

2017 Compendium of Research and Evaluation

2015-16 School Year



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About the Department

The Department of Research, Evaluation, and Assessment (REA) is a multi-faceted team within the Curriculum & Instruction Department of the Knox County Schools. The REA department is comprised of the Director and Supervisor of Research and Evaluation, the Supervisor of Assessment, a senior data analyst, a data analyst, and a specialist. The department directs and coordinates the following areas: Elementary and Secondary Education Act compliance, assessment, research, program evaluation, performance evaluation data collection and support, strategic planning and improvement, and competitive grant funding and management. The REA team also serves as the gateway for external organizations requesting access to data from the Knox County Schools to include in third-party research.

The mission of the REA department is to communicate data to appropriate stakeholders across the district and provide its analytical expertise to assist school leaders in making student-centered, data-driven decisions. Staff members lead efforts to interpret data, identify root causes, and provide actionable feedback to inform strategic planning and resource allocation.

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Acronyms

- AMO** **Annual Measurable Objective.** A quantifiable goal based on student achievement levels that is used to determine the accountability status for the state and districts.
- CORE** **Compendium of Research and Evaluation.** This report.
- KCS** **Knox County Schools.** The KCS is the third largest school district in Tennessee. KCS serves approximately 60,000 students.
- NCE** **Normal Curve Equivalent.** An equal-interval scale ranging from 1 to 99 used to compare student, class, or school performance in relation to their peers statewide.
- PBIS** **Positive Behavior Intervention and Supports.** A framework for establishing the social culture and behavior needed to achieve desired behavioral and academic outcomes for students.
- REA** **Department of Research, Evaluation, and Assessment** (Knox County Schools).
- RLA** **Reading/Language Arts.** RLA is a specific subject assessed by the Tennessee Department of Education.
- RTI²** **Response to Instruction and Intervention.** A statewide initiative led by the Tennessee Department of Education that is based on a three-tier framework. RTI² promotes recommended practices for integrated general and special education for students.
- SY** **School Year.** This Compendium evaluates the 2015-2016 school year, SY1516.
- TDOE** **Tennessee Department of Education.** The state education agency.
- TEAM** **Tennessee Educator Acceleration Model.** The primary evaluation model for teachers, principals, and support staff used in Tennessee. TEAM incorporates data from observations and academic performance to determine a level of effectiveness.
- TVAAS** **Tennessee Value-Added Assessment System.** The system used by TDOE to calculate the impact that educators and schools have on student growth by comparing trends in students' test history with their current performance.

Executive Summary

The REA department is committed to providing accurate, objective, relevant, and timely evaluations of district initiatives to measure the return on our educational investments and to advance a student-centered, data-driven culture. The following report is based on program evaluation and analysis conducted in the last school year. The CORE is an opportunity for the Knox County Schools (KCS) to reflect on its practices, learn from its successes and shortcomings, and plan for the future. This report presents analysis of various district programs of the 2015-2016 school year (SY1516).

What's Inside?

The 2017 CORE includes two sections that present an overview of themes and the findings and recommendations for each program evaluation. The **executive summary** outlines the programs evaluated and the most compelling themes and considerations that emerged from the evaluations. The **management reports** provide summary information about the programs, major findings, and recommendations. **Technical reports**, with details on methodology, statistical tests, and comprehensive survey results, are available by request. Some can also be found on the REA website (<http://www.knoxschools.org/Page/5455>).

The initiatives included in the 2017 Compendium of Research and Evaluation are as follows:

- The implementation in the district's middle schools of the **Response to Instruction and Intervention** program under the framework provided by the state
- District efforts to ensure **equal access to highly effective teachers**
- The implementation of the **Positive Behavior Intervention and Support** system, the behavioral component to improve student academic outcomes, in certain school across the district
- The implementation and expansion of the **Community Schools initiative** in collaboration with the Great Schools Partnership
- **After-school tutoring** services offered at the district's community schools
- The continuation of Knox County's **summer school program** for elementary and middle schools to prevent summer learning loss
- A methodology change to the **Tennessee Value-Added Assessment System (TVAAS)**, due in large part to input from the REA Department of Knox County Schools
- The implementation of an **Innovation Zone (iZone)** in Knox County's four priority schools
- Findings from TDOE's annual **Tennessee Educator Survey**, which gathers perception data on topics such as school climate, evaluation, and discipline

Bright Spots

There were several successes uncovered in the 2017 CORE evaluation process. While there are always strengths and weaknesses to all programs, we want to highlight our successes so that district and school leaders can learn from these “bright spots.”

