/view/109890/108390>. Acesso em: 10 fev. 2017.

BRASIL. **Melhores práticas em escolas de ensino médio no Brasil**. Brasília, DF: MEC, 2010. Disponível em: <http://portal.inep.gov.br/informacao-da-publicacao/-/asset_publisher/ 6JYlsGMAMkW1/document/id/492709>. Acesso em: 29 maio 2018.

BRASIL. **Resultados do Saeb 2003**. Brasília, DF: MEC, 2004. Disponível em: <download.inep.gov.br/download/saeb/2004/resultados/BRASIL.pdf>. Acesso em: 26 maio 2017.

BRASIL. INEP. Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira. **Relatório do 1º ciclo de monitoramento das metas do PNE**: biênio 2014- 2016. Brasília, DF: INEP, 2016. Disponível em: <http://www.observatoriodopne.org.br/ uploads/reference/file/648/documento-referencia.pdf>. Acesso em: 18 abr. 2017.

BRASIL. INEP. Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira. **Sinopse estatística da educação básica**. Brasília, DF: INEP, 2018. Disponível em: <http://portal.inep.gov.br/ sinopses-estatisticas>. Acesso em: 20 abr. 2018.

BROOKE, Nigel; SOARES, José Francisco (Org.). **Pesquisa em eficácia escolar**: origem e trajetórias. Belo Horizonte: UFMG, 2008.

CARVALHO, L. Marcelo de. Governando a educação pelo espelho do perito: uma análise do Pisa como instrumento de regulação. **Educação & Sociedade**, Campinas, v. 30, n. 109, p. 1009-1036, set./dez. 2009. Disponível em: <http://www.scielo.br/scielo.php?pid=S0101-73302009000400005 &script=sci_abstract&tlng=pt>. Acesso em: 29 maio 2018.

ERMISCH, John; FRANCESCONI, Marco. Family matters: impact of family background on educational attaiments. **Economica**, London, v. 68, n. 270, p. 137-156, maio 2001. Disponível em: <https://www.jstor.org/stable/3548831?seq=1#page_scan_tab_contents>. Acesso em: 29 maio 2018.

FERNANDES, Reynaldo. **Índice de Desenvolvimento da Educação Básica (Ideb)**. Brasília: Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira, 2007. Disponível em: <http://portal.inep.gov.br/web/guest/lista-de-publicacoes?>. Acesso em: 17 jan. 2019.

FERNANDES, Reynaldo; GREMAUD, Amaury Patrick. Qualidade da educação: avaliação, indicadores e metas. In: VELOSO, Fernando et al. (Org.). **Educação básica no Brasil:** construindo o país do futuro. Rio de Janeiro: Elsevier, 2009. p. 213-238.

HERNÁNDEZ-CASTILLA, Reyes; MURILLO, F. Javier; MARTÍNEZ-GARRIDO, Cynthia. Factores de ineficacia escolar. **Revista Iberoamericana sobre Calidad, Eficacia y Cambio en Educación**, Madri, v. 12, n. 1, p. 103-118, mar. 2014. Disponível em: <https://revistas.uam.es/index.php/reice/ article/viewFile/2867/3084>. Acesso em: 29 abr. 2017.

LEE, Jong-Wha; BARRO, Robert J. Schooling quality in a cross-section of countries. **Economica**, London, v. 68, n. 272, p. 465-488, nov. 2001. Disponível em: <https://www.jstor.org/stable/3549114?seq =1#page_scan_tab_contents>. Acesso em: 20 jun. 2017.

MILLER, Paul; MULVEY, Charles; MARTIN, Nick. Family characteristics and return to schooling: evidence on gender differences from a sample of Australian twins. **Economica**, London, v. 64, n. 10, p. 137-154, fev. 1997. Disponível em: <https://onlinelibrary.wiley.com/doi/epdf/10.1111/1468-0335.00067>. Acesso em: 20 jun. 2017.

NARDI, Elton Luiz. Políticas de responsabilização e PNE: tendência, ensaio e possibilidades. **Revista Retratos da Escola**, Brasília, DF, v. 8, n. 15, p. 231-246, jul./dez. 2014. Disponível em: <http://retratosdaescola. emnuvens.com.br/rde/article/view/442>. Acesso em: 25 maio 2018.

