

This paper will remain under media embargo until 5 a.m. CST on Tuesday, August 20, 2019.

HOW IS NEW ORLEANS SCHOOL PERFORMANCE EVOLVING, AND WHY?



By **Douglas N. Harris**, *Tulane University*

Lihan Liu, *Tulane University*

Alica Gerry, *Tulane University*

Paula Arce-Trigatti, *Rice University*

Overview

The New Orleans school reforms—combining charter schools, performance-based contracting and school choice—are now almost 15 years old. In this study, we analyze how elementary and middle schools have evolved over time, in terms of their average quality and variation in quality. We examine school quality using value-added measures, which capture how much schools contribute to student achievement (measured by test scores).

Corresponding technical paper: Douglas N. Harris, Lihan Liu, Alica Gerry, and Paula Arce-Trigatti. “From Revolution to Evolution: Market Dynamics in School Value-Added and Marketed Program Offerings under the Post-Katrina School Reforms in New Orleans.” Education Research Alliance for New Orleans, 2019.

We are particularly interested in the how much of the city’s school improvement and evolution have been caused by the process of performance-based school closure and takeover. We draw four main conclusions from this work:

- Consistent with our prior research, we find that average school quality has significantly increased from the pre-reform period. However, quality peaked around 2013 and has either stagnated or started to decline during 2014-2016.
- The average school improved from the first to the second year after it opened, but school performance remained mostly flat afterwards. Schools starting off above the state average saw slightly declining performance in later years.
- Aside from the improvement when schools first opened, essentially all of the improvement in New Orleans’ average test scores has been due to the state regularly closing or taking over low-performing schools and opening new higher performing charters (i.e., to charter authorization).
- The *variation* in school quality spiked upwards just after the reforms started, but then trended back to the pre-reform distribution. In our most recent year of available data, the variation in school quality is actually slightly lower than before Katrina. This recent decline

in quality variation is also mostly due to the school closure/ takeover process. Eliminating the lowest-performing schools increased the average school quality *and* reduced variation.

Schools' contributions to student achievement, or value-added, is not the only way to look at schools. For example, we briefly analyze the number of and variation in program options available (e.g., extracurricular activities) after the reforms started. These results suggest that the average number of extracurricular activities advertised by schools increased during the post-reform period, along with, to some degree, the variation in schooling options.

There are two general ways to improve school quality. First, existing schools may improve through internal efforts and with the support, programs, and policies of school districts and other governmental and non-governmental agencies. Second, since it sometimes may be difficult to improve schools from within and with existing personnel, we can also start over—by closing schools and moving students to other schools, or by taking over low-performing schools and turning control over to other groups of educators.

Our analysis suggests there is still room for New Orleans schools to improve through both of these mechanisms. The performance of new schools continues to be higher than schools that have closed or been taken over. However, the impacts of such extreme measures will very likely be smaller than in the past. Closure and takeover alone cannot produce a high-quality education system.

“ *The performance of new schools continues to be higher than schools that have closed or been taken over. However, the impacts of such extreme measures will very likely be smaller than in the past.* ”

BACKGROUND

The nation's schools have always evolved, sometimes slowly and in imperceptible ways. Today's traditional public school districts, though they are operating under the same basic governance structure as schools from a century earlier, would be unrecognizable to the teachers of that earlier era. The curriculum, instructional methods, teaching tools, disciplinary approaches, and number of extracurricular activities are all quite different from decades past.

Still, some would say that traditional public schools have not evolved or adapted fast enough to changing times. One concern is that school districts are held back by extensive rules—from the district itself, as well as state and federal governments, and teacher unions. A second concern is that school districts are insufficiently responsive to parent demands. School board elections, as the argument goes, may not provide accountability for schools because advocacy groups play a decisive role in funding candidates. Schools may therefore lack flexibility and be prone both to inertia and to politically motivated, as opposed to educationally focused, decision-making.

Accountability policies are intended to address these concerns. Test-based accountability, from states and eventually the federal government, in *No Child Left Behind*, was partly intended to increase schools' accountability for student achievement. However, test-based accountability also has side effects, such as reducing the focus on outcomes that are important, but hard to measure, such as those related to the arts and social and emotional learning.