- **Response to Instruction and Intervention (RTI²):** Robust statistical methods identified the following schools for larger than average student gains on progress monitoring assessments and moving larger numbers of students to less intensive tiers of academic support: Cedar Bluff Middle, Farragut Middle, Powell Middle, and West Valley Middle.
- **Access to Effective Teachers:** There was no evidence that schools were systematically placing their least effective teachers with their lowest performing students. This provides some evidence that KCS students are not being denied equal access to high quality educators in their building.
- **Positive Behavior Interventions and Support:** The number of office discipline referrals declined in 7 of 12 schools with substantial decreases at all four KCS priority schools and Beaumont Elementary. Five PBIS schools also saw fewer out-of-school suspensions in the first part of the year compared to the same timeframe the previous year.
- **Community Schools:** There was evidence that the continued implementation and expansion of the Community School program improved relationships between schools and parents, increased parental and community involvement, and provided critical needs such as mental health services to students.
- **Tutoring at Community Schools:** While the effect size was small and statistical testing did not result in significance, tutoring participants had a higher median STAR Reading NCE on the Spring benchmark assessment than the control group.
- **Summer School:** Internal measures recorded by the summer school facilitators indicated that students were growing academically during the program.
- **TVAAS Methodology Change:** Input from the district facilitated changes in state policy to allow the calculation of a more representative value-added composite.
- **iZone:** Administrators reported feeling more supported through a specialized network of administrators facing similar problems and teaching staff believed they had the opportunity to experiment during the first year of iZone implementation. Both groups were also appreciative of the services provided by iZone facilitators.
- **TN Educator Survey:** There was an 18 percentage point increase in teachers who agreed that collaborative planning time was sufficient in their building compared to SY1415. This reflects the focus the district placed on professional development activities that fostered deeper teacher-to-teacher collaboration at the school level.

Operational Themes

Every program evaluated in the CORE is related to the goals of the Knox County Schools Strategic Plan. The district adopted a five-year strategic plan, *Excellence for Every Child*, in 2014 to span 2014–2019. The goals and objectives of the Strategic Plan are as follows:

Goal 1 - Focus on Every Student

- **Objective 1:** Guarantee Excellence in the Classroom
- **Objective 2:** Personalize Learning
- **Objective 3:** Facilitate High Quality Student Supports

Goal 2 - Invest in Our People

- **Objective 1:** Build & Support Our Community of Learners
- **Objective 2:** Build & Support Our Community of Leaders
- **Objective 3:** Value Our Hardworking People

Goal 3 - Partner with Our Stakeholders

- **Objective 1:** Build & Strengthen Our “One Big Team”
- **Objective 2:** Invite & Earn Stakeholder Feedback
- **Objective 3:** Improve Customer Service & Communication

As we celebrate our successes, it is important to take note of emerging patterns found in our program evaluations. The following operational themes show not only growth but also identify opportunities for improvement.

- **Response to Instruction and Intervention**

We should continue to identify exemplar schools in RTI² implementation as well as those program characteristics that lead to better student outcomes.

This aligns with **Goal 1, Objectives 2 and 3** of the Strategic Plan by differentiating instruction to meet student learning needs and providing academic interventions.

- **Access to Effective Teachers**

There was some evidence that teachers with lower effectiveness ratings were more likely to be found in schools with larger populations of at-risk students. The current district initiatives to incentivize highly effective teachers to serve at these schools may need to be adjusted in order to best meet the goals of the strategic plan.

This aligns with **Goal 1, Objective 3** of the Strategic Plan by identifying barriers to learning and providing intensive support for schools with significant need.

- **PBIS**

Large portions of teacher survey respondents from certain schools did not agree that they had received adequate training in PBIS, while attitudes at nearly all schools were less positive about district-level support than for most other items on the PBIS survey.

This aligns with **Goal 3, Objective 2** of the Strategic Plan by creating systems to track and address feedback from stakeholders.

- **Community Schools**

Tracking student referrals for mental health services would allow for more reliable statistical analyses, especially since focus group participants singled out the delivery of mental health services as addressing a critical need.

This aligns with **Goal 1, Objective 3** of the Strategic Plan by ensuring that all students have a safe, healthy, and inviting learning environment.

- **After-School Tutoring at Community Schools**

While the effect sizes were small, participants at roughly half of the current tutoring sites had a higher median NCE on the Spring benchmark than the control group. Examining these programs further may help determine what factors contributed to those results.

This aligns with **Goal 1, Objective 1** of the Strategic Plan by improving district-wide systems to monitor student learning.

- **Summer School**

Redesigning the philosophy of summer school may be necessary for the program to meet its goals of targeting Tier II students and mitigating summer learning loss.

This aligns with **Goal 1, Objective 1** of the Strategic Plan by demanding operational and administrative excellence to enable effective education.

- **TVAAS Methodology Change**

The REA department will continue to monitor state assessment and evaluation procedures to ensure fair outcomes for Knox County educators.

This aligns with **Goal 2, Objective 1** of the Strategic Plan by ensuring that all staff members receive calibrated, timely, and meaningful performance feedback.

- **iZone**

Greater understanding of the iZone concept, the services provided by facilitators, and the appropriate use of extended time should continue to promote deeper levels of innovation and collaboration at our most at-risk schools.

This aligns with **Goal 2, Objective 2** of the Strategic Plan by encouraging staff to be educational leaders and creative problem-solvers and by giving more autonomy to effective teachers and principals.

- **TN Educator Survey**

Responding teachers were still less likely than responding administrators to feel appreciated for their work or that the evaluation system is fair to them. Monitoring the effectiveness of changes to district policy can help us identify areas for continued improvement.

