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Núcleo de Apoio a Municípios e Estados (NAME)

Efficacy Research Report



Pearson

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Product Summary

In education in Brazil, a Sistema de Ensino is an integrated business solution designed for educational institutions and their educational environment, which optimizes teaching and learning efficacy through diagnosis, customization, implementation and monitoring of a particular set of dynamic educational resources and tools. NAME (Núcleo de Apoio a Municípios e Estados) started in 1999, establishing pedagogical partnerships with public teaching in a few cities in the state of São Paulo. Based on the success of the set up in those locations, today NAME has expanded to cover all the Brazilian regions, in 89 municipalities, with over 114,000 students.

NAME's commitment is to take the most advanced pedagogical, technological and administrative resources for K-9 students of associated municipalities, always seeking to offer quality public education. The program provides services through the use of didactic material according to the Law of Basic Education Guidelines, the National Curriculum Parameters and the National Curriculum References, together with pedagogic consultancy, continued distance education, support service to inclusive education and also education technologies.

As a Sistema for public schools, NAME is a solution dedicated to students from low income backgrounds where private school fees are out of reach for their parents. In Brazil, it is very common for higher income families to enroll their children in private schools. Traditionally, the public educational sistema for K-12 has a poor reputation due to low student outcomes and low investment in public education.

In 2016, NAME launched a new version of the First Elementary Collection (Grade 1 to 3 launched in January 2016, Grades 4 and 5 launched in January 2017) including a new pedagogical approach and teaching sequence, together with a revision to the implementation model supported by consulting and professional development services. This new offer, which constitutes a major refresh of the product has been adopted by 10 municipalities in the states of São Paulo and Minas Gerais. More than 6,300 students and 600 teachers and school leaders used this new product in 2016.

NAME is contracted by the municipalities through a bidding process. Each bid reflects the need of the municipality as defined by the Secretary of Education. The contract is annual and may be renewed for another year. Aware of the diversity of educational proposals in a country of continental dimensions and committed to quality education for all, NAME provides educational solutions that can be tailored to different orientations of education departments.

NAME will be developing a new version of its kindergarten offering in 2017. The new collections of book materials will be launched in January 2018. The long term plan includes the renewal of the Second Elementary collection (Grade 6 to 9) in 2018.

Intended Outcomes

The following are learner outcomes that have been agreed for the product based on internal research and validated with customers. Our efficacy impact evaluation work (outlined in “Product Research” below) aims to evidence NAME’s impact on these outcomes.

Intended Outcome 1: Learners have a positive learning experience

Learners’ positive learning experiences are determined by the degree to which their social and emotional wellbeing is encouraged to meet their individual needs and ultimately support them in becoming flourishing members of society.

Intended Outcome 2: Learners are engaged in course

Learners’ engagement is determined by the quality of their participation with learning activities in the classroom ranging from energized, enthusiastic, focused, emotionally positive interactions with academic tasks to apathetic withdrawal.

Intended Outcome 3: Increased school performance in external national standardised exams

Academic results during ensino fundamental 1 and 2 (primary and secondary education, age 6-14), in Brazil are measured officially by the Ministry of Education at 3 moments: at the end of the 3rd year with a Reading, Writing and Math exam (ANA exam), at the end of the 5th year with a Math and Portuguese exam (Prova Brasil - Initial Years), and at the end of the 9th year with a Math and Portuguese exam (Prova Brasil - Final Years). NAME sistema intends to help schools not only increase their average score on external national standardized exams, but also to continuously increase the percentage of learners reaching the proficiency level.

Intended Outcome 4: Increased school performance on internal national standardised exams

As part of the standard offering, NAME partner schools receive specific test prep materials and specific services such as teacher training, pedagogical consulting, and standardized mock test of the official national exams. Every year, NAME partners take part in the Rewarded Prova Brasil, that consists in applying a simulated test to the 4th and 8th years students.

Intended Outcome 5: NAME partner schools will maintain high 'student flow' (i.e. students progressing through to the next grade)

Student flow is a measure of the students who at the end of the school year progress to the next grade in their school.

Foundational Research

Instructional Sequence and Activity

An important element of the NAME model is the teaching sequence used: clearly stating objectives, activating prior knowledge, instruction of new knowledge, and opportunity for practice. Each of these elements is supported by research. For example, prior knowledge refers to the set of declarative knowledge and skills learners bring with them to a new learning situation. A multitude of studies have shown that prior knowledge is related to learning outcomes (Dochy, Segers, & Buehl, 1999). Learning consists of either expanding on existing knowledge, called conceptual growth, or revising existing knowledge, called conceptual change (Lucariello et al., 2016). By getting students to access their prior knowledge before a lesson, teachers can judge whether they should employ techniques to build on existing knowledge or techniques that highlight the conflict between existing conceptualizations and new knowledge to encourage conceptual change.