Market-based accountability, in the form of charter schools and vouchers, is also meant to pressure schools to improve, and to give schools more autonomy to provide a variety of schooling options that are responsive to parent demands. But these policies also come with their own concerns. For example, in New Orleans, we have found evidence of unhealthy competition between schools, including schools selecting students. Some families have also indicated, through a 2010 lawsuit filed by the Southern Poverty Law Center, that their children with disabilities have been shut out of New Orleans public schools.

Test-based and market-based accountability are also connected. While charter schools have autonomy, with a goal of increasing

the variety of options, high-stakes testing forces schools toward a common goal and may make them more homogeneous. In New Orleans, both types of pressures are strong, and it is unclear which might be more powerful.

Past studies in other states have found results consistent with the market theory. Specifically, in North Carolina and Texas, researchers found that, compared with traditional public schools, school quality is rising in charter schools and the variation in quality seems to decline over time, as low-performing schools exit. Also, charter schools that close have lower-than-average student achievement growth, and the replacement schools have higher student achievement growth than the closed schools. It is not clear, however, whether the results from studies of districts where there are few charter schools are informative about a district made up entirely of charter schools, such as New Orleans. Also, it remains unclear to what degree the closure/takeover process is driving school improvement.

In this study we address three questions:

1. What effect did the New Orleans reforms have on *average school quality*, and how has school quality evolved?
2. To what degree did the closure/takeover process drive changes in New Orleans' school quality versus improvement in persisting schools (i.e., schools that continue to operate throughout almost the entire post-reform period)?
3. What effect did the New Orleans reforms have on the *variation in school quality*, and how has this variation evolved?

HOW DID WE CARRY OUT THE ANALYSIS?

An intuitive starting place for all of these research questions is to look at the before-and-after results in New Orleans student achievement. However, this is not enough to confidently assess the effects of the reforms, because other factors might be affecting those outcomes at the same time. We therefore compare the before-and-after results in New Orleans with other similar districts, using a method called difference-in-differences. If the New Orleans trend clearly departs from the comparison group, then we can say that there was an effect. We also attempt to describe the evolution of school outcomes during only the post-reform period.

We measure the quality of schools using value-added, or schools' contributions to student achievement growth, from 2002 to 2016.

These measures start with the standardized elementary and middle school test scores, from the Louisiana Education Achievement Program (LEAP) test. Focusing just on the level of these scores at the end of each year would be misleading because students begin each school year with widely varying achievement levels. Achievement levels make schools with more lower performing students look worse than they really are.

To address this concern, we focus on student achievement growth, looking specifically at how much each student's test scores grow from year to year (value-added). This approach accounts for initial differences in where students are when they first walk in the door and focuses attention on the changes in student achievement that occur while students are attending particular schools. We then adjust student achievement growth for race, gender, poverty status, disability status, Limited English Proficiency, and grade level, which also affect student growth.

We are only able to measure student achievement growth in grades 4-8, and we omit schools that never had any of these grades. High schools are therefore not included in the analysis, nor are schools with only early elementary grades (K-3). Also, note that some schools change their grade spans over time, which means we can calculate achievement growth for some schools in some years, but not other years.

We show that changes in the level and variation in school quality (or any other measure) can be broken down into two main parts: changes in schools that continue to operate over time—i.e., *persisting schools*—and changes in schools resulting from *closure/takeover* and *opening new schools*. Since the average achievement growth for persisting and closure/takeover schools is weighted by the number of students in each school, the movement of students from lower to higher achievement growth schools is captured indirectly. A third, less important factor, is the re-allocation of students between persisting and new schools. Since all changes in school quality must fit into one of these categories, this provides important evidence about the precise ways in which school improvement occurs and the role of closure/takeover versus other means of improvement.

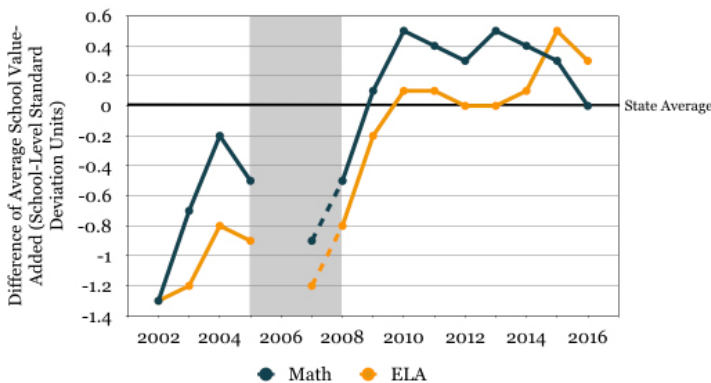
The fact that we can only calculate student achievement growth, our measure of school quality or performance, in certain grades creates some complications with closure/takeover schools and opening schools. We report the earliest available student growth measure for opening schools, but some schools started with, for example, grades

K-3, and added grade 4 later, so that we cannot estimate school quality when these schools first open. Instead, in these cases, we treat the first year with a student growth measure as the “opening year.” This allows us to keep as many schools in the analysis as possible, while also capturing student growth in a somewhat consistent way for all schools. We discuss this issue further below, though we draw the same conclusions when we omit these schools.