This aligns with **Goal 2, Objective 3** of the Strategic Plan by respecting our educators as professionals.



Management Reports

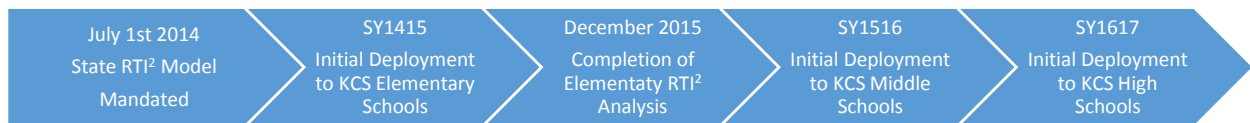
The following section contains management reports of the programs the REA evaluated. These reports offer an overview of each program and the findings and recommendations related to each program evaluation. Program leaders and content specialists in the Curriculum and Instruction department aided in the qualitative and quantitative assessments. Recommendations were also made in concert with program leaders and stakeholders.

These management reports do not provide the details of any statistical analysis. Additional data about methodology or specific results can be found within individual technical reports (available by request) and on the REA website (<http://www.knoxschools.org/Page/5455>).

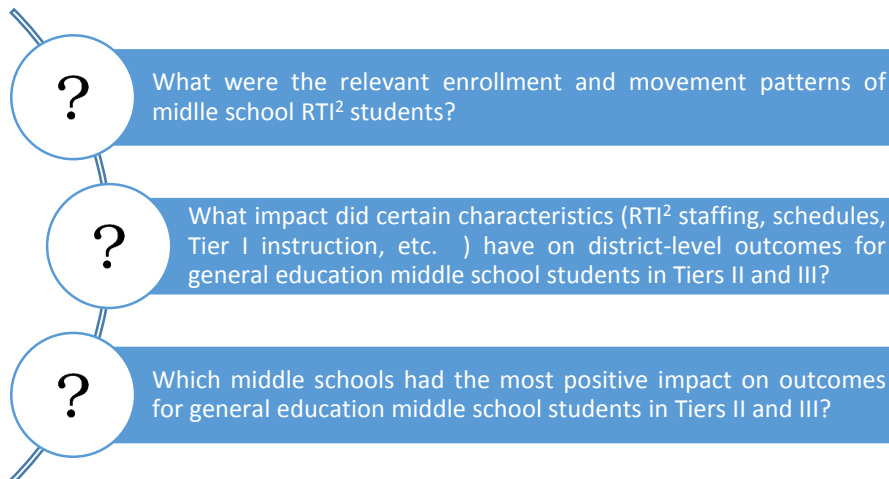
THE IMPLEMENTATION OF RTI² IN THE KNOX COUNTY MIDDLE SCHOOLS

Overview

In the 2015-2016 school year (SY1516), the state of Tennessee mandated the expansion of their Response to Instruction and Intervention (RTI²) framework to the middle school level. The state RTI² framework was created in order to standardize the disparate practices that were being used across the state to provide enrichment to high performing students and support struggling students. The RTI² framework promotes individualization to meet student needs through core instruction and additional instruction provided in tiered intervention classes.



The effective implementation of academic interventions is a primary goal of the district’s strategic plan, Excellence for Every Child. The district’s RTI² leadership team defined the following research questions in order to determine if our strategic goals were effectively being met.



? What were the relevant enrollment and movement patterns of the students in the first year of the Knox County Schools’ middle school RTI² initiative?

Although the majority of middle school students who were enrolled in RTI² in SY1516 were receiving intervention instruction in Reading/Language Arts (RLA), the number of students served in math interventions increased in comparison to the elementary school level. This indicated a greater need for strong math intervention teachers at the secondary level.

The demographics of the students placed in Tiers II and III were highly variable across the schools of Knox County. The enrollment of English language learners and students with disabilities substantially increased at the middle school level and led to new challenges related to the implementation of RTI². The district should ensure that middle school RTI² instructors have access to the appropriate resources and supports so that the unique needs of this diverse set of students is met.



What impact did certain characteristics (RTI² staffing, schedules, Tier I instruction, etc.) have on district-level outcomes for general education middle school students in Tiers II and III?

Quantitative studies indicated that there were characteristics of RTI² that had a significant impact on the rate of improvement of a subset of RTI² students (general education students with grade-level progress monitoring data points). The following student and intervention characteristics affected the observed rate of improvement, as measured by the available progress monitoring data, on all subjects and tiers:

- The higher a student's initial NCE on their progress monitoring assessment, the less positive the rate of improvement subsequently measured.
- The larger the intervention class, the more positive the rate of improvement on a student's progress monitoring assessment. There are real limits to class size, however, as imposed by state policy.
- Alternative block schedules correlated with less positive rates of improvement on students' progress monitoring assessment when compared to everyday intervention schedules. Although the results were less positive, this schedule allowed for increased numbers of students to be enrolled in intervention classes.



Which middle schools had the most positive impact on outcomes for general education middle school students in Tiers II and III?