Similarly, practice is an important element in instruction as it is a way to develop fluency. In both reading and math, practice results in skills that become more efficient, accurate, and flexible, which we summarise as more fluent (Russell, 2000). Efficiency means the learner does not get hung up on steps or individual words. Accuracy is not just correctness or response, but also knowing how to monitor or check correctness. Finally, fluency is not just memorizing a procedure, but is about being able to choose an appropriate strategy for a given problem. In both reading and math, debates have raged among researchers and educators about how to achieve fluency. For example, in reading, there are arguments about whether students should read more independently, read more assisted, and/or receive direct instruction in phonics (Kuhn & Stahl, 2003). In math, there are ongoing debates about how much time should be spent on “drills” of basic facts (Schoenfeld, 2004). As Schoenfeld (2004) argues, “Any sensible person would realize that children need both phonics and reading for understanding. Either of the two perspectives, taken to extremes, is nonsensical” (p. 280). What is clear is that students must actively engage in a variety of activities in order to develop efficient, accurate, flexible use of knowledge and skills (Prince, 2004).

In its simplest form, active learning involves introducing some form of student activity into lecture. For example, instructors can pose a question, ask students to reflect on it and then share their thoughts with a partner. Even this simple procedure has been shown to increase both short- and long-term retention (Ruhl, Hughes, & Schloss, 1987). However, there are many other activities that increase engagement that have also been shown to increase learning. In addition, collaborative learning generally, and cooperative learning specifically, have shown positive effects on learning (Prince, 2004). Encouraging active learning is becoming a larger component driving NAME design.

Professional Development

Neither technology use nor effective teaching strategies can be successfully implemented without professional development for teachers. A recent review of studies of teacher professional development from around the world (Cordingley et al, 2015) revealed:

- Prolonged or extended professional development programs were almost always more effective than shorter ones. To bring about change, they likely need to last at least 2 terms.
- Professional development that results in change has multiple instances of ongoing support and follow-up activities that creates a “rhythm” of activity.
- Content must be overtly, explicitly relevant to the day-to-day experiences of the participants.
- Covering both pedagogy and content knowledge, as well as information about how learners learn in general and in specific study areas produces the strongest results.
- Peer support is a common feature in effective professional development.

Intended Product Implementation

A 'Sistema' is an integrated learning system incorporating curriculum design, teacher support and training, print content and courseware, technology platforms, assessments and other services.

NAME provides learning systems to primary and secondary programs in public schools, from kindergarten to the ninth grade respecting laws and guidelines defined by the Brazilian Government.

NAME is offered in the following three stages:

- Ensino Infantil: age 3-5, kindergarten
- Fundamental 1: age 6-10, primary education, first to fifth grades
- Fundamental 2: age 11-14 secondary education, sixth to ninth grades.

For each of these three segments and at all ages, students and teachers receive teaching materials (books, activities books, notebooks, etc.) covering, according to the curriculum, knowledge on cultural, artistic, environment, sciences, math, reading, Portuguese and technologies. The delivery cycle of these resources is bi-monthly. The collection includes teacher guides and regular students books and notebooks for Portuguese language, math, science, history, geography, arts, English and sports. The collections also include specific preparation books for the main external academic exam: ANA (Portuguese and math) and Prova Brasil (Portuguese and math).

The Fundamental 1 curriculum is organized with the aim that all students will be literate by the third year. During fourth and fifth grades, the learning of the previous years is consolidated and expanded. The curriculum is fully aligned with the proposals of PNAIC (National Pact for Literacy at the Right Age). The materials offer individual assessment sheets for teachers to monitor student learning in all subjects. The Fundamental 2 curriculum is organized by skills and abilities, giving priority to reading and writing in all subjects and aiming to build literacy in all areas.