OCDE. Organização para a Cooperação e Desenvolvimento Econômico. **Estudiantes de bajo rendimiento: por qué se quedan atrás y cómo ayudarles a tener êxito?** 2016. [S. l.]: OCDC, 2016. Disponível em: <http://www.oecd.org/pisa/keyfindings/PISA-2012-Estudiantes-de-bajo-rendimiento.pdf>. Acesso em: 20 fev. 2017.

OLIVEIRA, Jaqueline Maria de. Custo-efetividade de políticas de redução do tamanho da classe e ampliação da jornada escolar: uma aplicação de estimadores de matching. **Revista do BNDES**, Rio de Janeiro, v. 1, n. 34, p. 281-306, jun. 2010. Disponível em: <https://www.bndes.gov.br/SiteBNDES/export/sites/default/bndes_pt/Galerias/Arquivos/conhecimento/revista/rev3308.pdf>. Acesso em: 30 maio 2018.

PALARDY, J. Michale. What teacher's believe what children achieve. **The Elementary School Journal**, Chicago, v. 69, n. 7, p. 370-374, abr. 1969. Disponível em: <https://www.jstor.org/stable/1000271?seq=1#page_scan_tab_contents>. Acesso em: 20 jun. 2017.

POLTRONIERI, Heloísa; CALDERÓN, Adolfo Ignacio. Avaliação na educação básica: a Revista Estudos em Avaliação. **Estudo em Avaliação Educacional**, São Paulo, v. 23, n. 53, p. 82-103, set/dez. 2012. Disponível em: <http://www.fcc.org.br/pesquisa/publicacoes/eae/arquivos/1759/1759.pdf>. Acesso em: 20 fev. 2017.

RIANI, Juliana de Lucena Ruas; RIOS-NETO, Eduardo Luiz Gonçalves. Background familiar versus perfil escolar do município: qual possui maior impacto no resultado educacional dos alunos brasileiros? **Revista Brasileira de Estudos de População**, Belo Horizonte, v. 25, n. 2, p. 251-269, jul./dez. 2008. Disponível em: <http://www.scielo.br/scielo.php?pid=S0102-30982008000200004&script=sci_abstract&tlng=pt>. Acesso em: 20 fev. 2017.

RIOS-NETO, Eduardo Luiz Gonçalves; CÉSAR, Cibele Comini; RIANI, Juliana de Lucena Ruas. Estratificação educacional e progressão escolar por série no Brasil. **Pesquisa e Planejamento Econômico**, Rio de Janeiro, v. 32, n. 3, p. 395-416, dez. 2002. Disponível em: <http://ppe.ipea.gov.br/index.php/ppe/article/viewFile/137/72>. Acesso em: 16 mar. 2018.

ROJAS, Alfredo; GASPAR, Fernando (Org.). **Bases del liderazgo en educación**. Santiago de Chile: Unesco/Orealc, 2006. Disponível em: <https://unesdoc.unesco.org/ark:/48223/pf0000147055>. Acesso em: 12 abr. 2018.

ROSENTHAL, Robert; JACOBSON, Lenore. **Pygmalion in the classroom**: teacher expectation and pupil's intellectual development. New York: Holt, Rhinehat & Winston, 1968.

ROSENTHAL, Robert; RUBIN, Donald. Interpersonal expectancy effects: the first 345 studies. **The Behavioral and Brain Sciences**, Cambridge, v. 1, n. 3, p. 377-415, set. 1978. Disponível em: <https://www.cambridge.org/core/journals/behavioral-and-brain-sciences/article/interpersonal-expectancy-effects-the-first-345-studies/44A0027CD2B1D8CB47FE77D952770C7F>. Acesso em: 22 abr. 2018.

SACERDOTE, Bruce. The nature and nurture of economic outcomes. **The American Economic Review**, Pittsburgh, v. 92, n. 2, p. 344-348, maio 2002. Disponível em: <https://www.nber.org/papers/w7949>. Acesso em: 13 jan. 2018.

SILVA JÚNIOR, Luiz Honorato; SAMPAIO, Yony. Qualidade da escola e background familiar na formação de capital humano no Brasil. **Planejamento e Políticas Públicas**, Braília, DF, v. 2, n. 45, p. 275-300, jul./dez. 2015. Disponível em: <http://www.ipea.gov.br/ppp/index.php/PPP/article/ view/486>. Acesso em: 7 jul. 2017.