A multiple measures system was used to identify RTI² exemplar schools. The metrics included 1) estimates of school effects on progress monitoring rates of improvement, 2) the percentage of students moving to less intensive tiers, and 3) qualitative judgement of content specialists. The methodology identified the following schools as district-level exemplars in Knox County:

All content areas and tiers: West Valley Middle School and Cedar Bluff Middle School

RLA, all tiers: Farragut Middle School

Math, all tiers: Powell Middle School

Additionally, Northwest Middle School was also identified by all content experts as a leading RTI² implementer even though their quantitative results did not place them among the highest performing group of schools.

ANALYZING DATA FOR EVIDENCE OF TEACHER-STUDENT SORTING BIAS IN KNOX COUNTY SCHOOLS

Overview

Knox County Schools (KCS) continues to consider its teachers one of the key factors driving student success. Providing high quality student supports to all students is a specific goal highlighted in the district’s strategic plan, Excellence for Every Child. Additionally, work by the Knox County Schools’ Disparities in Educational Outcomes task force highlights the district’s commitment to systems and policies that avoid pairing the district’s most academically at-risk students with the district’s least effective teachers. Monitoring how students are assigned to teachers (teacher-student sorting) within a school can identify if at-risk students lack access to highly effective teachers.

The results of this analysis suggest that teacher-student sorting is relatively rare inside individual schools. However, the lower performing teachers in the district are more frequently found in schools that serve higher proportions of at-risk students.

Findings

Comparison of student performance (projected state percentiles from TVAAS) and teacher effectiveness (as measured by TEAM observation scores) indicated that schools were not systematically pairing their most at-risk students with their least effective educators. The data, however, highlight ongoing district-level challenges regarding staffing. Although there was little evidence that teachers with lower effectiveness ratings were paired with at-risk students within a school, there was some evidence teachers with lower effectiveness ratings were more likely to be found in schools with larger populations of at-risk students (Figure 1).

The current district initiatives to incent highly effective teachers to serve at the district’s at-risk schools (prioritized hiring, cash bonuses) may need to be adjusted in order to best meet the goals of the strategic plan. In the near term, the district may wish to consider providing personalized and intensive professional development at schools with larger populations of at-risk students. Future analysis could focus on the eventual impact of any changes to the current practices.

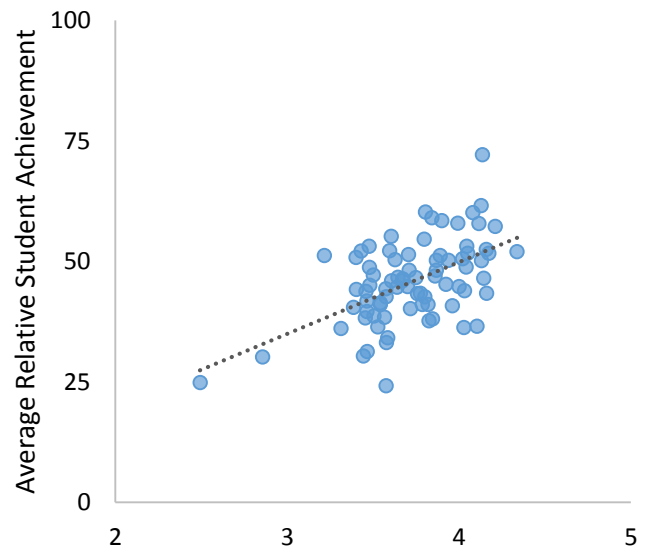


Figure 1: Average TEAM Score by Average Student Achievement.
Each dot represents a school in the district.

POSITIVE BEHAVIOR INTERVENTIONS AND SUPPORT IN KNOX COUNTY SCHOOLS: A PRELIMINARY STUDY

Overview

Positive behavior intervention and support (PBIS) is an evidence based framework for establishing the social culture and behavior needed to achieve desired behavioral and academic outcomes for students. PBIS is not a prescribed curricular intervention but rather an intervention strategy that aims to alter a school's organizational context to implement a multi-tiered behavioral prevention framework. Its procedures are rooted in basic and commonly understood behavioral, social learning, and organizational principals. At its core, PBIS consists of three tiers of interventions. All students receive basic preventive support in the lowest level tier (Tier I) and moving up the tiers (to Tiers II and III) results in increasingly intensive interventions that are designed to meet the needs of individual students. The intervention strategies applied in each of the three tiers are tailored by each site to meet the unique needs of their student body and to make the best possible use of available resources.

Knox County Schools began offering district-level training and support for the PBIS framework during the Fall of SY1415 to schools that volunteered to take part. In October of 2014, district level behavioral specialists met with fourth grade teachers at Sarah Moore Greene Magnet (SMG) to plan for a pilot implementation of PBIS which began in late November. Initial results of the pilot were positive and the program was expanded to the third grade at SMG in January. PBIS was also started for the first and third grades at Green Magnet during the month of January. Mooreland Heights implemented PBIS in April of 2015 for its fourth grade students. Following SY1415, Knox County offered a district led, voluntary two day training during the summer of 2015 on the subject of PBIS. Nine elementary schools, three middle schools, and most high schools sent staff to attend. The elementary and middle schools that elected to attend the summer training also implemented school-wide PBIS at the start of SY1516.