NAME also offers a program of evaluation of learning so that the skills are evaluated based on predefined matrices. An action plan for improvement of school work is created based on the results from the evaluation, which is focused on improving the academic achievement of students. The evaluation of learning for various grade levels includes:

- first to ninth grades: diagnostic evaluations with application guide and correction
- first to ninth grades: assessments related to bimonthly content
- third year: simulated ANA
- fourth and eighth years: Simulated Prova Brasil (TRI Item Response Theory)

NAME also provides two digital platforms to support the process of teaching and learning:

- **NAME Online**, with 55,000 pages of content distributed in various areas of knowledge from news, biographies, simulations, animations, to games, videos and encyclopedia and Digital NAME for curriculum and classroom management. Together with the print resources, NAME provides solutions and services for educational and pedagogical support and professional development. One of the great advantages of the education system is to support educators, both in teacher training, and in supporting the development of lessons. Therefore, in addition to in-person educational events and visits to schools, educators have an online learning platform.
- **NAME Interactive** provides support services for an inclusive education program with didactic procedures guidance, indication of pedagogical mediations, clarification of doubts about inclusion and referrals suggestion.
- A new professional development and product training based on a 3 years cycle was launched in 2016 together with the new First Elementary collection. The first year of the training cycle is devoted to the use of the product and the training of teachers accordingly to the definition of the skills necessary for ideal delivery. The second and third year are dedicated to specific formations in educational management for school leaders, and pedagogical deepening for teachers.

Therefore, the schools of the municipality reach a minimum level of implementation up to the end of the first year of the programme. The full potential of impact on learner outcomes should be reached when students complete the learning cycle until the application of the national exam: after 5 years in the first elementary (1st to 5th year), and after 4 years in the second elementary (6th to 9th year). Students in these cases studied during the whole segment in the same methodological and pedagogical context.

Product Research

The primary research conducted to date on NAME is based on analyses of publically available data on the achievement of grade 5 and 9 students on Prova Brasil, as well as school performance on the IDEB. In 2005, Brazil began to administer Prova Brasil, which is a national achievement exam in math and Portuguese administered to public school students in grades five and nine every two years. Results from Prova Brasil are combined with information about student flow (or rate of grade promotion) to create a Basic Education Development Index, known as IDEB. Student results on Prova Brasil and school results on the IDEB are publically available through the National Institute of Educational Studies and Research (INEP, 2016).

Our research in 2016 explored the relationship between implementing NAME and school IDEB score over two years. We found that schools that used NAME more consistently across multiple grade levels tended to have higher IDEB ratings. However, the results from this study only provide correlation information and no definitive insight into whether NAME is causing higher IDEB ratings.

Our research, conducted in 2017, analysing 2015 examination data, focused on a comparative study to determine if grade 5 and 9 NAME students have higher rates of performance on Prova Brasil (mathematics and Portuguese). Using statistical techniques that matched each NAME municipality with similar municipalities that did not implement NAME, a quasi-experimental design was applied to determine how students in NAME schools compared to students in comparison schools on the Prova Brasil when controlling for various school and student level variables. Results of these analyses indicated that in 2015, students in NAME schools scored higher than comparison students for grades 5 and 9 in mathematics and Portuguese. The results of these differences were statistically significant only for grade 5 mathematics and grade 9 Portuguese.

Research Studies

Assessment of Impacts of NAME on Portuguese and Mathematics Performance in Brazil



Study Citation	Merola, S.S. (2017). A Study of the Effects of NAME on Student Achievement in Brazil. Merola Research, LLC.
Research Study Contributors	Stacey Merola, Kelli Millwood, Vincent Bonnet, Marcy Baughman, Gustavo Reis
Type of Study	QED
Sample Size	22 NAME municipalities and 44 control municipalities.
Description of Sample	All municipalities implementing NAME for at least two years were included in the study. Comparison municipalities were drawn from the entire population of municipalities in Brazil and matched to the NAME municipalities based on the Human Development Index to create a representative sample. Analytic sample for NAME includes 38 Elementary 1 schools (1,642 students) and 16 Elementary 2 schools (1,194 students). The control group included 212 Elementary 1 schools (13,194 students) and 49 Elementary 2 schools (3,099 students).
Outcomes Measured	Academic performance: Increased school performance in external national standardised exams



Introduction

NAME is a school-wide learning system (i.e., Sistema) implemented in a public school municipality in Brazil. The focus of this study is to determine if students in NAME municipalities have higher academic achievement than matched comparison municipalities not implementing NAME. Academic achievement in mathematics and Portuguese was measured with the 2015 Prova Brasil.