WHAT EFFECT DID THE NEW ORLEANS REFORMS HAVE ON AVERAGE SCHOOL QUALITY, AND HOW HAS SCHOOL QUALITY EVOLVED?

In our prior research, we found that the New Orleans school reforms improved student outcomes. This means they must have improved school quality, as measured by student growth. This is what we see in Figure 1, which shows the trend in school quality (value-added) before and after the reforms.

Figure 1. New Orleans’ school quality has mostly trended upwards.

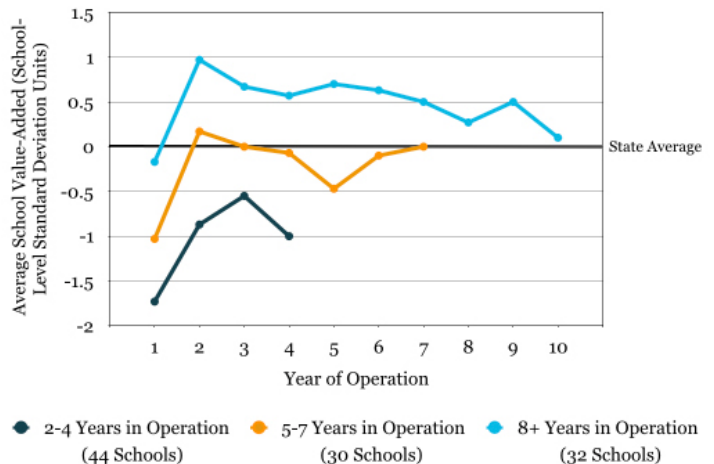


Notes: Figure 1 reports value-added of New Orleans schools (weighted by the number of students). The dashed lines indicate that we have less confidence in the data in that year because there were few students in New Orleans in 2006 and their test scores were not subject to accountability pressures; these 2006 scores provide the starting point for measuring growth and value-added in 2007.

Notice also that school quality reached a peak around 2013 and either plateaued (in ELA) or began declining (in math). Some local educators have attributed this to the change in standardized tests that coincided with these changes, while others have expressed concern about the struggle to attract and retain quality teachers. However, the real reasons remain unclear.

To understand the trend in quality further, we looked at the same data in a different way. In Figure 2, the horizontal axis shows the number of years from the point that a given post-reform school opened (regardless of the specific year). The dark line at the bottom, for example, shows the trajectory of quality for schools that were opened for only 2-4 years. We can see that these schools started with very low performance and then improved sharply from Year 1 to Year 2, and Year 2 to Year 3.

Figure 2. All schools improved sharply from their first to second year after opening.



Notes: We grouped schools based on the number of years we can observe their value-added, and the figure reports the weighted mean value-added by years opened. Year 1 on the horizontal axis indicates the first year a school is opened and so on. It is important to recognize in all of these figures that the specific schools change slightly over time, especially toward the last year shown. For example, with the schools opened 2-4 years, the schools that have been opened only 2 years do not show up in years 3 and 4, and this is partly why the curves shift. However, the general picture is the same when we show the results separately for each set of schools (e.g., those schools opened exactly 3 years, 4 years, etc.).

The middle, orange line focuses on schools where we can observe 5-7 years of school quality. These schools are near the statewide average in their second year of operation and remain there. Finally, the top line is well above the statewide average in the second year and trends downward. (The top line reflects many of the schools governed by the Orleans Parish School Board [OPSB], which is unsurprising since, in the hurricane aftermath, the state only took over schools performing below the state average, leaving the high-performers to OPSB.)

Each line in Figure 2 includes schools that closed or were taken over after the specified time period and schools where we simply

ran out of data because they opened more recently. We also created a separate figure limited only to schools that closed or were taken over within the specified number of years, dropping those where we simply ran out of data. This figure, included in the accompanying technical report, shows a pattern similar to Figure 2, except that the two top lines show clear declines in performance in the last few years, which may have been precipitated by expectation that the school would be closed or taken over in the near future.