Findings

Fidelity of implementation and program sustainability were the primary focus of this study since this is the first year that PBIS has been implemented in Knox County Schools and limited data is available for evaluation. However, a year-over-year comparison in the number of office discipline referrals revealed that the number of office discipline referrals declined in 7 of 12 schools with substantial decreases at Sarah Moore Greene, Lonsdale, Green, Beaumont, and Vine. Additionally, the number of discipline incidents that resulted in

out of school suspensions was lower in the first part of this year compared to the same timeframe last year at five PBIS schools. These results are preliminary, but are an encouraging sign for the program. To get a sense of teacher attitudes towards the program and the fidelity with which it is being implemented, a survey was administered at all twelve PBIS schools. The main themes that emerged after the responses were analyzed are:

- Attitudes were generally positive regarding PBIS across the district
- Staff at PBIS schools believed that the program served a critical need in their schools
- Staff strongly believed that behavioral expectations are clearly communicated and that students understand the behavioral expectations at their school
- Nearly all PBIS schools had school-wide reward systems in place to reinforce positive student behavior
- All but two schools had strong agreement that a tiered system of behavior intervention was used at their school to address student behavior
- There was some contention between school administration and staff about which behaviors should be office managed
- There was strong agreement that each school had a PBIS team, but staff at some schools were unaware if student behavior data was being used in action planning
- There were several schools that did not agree that they had received an adequate amount of training on the subject of PBIS
- Across the district, attitudes were less positive about district level support for PBIS

Recommendations

Responses from the survey cast the current state of the program in a fairly positive light but there are areas that could be improved upon as well as some things to consider for the future. First, large portions of respondents from Sunnyview, Mt. Olive, and Chilhowee did not feel that they had received adequate training in PBIS, and respondents at nearly all schools were less positive than they had been on most other items regarding the level of support they received for PBIS from the district. Also, about 10% of the written comments on the PBIS survey alluded to the need or desire for additional training at a particular school. Going forward, one of the challenges for this program will be to provide adequate support from the district level. It is clear that school personnel desire more ongoing professional development for PBIS but the number of people that are dedicated to the program is limited. Providing support will become even more challenging in the future as more schools elect to take part in PBIS.

If PBIS is a strategic priority, then it may also be advisable to put fidelity checks in place to quickly identify teachers or schools that have strayed from the research based practices that form the PBIS framework. One of the common themes heard during site visits is that consistency across the entire school is crucial to the proper functioning of PBIS and that it is easy “to fall back into old habits as a teacher.” Perhaps elements of the TEAM rubric line up with effective PBIS practices and could be applied by school administrators during teacher evaluations to address classroom-level fidelity. It may also be beneficial if a school-wide fidelity check were conducted once or twice each year. The SET (School-wide Evaluation Tool) is a widely used and freely available tool that can be used to assess critical components of PBIS at the school level (Appendix B). It is very comprehensive and would require a fairly significant investment of time to apply at every PBIS school so it would likely need to be adapted for use in Knox County.



From an evaluation standpoint, REA will continue the program evaluation for PBIS throughout the rest of the school year and into next year. The survey provided a lot of information about whether key components of PBIS were in place but it did not address how effectively they were being used. To get a sense of how effectively they are being put to use, more site visits have been planned to meet with school level PBIS teams and to conduct focus groups within PBIS schools. Meetings will also be scheduled with program leadership to determine which indicators we hope to impact as a result of PBIS. Some academic data will be available for analysis this summer and additional discipline data will be incorporated as well.

COMMUNITY SCHOOLS IN KNOX COUNTY

Overview

The Community Schools initiative is a strategy that places local public schools at the center of an effort to organize community resources. Ultimately, the goal of the program is to improve neighborhood health, safety, and student academic success in areas of the county with the most need. The Community School concept was initiated within Knox County Schools during the 2010-2011 school year at Pond Gap Elementary. Three additional elementary schools, Green Elementary, Lonsdale Elementary, and Norwood Elementary schools were added to the program at the start of SY1213. The addition of these schools marked the beginning of a collaboration between Knox County Schools and the Great Schools Partnership to further expand the program to other high-need schools. In SY1314, three additional schools (Christenberry Elementary, Sarah Moore Greene Elementary, and Vine Middle School) were designated as community schools and in the following year (SY1415) community school programs began at South Knoxville Elementary School. The most recent additions to the network of community schools were added in SY1516 when Beaumont Magnet, Dogwood Elementary, and Northwest Middle became a part of the program. This study did not examine individual services in which the various schools were engaged, but instead focused on staff perception, student health, and academic outcomes at the seven community schools.