Method

Data Collection

Three publicly available datasets were merged and analyzed for this study: Municipality Human Development Index, INEP School Educational Indicators, and student Prova Brasil achievement scores along with survey data. Each data source is further described below. Data to match NAME municipalities with comparison municipalities came from the Municipality Human Development Index (MHDI), which is an index created by UNDP Brazil, Ipea and the Joao Pinheiro Foundation to adapt the Global Human Development Index methodology for municipalities in Brazil¹. The MHDI takes into account national data related to education, income, and longevity. The most recently available data is from 2013, which is what was used in this study.

¹ See http://www.atlasbrasil.org.br/2013/en/o_atlas/idhm/ for additional information

School level data was also taken into consideration when comparing NAME to non-NAME schools. We used data from 2015 educational indicators published by INEP including: locale of school, school complexity, teacher effectiveness, percentage of teachers with a higher education degree or certification, and teacher turnover.

Individual student level data was the final dataset included in this study. We used data from the 2015 Prova Brasil, which include scores for mathematics and Portuguese. The scores are divided into 9 levels on a scale. The scale for Prova Brasil ranges from 125 to 350 for grade 5 math, 150 to 350 for grade 5 Portuguese, 200 to 425 for grade 9 math, and 200 to 400 for grade 9 Portuguese.

Additionally, when students complete the Prova Brasil exam, they complete a survey with 51 to 57 items related to demographics (e.g., gender, ethnicity) and non-school activities (e.g., amount of TV per night, time spent on chores). Student responses to 8 of the survey items were also included as part of our study. These items measured: gender, ethnicity, if the student ever repeated a grade, if the student ever dropped out of school, time spent on homework, if the student attended early childhood education, amount of time spent watching TV, and amount of time spent on domestic work. We also conducted a factor analysis on the remaining items to create two scales. These measures were chosen because they represented the constructs related to socioeconomic status (e.g., have a color TV, refrigerator, freezer) and parental engagement (e.g., parents encourage study habits, parents encourage school).

NAME Municipality Selection

A total of 22 municipalities were eligible for inclusion in the study. All NAME municipalities included in this study were those who implemented NAME for at least two years as of back to school for 2015. This allowed at least one year for the schools to gain comfort with the program and reach full implementation by the tested school year. On average, NAME municipalities in this study implemented NAME for 8 years. Across the municipalities there were a total of 38 Elementary 1 schools (ES1) containing grade 5 and 16 Elementary 2 schools (ES2) containing grade 9. In these schools, there were a total of 1,643 grade 5 NAME students and 1,194 grade 9 NAME students.

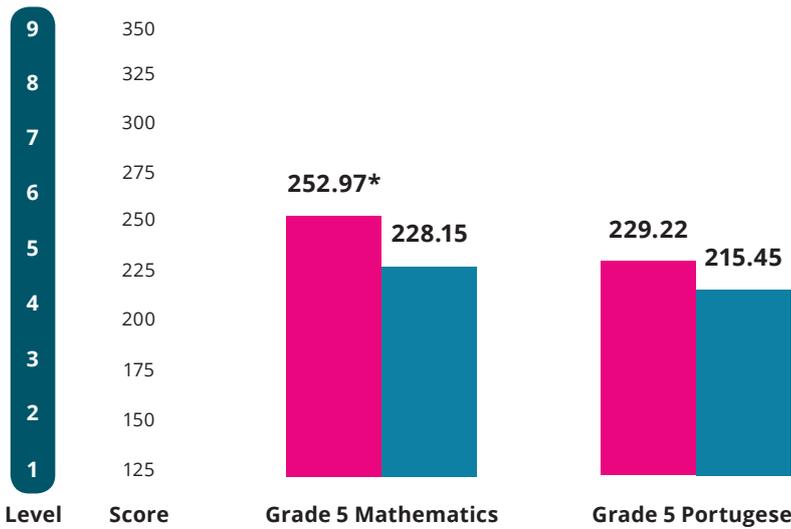
Comparison Municipality Selection

Nearest neighbor propensity score matching was used to select a control group of municipalities for comparison at a ratio of 2 to 1. Propensity score matching is a method of reducing selection bias in quasi-experimental designs, by selecting units for a control group that are similar on a number of covariates as determined by the value of a propensity score (Rosenbaum & Rubin, 1985). In this instance, the matching was based on similarities between municipalities on the MHDI described earlier. A total of 44 control municipalities with 212 ES1 schools and 49 ES2 schools were included in the study. In these schools, there were a total of 13,194 grade 5 NAME students and 3,099 grade 9 NAME students.