Recall that some schools did not have a student growth measure initially and that we consider schools to be “opened” in the first year we have a growth measure available. One reason for using this approach is that the starting year is always difficult for any school or grade, so opening a new grade is somewhat similar to opening a new schools. In an additional analysis, we also dropped schools that had student growth measures available only occasionally from the analysis, and this graph looked very similar.

Three key patterns are consistent in all three lines and across all versions of the graph we created. First, schools that start with low student growth measures are open fewer years. This is partly because low-performing schools were closed or taken over by the state. Second, all schools seem to improve a great deal in their first year of operation. This result is similar to what we see in other research on the performance trajectories of teachers. Educator performance also increases considerably from the first to the second year on the job, which may explain the pattern in Figure 2. Finally, the second-year performance of schools provides a very good prediction of school performance years later.

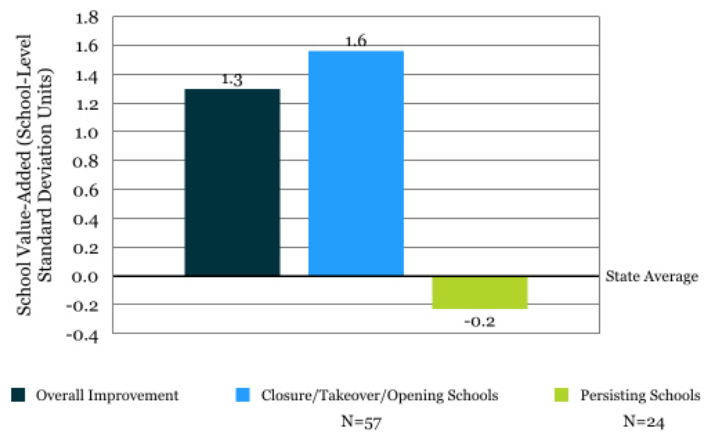
TO WHAT DEGREE DID THE CLOSURE/TAKEOVER PROCESS DRIVE THE CHANGES IN NEW ORLEANS’ SCHOOL QUALITY VERSUS IMPROVEMENT IN PERSISTING SCHOOLS?

One purpose of this analysis is to understand how the closure/takeover/opening process affected the improvements in average school quality. To do this, we separated the total improvement and looked at how two potential explanations contributed to school improvement:

1. The difference in performance between schools that were open in 2007 but had been closed or taken over by 2016, and schools that opened between 2007 and 2016.
2. Improvement in persisting schools (i.e., those that were open in 2007 and continue operating until 2016).

Figure 3 summarizes the results. The dark blue bar shows the total improvement (averaged across subjects). The light blue bar indicates that the process of closing and taking over schools that had opened by 2007, and opening new schools from 2007 onward, accounts for the large citywide performance improvement. In contrast, persisting schools, shown by the green bar, actually reduced school performance on the whole. (With this method, the light blue and green bars on the right side add up to the number in the dark blue bar, with rounding error.)

Figure 3. Improvement in school quality from 2007–2016 was due to closing or taking over low-performing schools and opening new higher performing schools.



The choice of starting and ending years influences these results somewhat. For example, the persisting schools did improve from 2007-2010 before their subsequent decline. This partly reflects the consistent improvement essentially all schools made between their first and second years (see Figure 2). The closure/takeover/opening process, in contrast, contributed positively to school improvement in every period. The technical report provides additional results for shorter time periods within our sample (e.g., 2007-2010).

Recall also, from Figure 2, that persisting schools had higher school quality to start with in 2007. So, even though the contribution to *improvement* of these schools is mostly negative, persisting schools were coming down from a much higher performance *level*.