Findings

- The community school program continued to grow during SY1516, serving nearly 2000 more students than the prior year primarily due to program expansion.
- The demographics of community school students did shift with the inclusion of the three new schools. The proportion of black students declined by 7.4%, the proportion of white students increased by 7%, and the proportion of Hispanic students increased by about 0.5%.
- A large majority of staff survey responses indicated that school staff believe that being a community school is beneficial to their students and the community that the school serves.
- There was broad agreement among staff that the program positively impacts student academic achievement, student health, and student safety.
- Survey responses also indicate that school staff believe the community school program has improved the relationship between the school and its parents, increased parental involvement, and increased community involvement.
- Focus group participants echoed many of the themes from the staff survey but they also felt strongly that the delivery of mental health services via the community school program served a critical need for their students.

- Student growth as measured by change in NCE on the Star Math and Reading benchmarks at Community Schools were comparable to non-Community School results in Knox County and reading growth was positive at 10 of 11 sites.
- Statistical analysis suggested there was evidence that participants performed better than the control group on reading and math Spring benchmarks. The effect sizes were small, but directionally the results were encouraging.

Recommendations

Overall, perception data and academic data from SY1516 shed a positive light on the community school program. In the future, it may be beneficial to collect additional qualitative data from different groups of stakeholders so that perception from multiple perspectives can be included. Collecting this information may help provide a more complete picture of the program from various points of view. In addition, since the delivery of mental health services was singled out as being very important to the program, it would be beneficial to track all students who were referred for mental health services so that more reliable statistical analyses can be conducted.



AFTER SCHOOL TUTORING IN COMMUNITY SCHOOLS: A MATCHED PAIRS STUDY

Overview

The Community Schools initiative is a strategy that places local public schools at the center of an effort to organize community resources at the following Knox County School locations:

Beaumont Magnet	Pond Gap Elementary
Christenberry Elementary	Sarah Moore Greene Magnet
Dogwood Elementary	South Knoxville Elementary
Green Magnet Academy	Northwest Middle
Lonsdale Elementary	Vine Middle
Norwood Elementary	

Each community school actively engages community volunteers, school staff, and partnering organizations to provide a myriad of services that support the program goals. In addition, all eleven sites mentioned above engage in school-wide activities related to the community school program and a subset of the students at those schools also regularly participate in after-school programs. The focus of this document is on the after-school tutoring program that exists at each site and whose goal is to improve student academic achievement.

At each site, the after-school tutoring program was coordinated by a lead tutor who was a licensed teacher. The lead tutor directly engaged in tutoring but also directed volunteer tutors who delivered instruction to participants. Schools had some latitude about the structure of their program so that they could align resources to best meet the needs of their student body. Tutoring generally lasted about an hour per session. Beaumont and Christenberry conducted after-school tutoring two days each week, Sarah Moore Greene offered tutoring four days each week, and the rest of the sites offered tutoring three days each week. This analysis focused on the academic gains of community school students enrolled in after-school tutoring.



Findings

Participation in the community schools after-school tutoring program was completely voluntary which presented some challenges to evaluation. Without random assignment of subjects to the program, it is difficult to isolate the effect of any one program or factor. A

propensity score matched-pairs design was employed in an attempt to reduce some of the possible bias introduced due to voluntary participation. Predictor variables were selected for the regression based on their theoretical impact on either the selection process or the outcome measure. One-to-one nearest neighbor matching was then used to find the closest match between participants and non-participants at each school which resulted in equal size control and treatment groups. Wilcoxon rank sum tests were then used to test the null hypothesis that there was a difference between the median spring STAR Reading Benchmark for the control and treatment groups. The primary findings of the study were:

- Over 70% of tutoring participants identified with a race other than white and over 85% were economically disadvantaged
- Participants in after school tutoring had slightly better attendance than non-participants at community before matching
- The median performance of participants on the Spring benchmark was 41.3, two points higher than the matched control group
- The difference in the median NCE on the Spring benchmark between the two groups was not statistically significant at the $\alpha \leq 0.05$ level ($W=240115$, $p = .64$)
- A separate regression model indicated that participants with lower fall benchmark scores consistently outscored the control group with similar fall benchmark scores

Recommendations

After controlling for influential variables, tutoring participants had a higher median STAR Reading NCE on the Spring benchmark assessment. The difference was somewhat small and statistical testing did not result in significance, but it is a positive difference for program participants. The small effect size is consistent with studies conducted by Knox County Schools in the past and since tutoring is delivered from two to four hours per week it would be unexpected to find any large effects.

There were some differences across schools when examining outcome data. Participants at just over half the tutoring sites had higher median NCE on the Spring benchmark than the control group. These differences may provide an opportunity to examine programs at sites that had the most positive outcomes and determine what factors helped them achieve those results. If any lessons can be learned, then they could be applied to improve the program at the other sites. Lastly, it was also encouraging that there was some evidence that participation in after-school tutoring is having a positive impact on students with the lowest entering achievement. This may suggest that the program is benefitting students with the most need for intervention.

AN ANALYSIS OF THE ELEMENTARY AND MIDDLE SCHOOL SUMMER SCHOOL PROGRAMS USING AN EXTERNAL ASSESSMENT

Overview

The Knox County Schools (KCS) summer school program for the elementary and middle school grades has served more than 1,000 students each summer for the past few years. The program was supposed to target Tier II students who are between the 10th and 25th percentiles with the goal of preventing summer learning loss in Reading/Language Arts and in Mathematics. The program was for four weeks at the beginning of the summer recess. Students were required to have their own form of transportation.