Results

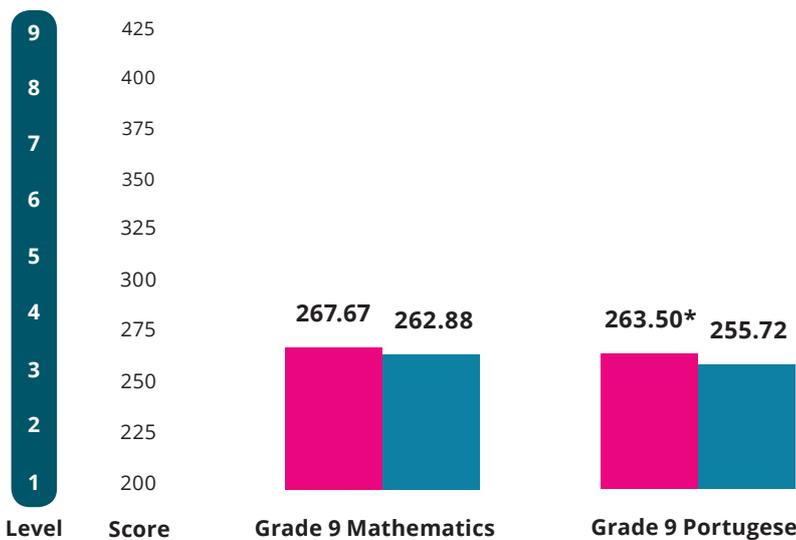
Hierarchical linear modeling (HLM) was conducted in order to assess the research question of whether students in NAME schools demonstrated higher achievement in Portuguese and mathematics as measured by scores on the 2015 Prova Brasil. The impact of NAME on achievement was investigated after controlling for student characteristics while taking into account the clustering of students in schools. All of the student level variables from the student survey described above were controlled for in the model. Additionally, five school level variables from the INEP education indicators were controlled for in the model. **In general, NAME students outperform their matched peers when controlling for student and school level factors;** details of the statistical difference and degree of impact is discussed in the sections below (see graphs below).

- NAME
- Comparison



*Note: statistically significant at $p < .05$ level

- NAME
- Comparison



*Note: statistically significant at $p < .05$ level

Grade 5 Mathematics

On the mathematics portion of Prova Brasil, grade 5 NAME students (n=1,643) scored an average of 252.97 (SD=47.90), whereas matched comparison students (n=13,194) scored an average of 228.15 (SD=45.99). When controlling for all of the identified student and school level factors, NAME students significantly outperformed comparison students by 28 points ($t(6938) = 3.08, p < .01$). The difference of 28 points equates to one level higher on Prova Brasil.

Grade 5 Portuguese

On the Portuguese portion of Prova Brasil, grade 5 NAME students (n=1,643) scored an average of 229.22 (SD=44.68), whereas matched comparison students (n=13,194) scored an average of 215.45 (SD=46.16). When controlling for all of the identified student and school level factors, NAME students are not significantly different from comparison students ($t(4501) = 0.72, p > .05$).

Grade 9 Mathematics

On the mathematics portion of Prova Brasil, grade 9 NAME students (n=1,194) scored an average of 267.67 (SD=47.94), whereas matched comparison students (n=3,099) scored an average of 262.88 (SD=46.06). When controlling for all of the identified student and school level factors, NAME students are not significantly different from comparison students ($t(2621) = -0.15, p > .05$).

Grade 9 Portuguese

On the Portuguese portion of Prova Brasil, grade 9 NAME students (n=1,194) scored an average of 263.50 (SD=49.86), whereas matched comparison students (n=3,099) scored an average of 255.72 (SD=49.07). When controlling for all of the identified student and school level factors, NAME students significantly outperformed comparison students by 14 points ($t(2116) = 2.75, p < .01$). The difference of 14 points equates to roughly one level higher on Prova Brasil.



Discussion

Overall students in NAME schools perform an entire level better than similar students in comparison schools for grade 5 mathematics and grade 9 Portuguese when controlling for student and school characteristics.

Students in NAME schools perform as well as students in comparison schools for grade 5 Portuguese and grade 9 mathematics.

This study is limited in that there is no information on how NAME materials are implemented in the schools. There may be differences between high implementers and low implementers, which was not possible to determine from the data available. Assessing the extent to which schools are implementing various resources effectively and whether there are dramatic differences in implementation, may provide greater insights into the effectiveness of the program.