SOARES, José Francisco. O efeito da escola no desempenho cognitivo de seus alunos. **Revista Electrónica Iberoamericana sobre Calidad, Eficacia y Cambio en Educación**, Madri, v. 2, n. 2, p. 83-104, dez. 2004. Disponível em: <https://revistas.uam.es/index.php/reice/article/view/5550/5968>. Acesso em: 15 jan. 2018.

SOARES, José Francisco; ANDRADE, Renato Júdice. Nível socioeconômico, qualidade e equidade das escolas de Belo Horizonte. **Ensaio**, Rio de Janeiro, v. 14, n. 50, p. 107-126, jan./mar. 2006. Disponível em: <http://www.scielo.br/pdf/ensaio/v14n50/30410>. Acesso em: 24 jan. 2019.

SOARES, Tufi Machado et al. A expectativa do professor e o desempenho dos alunos. **Psicologia**: Teoria e Pesquisa, Brasília, DF, v. 26, n. 1, p. 157-170, jan./mar. 2010. Disponível em: <http://www.scielo.br/pdf/ptp/v26n1/a18v26n1.pdf>. Acesso em: 20 fev. 2017.

SOUSA, Sandra Zakia de; PIMENTA, Claudia Oliveira; MACHADO, Cristiane. Avaliação e gestão municipal da educação. **Estudos em Avaliação Educacional**, São Paulo, v. 23, n. 53, p. 14-36, set./dez. 2012. Disponível em: <http://www.fcc.org.br/pesquisa/publicacoes/eae/arquivos/1756/1756.pdf>. Acesso em: 18 fev. 2017.

UNESCO. **Primera entrega de resultados Terce**: Oficina Regional de Educación para América Latina y el Caribe. [S. l.]: Unesco, 2014. Disponível em: <http://unesdoc.unesco.org/ images/0024/002442/244239s.pdf>. Acesso em: 29 maio 2018.

VIDAL, Eloisa Maia; VIEIRA, Sofia Lerche. Professores da educação básica: perfil e percepções sobre sucesso dos alunos. **Estudos em Avaliação Educacional**, São Paulo, v. 28, n. 67, p. 64-101, jan./abr. 2017. Disponível em <http://publicacoes.fcc.org.br/ojs/index.php/eae/article/view/3936/3334>. Acesso em 21 jul. 2018.

WEINSTEIN, José. **Elementos de la subjetividad de los docentes latinoamericanos a partir del estudio** TERCE. [S. l.]: Unesco, 2015. Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación; n. 01. Disponível em: <https://unesdoc.unesco.org/ark:/48223/pf0000244951>. Acesso em: 29 maio 2018.

WÖSSMANN, Ludger. Schooling resources, educational institutions and student performance: the international evidence. **Oxford Bulletin of Economics and Statistics**, Oxford, v. 65, n. 2, p. 117-170, maio 2003. Disponível em: <https://onlinelibrary.wiley.com/doi/pdf/10.1111/1468-0084.00045>. Acesso em: 02 out. 2017.

Eloisa Maia Vidal holds a doctorate in education, works in the Education Graduate Program, is a professor at Universidade Estadual do Ceará, and develops research on education policy and management, school management and large-scale evaluation.

Willana Nogueira Medeiros Galvão holds a bachelor's degree in education from Universidade Estadual do Ceará, and a master's degree in education from Universidade Federal de Pernambuco, and is a doctoral student of the Education Graduate Program of Universidade Estadual do Ceará. Develops research on education policy, planning, evaluation, and management.

Sofia Lerche Vieira is a CNPq researcher, a consultant with FGV-RJ and Unesco. Worked as a professor at UFC, Unilab, Uninove and Lemann Center-Stanford. Held the posts of state and municipal secretary of education in Ceará state and Aracati municipality respectively. Leads the research group Política Educacional, Gestão e Aprendizagem [Education Policy, Management and Learning] and is a professor at Universidade Estadual do Ceará (UECE).

João Bosco Chaves has a bachelor's degree from Universidade Federal do Ceará, a master's degree in education from Universidade Estadual do Ceará and is a doctoral student at the Education Graduate Program of UECE, Ceará state, Brazil. Is a state teacher with Ceará State Education Department.