The results of this analysis suggest that many of the students who participated were not in Tier II. They also suggest that while some of the internal summer school measures may have indicated student growth for the average participant, the external measures indicate that the students scored no better than comparison students who did not attend summer school.

Findings

STAR assessments were used because they were available for the Spring prior to summer school and for the Fall after summer school. The Spring assessment was used as a baseline and it showed that only 21% of the students were in the targeted Tier II range. Tier I students were the most represented at 48% while 31% would be considered in the Tier III range.

A Matched Pair study was conducted where the summer school students were compared to students with the same demographic features and with similar baseline scaled score data. The differences between the groups is represented in Figure 1. The summer school students out-perform their peers in 7th grade Reading and in 6th grade Math. The comparison group performed better in each of the other groups and significantly so in six areas.

	Matched Pair Study	
	Reading Summer School minus Comparison	Math Summer School minus Comparison
Overall	-18.0874	-4.3432
Elementary	-15.7516	-8.8556
Middle	-20.9388	1.3854
Grade 1	-6.1415	-5.5545
Grade 2	-13.3981	-5.5688
Grade 3	-18.1979	-11.2718
Grade 4	-16.6977	-.4118
Grade 5	-30.8681	-20.9886
Grade 6	-40.5297	5.7432
Grade 7	2.9755	-2.7256

Figure 2: Red indicates areas where the Summer School students performed significantly worse than their demographic peers

These results indicate that the summer school program was not achieving its aims in either who was attending and in mitigating any summer learning loss. The initial diversity of attendees may have contributed to the poor results because a curriculum designed for one band of students would have needed to be modified to meet a range of students. It should be noted that the lack of supplied transportation may have contributed to a possible selection bias in those who did end up attending.

CALCULATING THE EFFECTS OF THE TVAAS METHODOLOGY CHANGE IN THE 2015-16 SCHOOL YEAR

Overview

In part due to input from the REA department, TDOE's methodology for calculating a teacher's multi-year TVAAS composite index changed in SY1516. The purpose of this analysis was to determine how many teachers would have received a different multi-year TVAAS level under the new methodology and whether the overall distribution of TVAAS levels would have predominately shifted in one direction or the other.

Previously, the multi-year composite weighted the score from each subject and year equally in its calculation, regardless of the number of students tested in each one. Starting in SY1516, the TVAAS score from each subject and year is weighted according to the number of student test records that it contains.

For example, a teacher in this analysis had two tested subjects in their TVAAS composite. The first had 109 students and a TVAAS level of 3, while the other had 11 students and a TVAAS level of 5. Under the previous methodology, the two subjects had equal weighting in the teacher's overall TVAAS composite. Under the new methodology, the first index would have had a greater impact on the overall calculation, since the teacher had almost ten times as many tested students in that subject. As a result, the teacher's overall TVAAS level would have shifted from a 5 to a 4.

TVAAS Level Change	Count	Percent
Level Increase	21	8%
No Change	229	84%
Level Decrease	24	9%

		New TVAAS Level				
		1	2	3	4	5
Old TVAAS Level	1	27	2	-	-	-
	2	2	11	2	-	-
	3	-	2	64	14	-
	4	-	-	9	40	3
	5	-	-	1	10	87

Figures 3 and 4: Teachers seeing a change to their multi-year TVAAS composite level

Findings

The analysis was carried out on SY1213, SY1314, and SY1415 test data from 274 high school teachers who had previously taught the same subject that was tested in 2015. With the application of the new methodology, eight percent (8%) of affected teachers would have seen an increase in their TVAAS composite level (e.g., from level 3 to level 4). Nine percent (9%) of affected teachers would have seen a decrease in their TVAAS composite level (e.g., from level 4 to level 3).

Recommendations

The methodology change does not appear to cause a major shift in multi-year TVAAS levels in either direction. This may be a fairer way to calculate a composite score since it prevents a small group of tested students in one subject from having a disproportionate impact on the teacher's overall composite.

AN ANALYSIS OF THE INITIAL YEAR IMPLEMENTATION OF THE IZONE NETWORK

Overview

In 2015, the Transformational Schools division of the KCS Office of Innovation and School Improvement received a grant from TDOE for school improvements via an Innovation Zone (iZone) in Knox County's four priority schools. The stated intent of the iZone from TDOE is to "accelerate school turnaround" by granting autonomy and flexibility to pursue innovative educational systems within a school.

The iZone grant can be renewed annually for up to three years based on appropriate growth each school year. The KCS iZone has set the following objectives to be reached by the end of the third year of the grant period:

- An increase in reading and math proficiency on state assessments by 21% over the current annual measurable objective (AMO) targets
- A decrease of 68% in behavioral office referrals
- Staffing the most effective teachers and leaders in the iZone schools

Additionally, program leaders sought to create a specialized network among priority school administrators, deploy specialized staff to assist academic and non-academic goals in the schools, and explore innovative ways of positively impacting student outcomes.