Relationship Between Exposure to NAME and School IDEB Scores



Study Citation	Kadel, R. (2016). Relationship between Exposure to NAME and School IDEB Scores. Internal Pearson report.
Research Study Contributors	Rob Kadel
Type of Study	Correlational. This was a data mining study that matched NAME schools' performance on biennial national standardised exams (as measured by IDEB) with the number of bimesters each school used NAME in a given time period. There are two bimesters in an academic year, and the exams are administered every two years. Therefore, a maximum of four bimesters passes between each administration of national exams.
Sample Size	Number of schools included in analysis <i>Elementary 1 (Grades 1-5)</i> 2005: 129 2007: 329 2009: 574 2011: 661 2013: 816 <i>Elementary 2 (Grades 6-9)</i> 2005: 44 2007: 169 2009: 223 2011: 282 2013: 362
Description of Sample	All schools that used NAME at least one bimester in the years listed above.
Outcomes Measured	Academic performance: Increased school performance in external national standardised exams



Introduction

In 2005, Brazil began to administer Prova Brasil, which is a national achievement exam in math and Portuguese administered to public school students in grades five and nine every two years. Results from Prova Brasil are combined with information about student flow (or rate of grade promotion) to create a Basic Education Development Index, known as IDEB. School results on the IDEB are publically available through the National Institute of Educational Studies and Research (INEP, 2016).

Method

All publicly available IDEB data from 2005, 2007, 2009, 2011, and 2013 was downloaded from INEP on October 1, 2015. Internal records were used to identify NAME schools along with the year implementation began and, if applicable, the year it ended. All analyses were conducted at the school level since IDEB is calculated for an entire school, not individual students. Details of the sample size included for each testing period is included in Table 1.

Table 1. Number of NAME schools included in IDEB analysis

Year	<i>Elementary 1 (grades 1-5)</i>	<i>Elementary 2 (grades 6-9)</i>
2005	129	44
2007	329	169
2009	574	223
2011	661	282
2013	816	362

In this study 'exposure' is measured by the number of bimesters each grade in a school was using NAME for. At the Elementary 1 level, there are five grades (1-5). Each grade level can use NAME for as many as four bimesters during each two-year cycle, making for 20 total possible bimesters prior to each biennial administration of Prova Brasil. At the Elementary 2 level, there are four grades (6-9). Each grade level can use NAME for as many as four bimesters during each two-year cycle, making for 16 total possible bimesters prior to each biennial administration of Prova Brasil. Not all schools used NAME for each bimester or at each grade level, providing enough variability to correlate the number of bimesters used at each grade level and the school's corresponding average achievement score. For example, if an Elementary 1 school used NAME for four bimesters only in grades 3-5, that would equal 12 bimesters.

Results

Analysis indicates that there are some moderate, statistically significant, positive correlations between exposure to NAME and IDEB (see tables 2 and 3). This indicates that during those years, ***schools that used NAME more consistently across multiple grade levels tended to have higher IDEB ratings.*** At this time, it is unclear why we see stronger relationships in some years than in others. The NAME brand was acquired by Pearson in 2012, therefore information is limited as to any changes that may have been made to the product in prior years.

Table 2: Grade 5 IDEB Correlations with Biennial Exposure to NAME, Elem 1 (Grades 1-5)

Prova Brasil Year (N)	Correlation Between School Avg. IDEB Score at Grade 5 and Elem 1 Biennial Exposure to NAME (* = $p < .05$; ** = $p < .01$; *** = $p < .001$)
2005 (120)	0.19*
2007 (203)	0.08
2009 (238)	0.51***
2011 (349)	0.38***
2013 (160)	0.44***

Table 3: Grade 9 IDEB Correlations with Biennial Exposure to NAME, Elem 2 (Grades 6-9)

Prova Brasil Year (N)	Correlation Between School Avg. IDEB Score at Grade 9 and Biennial Exposure to NAME (* = $p < .05$; ** = $p < .01$; *** = $p < .001$)
2005 (43)	0.53***
2007 (93)	0.24*
2009 (94)	0.57***
2011 (118)	0.23*
2013 (62)	0.03

Figures 1 and 2 display these results when grouping exposure to NAME by higher amounts versus lower amounts. Again, there appear to be some patterns, though they are weak. Schools that have more exposure to NAME tend to have higher average scores on IDEB. It should be noted that correlations at the school level may not be as sensitive as correlations that could be made at the individual grade level. However, at this time, data are not available for bimesters of NAME use within schools at each grade level. Furthermore, the reader should be cautioned against making any causal inferences from these results. While there appears to be a positive relationship between NAME exposure and IDEB performance, we cannot say at this time that NAME is the cause of higher IDEB performance.