The overall effect of the closure/takeover/opening process can also be separated into smaller parts. In particular, school improvement is essentially guaranteed if the schools being opened are better than those being closed or takeover. This is exactly what we find. With

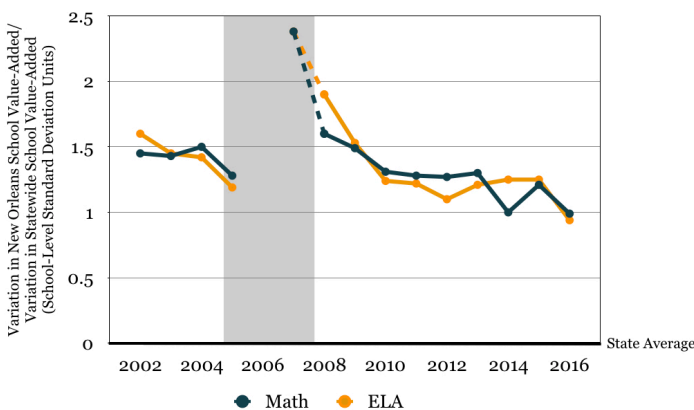
the exception of 2010, the average school quality of newly opening schools was always better than the average for closure/takeover schools. (Also, no schools with student growth measures exited in 2008, so that no comparison can be made that year.) This reinforces our past research that the state aggressively intervened in low-performing schools.

The improvement in opening schools could be explained by two factors: (1) the organizations applying to open schools were getting better over time; or (2) the state did a better job of choosing the best charter applicants. Our analysis does not examine these possible explanations. However, it is clear that the closure/takeover process only works if the entering schools are better than exiting schools, and this was certainly the case in New Orleans.

WHAT EFFECT DID THE NEW ORLEANS REFORMS HAVE ON THE VARIATION IN SCHOOL QUALITY, AND HOW HAS THIS VARIATION EVOLVED?

We measured the variation in school quality using a common statistical measure: the standard deviation. Specifically, we divided the New Orleans standard deviation in school-level performance by the average district standard deviation in the rest of the state. Plotted in Figure 4, this shows that, pre-Katrina, New Orleans had slightly more variation than the average district in Louisiana. This was followed by a sharp upward spike in school quality variation when the reforms started. By the end of the period, in 2016, the variation was slightly lower than it was prior to the reforms. This is important because it means that access to higher-quality schools became more broad-based over time.

Figure 4. Variation in school quality initially spiked then reverted back to pre-reform levels.



This decline in variation is not surprising given what we saw in Figure 3 with school closure/takeover. Given that lower-quality schools were closed or taken over, the average school quality increased, and variation in school quality decreased.

The dashed line indicates that we have less confidence in the data in that year because there were few students in New Orleans in 2006 and their test scores were not subject to accountability pressures. These 2006 scores provide the starting point for measuring growth and school quality in 2007. Since there is such a strong spike in 2007, we carried out additional tests. However, as discussed in the technical report, it appears that the spike was mostly real and not mainly due to this issue with the data.

ADDITIONAL ANALYSIS ON SCHOOL PROGRAMS AND EXTRACURRICULAR ACTIVITIES

School contributions to student test scores are not the only way to measure the educational opportunities students have. Families also value extracurricular activities and the specific instructional and curricular orientation of schools. Using the 2018-19 Parents' Guide, we counted the number of schools that described themselves as focusing on diversity of the student body, career and technical education, STEM, alternative education, and language immersion. The text below shows our results and provides some initial indication of the range of schools in the city.

What did schools choose to highlight about their programming in 2018?

<p>7 SCHOOLS</p> <p>DIVERSITY Schools that include "diverse" or "diversity" in their mission statement.</p>	<p>2 SCHOOLS</p> <p>CAREER & TECHNICAL ED Schools that include "career and technical ed" or "career certification" in descriptions of their academic programming.</p>
<p>12 SCHOOLS</p> <p>STEM Schools that reference "STEM" or "tech" in their name, mission statement, or descriptions of their academic programming.</p>	<p>5 SCHOOLS</p> <p>ALTERNATIVE ED Schools that identify as "non-traditional high schools."</p>
<p>4 SCHOOLS</p> <p>LANGUAGE IMMERSION Schools that include "immersion" in their name, mission statement, or descriptions of their academic programming.</p>	

The accompanying technical report provides additional analyses of trends in school program offerings over time. We do see schools becoming increasingly specific in the way they market the programs

they offer, and in the case of extracurricular offerings specifically, we see increases in the number of activities offered in the years since the reforms.

This does not mean, however, that schools are becoming more varied on the whole. Rather, if all the schools are offering more of the same extracurricular activities (e.g., if all schools offer football), then this could actually reduce the differences between schools. We therefore also developed several indices of the range of options available. Our analysis suggests that schools are more similar than not, but that there may have been a slight upward trend in the variety of schooling options over time. However, this conclusion is more tenuous than the above findings regarding school quality because data in the Parents' Guide are self-reported by schools and might therefore exaggerate changes in actual program offerings.