Findings

Administrators reported feeling more supported by the network than through regular principal networks, including having the ability to discuss issues with other administrators struggling with similar problems. This indicates that the implementation of iZone was effective in creating a specialized network among priority school administrators.

The interview and focus group question that yielded the most positive reaction and response was the question about the iZone facilitators: literacy, math, special education, and behavior specialists that exclusively served the four priority schools. The content area facilitators worked with teachers on lesson plans, modeling lessons, and curriculum pacing, in addition to attending PLC meetings and assisting with data usage and analysis.

The implementation of the extended day schedule in SY1516, adding 30 minutes to the school day, yielded mixed results. While most curriculum teachers reported using that time to address weaknesses or review recent material, some teachers reported allowing students to read or use technology (e.g., iPads) during this time. Some related arts teachers felt that the extended day was a waste of their time, usually spent aiding other teachers or monitoring students.

Slight academic gains were demonstrated in STAR Early Literacy. The change in mean NCE from the Fall to Spring SEL benchmark assessments at the iZone schools was greater than at the non-iZone schools, and the difference in the means between the two groups was statistically significant at the $\alpha \leq 0.05$ level.

However, growth on the Reading and Math assessments was essentially flat. Based on the SR and SM performance data, it appears that students in the iZone schools did not show substantial academic gains at the same rate as their peers across the country in mathematics or reading.

There was an overall decrease in discipline referrals. However, it is difficult to attribute this entirely to the implementation of iZone given the concurrent implementation of PBIS at all four priority schools. The iZone behavior facilitator worked closely with the PBIS staff at the schools and participated in the PBIS team meetings.

	SY1415	SY1516	Difference	% Change
Green	249	325	76	31%
Lonsdale	263	216	-47	-18%
Sarah Moore Greene	855	416	-439	-51%
Vine Middle	1760	960	-800	-45%

Figure 5: Discipline Referrals at iZone Schools

Each of the schools showed a decrease except for Green, where a new principal followed protocol more stringently than in previous years and disruptive students were removed from the classroom so they would not interfere with other students’ instructional time. The other schools credit the decrease in referrals to implementing PBIS with fidelity and working in the classroom to minimize disruptive behavior.

Recommendations

Moving forward, program leaders should ensure that staff members at the iZone schools are aware of the program and its resources. Most teachers at iZone schools knew what “iZone” stood for, but not necessarily what it meant in practical terms. Greater understanding of the concept could increase program buy-in and engagement.

While highly appreciative of the supports provided by iZone facilitators, many teachers reported not initially knowing who they were or what services they offered. A clear introduction to the facilitators at each school would eliminate this initial ambiguity.

Additionally, school administrators should ensure that expectations are made clear regarding what is and is not an acceptable use of extended time. Teachers reported that it was useful to have a clearly established goal for the use of extended time, but that they would appreciate discretion in how they used the time to address this goal.

It is important to note that the established achievement goal for the iZone was based on state assessment data, which was unavailable in SY1516. Data from school-wide STAR testing was used as a necessary proxy in the first year of evaluation, but future program evaluations should measure growth in reading and math proficiency on state TNReady assessments.

Retention of effective educators, another goal defined in the grant application, may be best measured year-over-year for the duration of the grant. For example, one could check whether effective teachers (Level 3 or above) were recruited and retained at the iZone schools.



THE TENNESSEE EDUCATOR SURVEY IN KNOX COUNTY SCHOOLS

Overview

KCS teachers and administrators had the opportunity to take the annual Tennessee Educator Survey provided by TDOE. This survey was not mandatory. Forty-five percent (45%) of teachers and fifty-nine percent (59%) of administrators in Knox County completed the survey.

This document aims to highlight some results that may be useful for district administrators. The full results are available online at <http://educatorsurvey.tnk12.gov/>.

Findings

- Responding teachers were less likely to feel appreciated for their work than administrators (76% of teachers, 91% of administrators). Additionally, 75% of teachers said there was an atmosphere of trust and mutual respect within their school, compared with 88% of administrators.
- Approximately two in three responding teachers (66%) agreed that collaborative planning time provided for teachers in their school was sufficient. This can be compared to less than half of responding teachers agreeing in SY1415 (an 18% increase in agreeable responses).
- Fifty-six percent (56%) of responding teachers believed that individual planning time provided to teachers in their school was sufficient. This item was not present on the SY1415 Educator Survey.
- While there was a six percentage point increase from SY1415 in teachers agreeing that their evaluation process is fair, there is still disagreement among many teachers (68% agreed).
- The two areas where teachers expressed the greatest need for additional support were meeting the needs of all learners and using technology in the classroom.
- Administrator responses showed that the three activities taking up the largest amount of time in an average week were: administrative duties such as hiring, scheduling and budgeting; student discipline issues; and parent and/or community concerns or involvement.
- The activities that administrators indicated as taking up the least amount of time per week were meetings with or sponsored by the central office, coaching teachers, and instructional planning with teachers.
- The amount of responding administrators spending 3 or more hours per week observing teachers decreased by 15 percentage points (76% in SY1415, 61% in SY1516).