Figure 1: Average Grade 5 IDEB Ratings by Biennial Amount of Exposure to NAME, Elem 1 (Grades 1-5)

Avg. IDEB Scores by Amount of Exposure to NAME curriculum (Bivariate correlations. *= $p < 0.5$, **= $p < 0.1$, * = $p < .001$)**

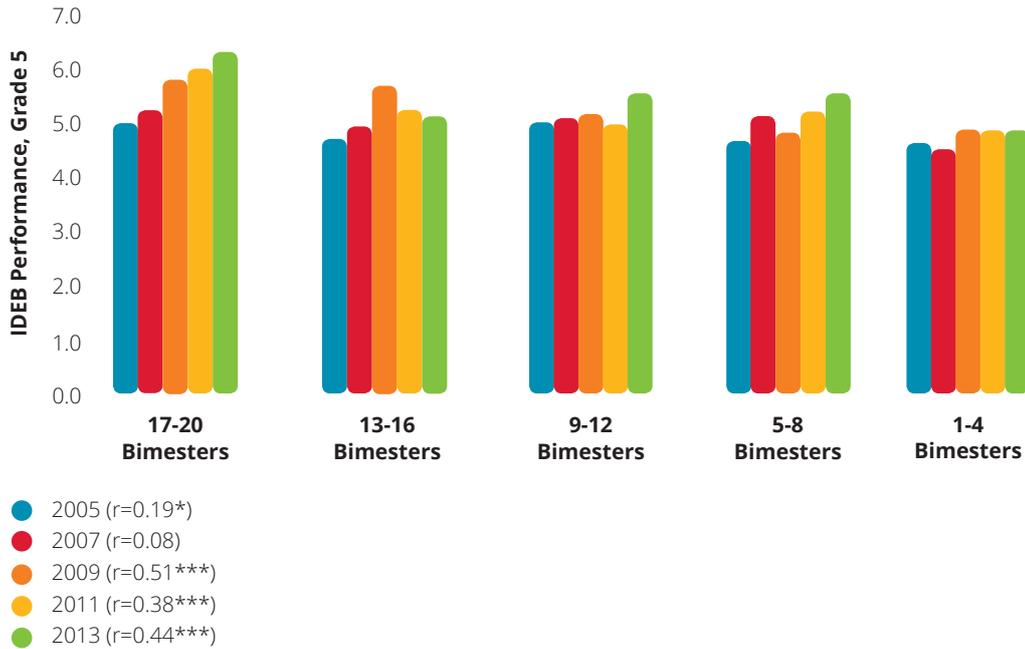
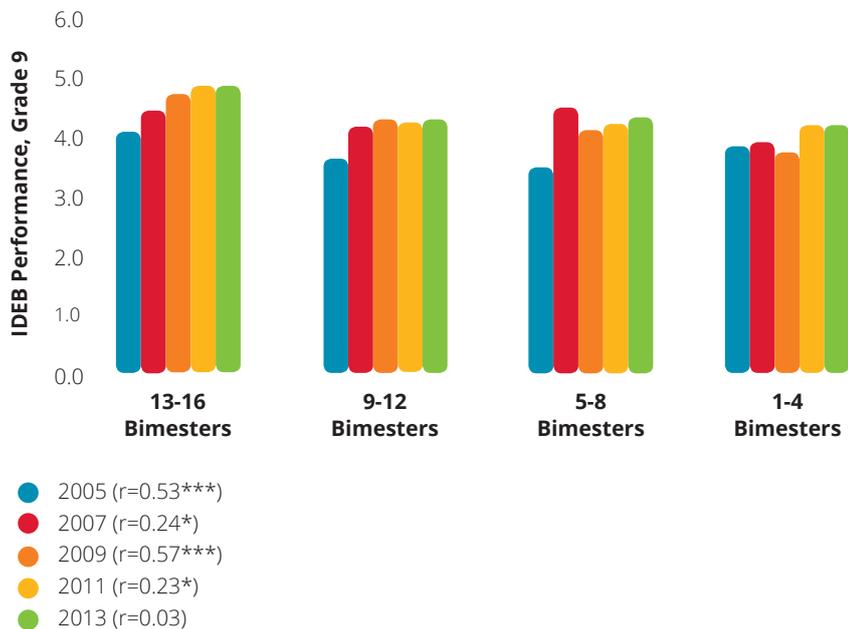