CONCLUSION

Consistent with prior research, our analysis shows that average school quality in New Orleans has improved considerably, and the variation in quality has declined. Both conclusions are largely due

to the fact that low-performing schools are being replaced, which in turn reduces the variation in school quality. This means that, on this measure, New Orleans students generally have access to higher quality schools.

These results also suggest that there is still room for schools to enhance quality through improvement in existing schools and through additional closures and takeovers. This is most obvious with persisting schools whose quality has actually been on a slow decline. The fact that newly opened schools continue to be better than those closed and taken over also suggests that the extreme measure of replacing school operators also still has some potential to generate further gains. At some point, the benefits from this strategy are likely to run out, but it does not appear that we have reached that limit yet.

Finally, it is worth keeping in mind that improving schools is not the only path to improving student outcomes. The social and economic conditions that children experience remain the dominant factors affecting students' academic and other results. These out-of-school factors should also be considered as part of a more holistic approach to improving access and opportunity for young people.

How is this Research Related to Other ERA-New Orleans Studies?

This work is closely related to several other ERA-New Orleans studies, some of which were mentioned in the main text of the brief.

In *What Effect Did the New Orleans School Reforms Have on Student Achievement, High Schools Graduation, and College Outcomes?*, Douglas Harris and Matthew Larsen find that the package of New Orleans reforms increased all available student outcomes, which is consistent with the analysis above showing that average school value-added improved.

In the study, *Extreme Measures: When and How School Closures and Charter Takeovers Benefit Students*, Whitney Bross, Douglas Harris and Lihan Liu show that students in elementary and middle schools experienced clear improvements in academic outcomes as a result of having their schools closed or taken over. Future generations of students are likely to benefit even more from the closure/takeover process because they get the benefits of better schools without the disruption that occurs for students attending schools when these interventions arise. Overall, this reinforces the importance of the closure/takeover process.

In *The Ultimate Choice: How Charter Authorizers Approve and Renew Schools in Post-Katrina New Orleans*, Whitney Bross and Douglas Harris examine the charter authorization process used by the Recovery School District (RSD), which determines which schools are opened and which are closed or taken over by the state. This study shows that it is difficult to predict which schools will be successful when the applicants do not have track records running schools, but that the charter authorizer can judge applicants based on their past performance. In our analysis of New Orleans, there are signs that the RSD was relatively effective in choosing schools.

In *What Happened to Student Mobility After the New Orleans' Market-Based School Reforms?*, Spiro Maroulis, Robert Santillano, Douglas Harris, and Huriya Jabbar study which kinds of schools students leave and which they move to. They find that students do tend to move to higher-value-added schools. This is especially true of higher-scoring students. This is an additional market mechanism beyond the changes in persisting and opening/takeover schools.

About the Education Research Alliance for New Orleans

The mission of the Education Research Alliance for New Orleans (ERA-New Orleans) is to produce rigorous, objective, and useful research to understand the post-Katrina school reforms and their long-term effects on all students. Based at Tulane University, ERA-New Orleans is a partnership between university-based researchers and a broad spectrum of local education groups. Our Advisory Board includes (in alphabetical order): the Louisiana Association of Educators, the Louisiana Association of Public Charter Schools, the Louisiana Federation of Teachers, the Louisiana Recovery School District, New Schools for New Orleans, the Orleans Parish School Board, the Orleans Public Education Network, and the Urban League of Greater New Orleans. For more information, please visit the organization's website.

EducationResearchAllianceNOLA.org

Contact Information

1555 Poydras Street
7th Floor, Room # 701
New Orleans, LA 70112
(504) 274-3617
ERANewOrleans@gmail.com

An Initiative of



About the Authors

Douglas N. Harris

Douglas N. Harris is the founding director of ERA-New Orleans, director of the National Center for Research on Education Access and Choice (REACH). He is a professor of economics and the Schlieder Foundation Chair in Public Education at Tulane University.

Lihan Liu

Lihan Liu is a Senior Reserach Fellow at ERA-New Orleans. She holds a PhD in economics from the University of Wisconsin at Madison.

Alica Gerry

Alica Gerry is a Research Analyst at the Education Research Alliance for New Orleans.

Paula Arce-Trigatti

Paula Arce-Trigatti is a Non-Resident Research Fellow at ERA-New Orleans and the director of the National Network of Education Research-Practice Partnerships under the Kinder Institute for Urban Research at Rice University.