Figure 2: Average Grade 9 IDEB Ratings by Biennial Amount of Exposure to NAME, Elem 2 (Grades 6-9) Figure 2: Average Grade 9 IDEB Ratings by Biennial Amount of Relationship Between Cumulative NAME Implementation and IDEB Scores

Avg. IDEB Scores by Amount of Exposure to NAME curriculum (Bivariate correlations. *= $p < 0.5$, **= $p < 0.1$, * = $p < .001$)**



Relationship Between Cumulative NAME Implementation and IDEB Scores

Study Citation	Kadel, R. (2016). Relationship Between Cumulative NAME Implementation and IDEB Scores. Internal Pearson report.
Research Study Contributors	Rob Kadel
Type of Study	Correlational. This was a data mining study that matched NAME schools' performance on biennial national standardized exams (as measured by IDEB) with the cumulative number of bimesters each school used NAME prior to each testing cycle.
Sample Size	Number of schools included in analysis <i>Elementary 1 (Grades 1-5)</i> 2005: 129 2007: 329 2009: 574 2011: 661 2013: 816 <i>Elementary 2 (Grades 6-9)</i> 2005: 44 2007: 169 2009: 223 2011: 282 2013: 362
Description of Sample	All schools that used NAME at least one bimester in the years listed above.
Outcomes Measured	Academic performance: Increased school performance in external national standardised exams

Introduction

It is not uncommon for a municipality that is preparing to administer state examinations to purchase NAME for its schools shortly before testing to help students 'cram' for the tests, then drop NAME after testing is complete. We questioned whether this short-term use of NAME is effective or whether using NAME for an extended period of time might yield stronger results on state tests.

Method

Using the same measurement of 'exposure' as above, each school's total number of bimesters was summed across all years that the school used NAME from 2005 to 2013 to create a 'cumulative' measure of NAME exposure. For example, if an Elementary 2 school used NAME in all grades six through nine at each interval 2007-2011, that would equal four grade levels x four bimesters x three Prova Brasil administrations, equalling 48 bimesters.

Also of note, these cumulative totals represent any amount of time that a school used NAME, even if not recent. For example, if a school used NAME in 2009, 2010, and 2011, and it accumulated 24 bimesters over those three years, that 24 bimester total would be included in any IDEB analysis that came from 2009 or later (i.e., 2009, 2011, and 2013). There is no rationale at this time for excluding a school from these analyses, as it is not known what the lasting effect of NAME would be.

Cumulative bimester totals were then correlated with the schools' IDEB ratings at each biennial administration of Prova Brasil (e.g., in the example above, with 2011 Prova Brasil results), yielding the results below.

Results

There were mostly weak to moderate positive significant correlations between IDEB ratings and schools' total exposure to NAME (see tables 4 and 5). This means that **schools that have implemented NAME across more consecutive years tended to have higher IDEB ratings**. At this time, it is unclear why we see stronger relationships in some years than in others. It should be noted that correlations at the school level may not be as sensitive as correlations that could be made at the individual grade level. However, at this time, data are not available for bimesters of NAME use within schools at each grade level. Further, larger sample sizes in later years may contribute to inflated significance levels as tests of statistical significance are sensitive to larger samples. Lastly, the reader should be cautioned against making any causal inferences from these results. While there appears to be a positive relationship between NAME exposure and IDEB performance, we cannot say at this time that NAME is the cause of higher IDEB performance.

Table 4: Grade 5 IDEB Correlations with Cumulative Exposure to NAME over Multiple Years, Elem 1 (Grades 1 -5)

Prova Brasil Year (N)	Correlation Between Grade 9 School Avg. IDEB Score and Cumulative Number of Bimesters of NAME Use (* = $p < .05$; ** = $p < .01$; *** = $p < .001$)
2005 (120)	0.19*
2007 (329)	0.25***
2009 (574)	0.30***
2011 (661)	0.29***
2013 (816)	0.24***

Table 5: Grade 9 IDEB Correlations with Cumulative Exposure to NAME over Multiple Years, Elem 2 (Grades 6 -9)

Prova Brasil Year (N)	Correlation Between Grade 5 School Avg. IDEB Score and Cumulative Number of Bimesters of NAME Use (* = $p < .05$; ** = $p < .01$; *** = $p < .001$)
2005 (43)	0.53***
2007 (169)	0.26***
2009 (222)	0.31***
2011 (281)	0.37***
2013 (362)	0.28***

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