An Analysis of the Initial Year Implementation of the iZone Network

Technical Report

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Overview

In Tennessee, there is a special designation for schools that are in the lowest five percent of academic achievement in the state; these are known as "priority schools." Priority designation is meant to call the attention of the local education agency to those schools in order to improve their achievement outcomes. Priority status is determined by the state Department of Education every three years, though under the new accountability system, priority schools can exit that status annually with sufficiently demonstrated gains. Knox County Schools (KCS) has four priority schools: Green, Lonsdale, and Sarah Moore Greene Elementary schools and Vine Middle School. They received priority status in August 2014.

In 2015, the state Department of Education opened a competitive grant process for school improvements via Innovation Zone (iZone). Districts could apply for $600,000 to $1,000,000 per year for up to three years to establish or continue an existing iZone. Funding for the second and third years is based on appropriate growth each school year. The grant application states the intent of the iZone is to "accelerate school turnaround" by granting more autonomy to those school principals and teachers and flexibility to pursue innovative educational systems. Not only does the state mandate rapid turnaround in priority schools, the KCS strategic plan demands excellence for every student. The iZone program falls under both the first and fourth goals of the strategic plan, *Focus on Every Student* and *A Culture of Excellence*, by creating an environment in which every child can succeed.

The KCS Office of Innovation and School Improvement successfully applied for the grant for its Transformational Schools division, which works with the four priority schools in KCS. The KCS iZone program aims to create an environment that supports ambitious student achievement and non-academic goals. Specifically, by the end of the third year of the grant period, the iZone objectives are to:

- improve reading and math proficiency by 21% over the current annual measurable objectives (AMO) targets
- decrease behavioral office referrals by 68%
- staff the iZone schools with the most effective teachers and leaders

Additional goals were gleaned from interviews with program leaders. These include creating a sense of network and camaraderie among school administrators, deploying specialized staff to assist academic and non-academic goals in the schools, and exploring innovative ways of positively impacting student outcomes.

This report is an initial program evaluation of the first year of implementation of the iZone program in KCS' four priority schools. The evaluation consisted of interviews, focus groups, and analysis of academic and discipline data. Based on the metrics established by the program leaders, the program has shown initial signs of success. The results of our program

evaluation indicate that the implementation of iZone was effective in in creating a specialized network among priority school administrators and providing useful support to teachers. Quantitative data showed gains were made in early literacy; there is room for improvement in reading and math scores. Lastly, there was an overall decrease in discipline referrals. These achievements are discussed at length below in the results section.

Methodology

In order to evaluate the iZone program, a multi-methods approach was used, including the following tasks:

- a review of grant application materials
- interviews with program leaders, facilitators, and school principals
- an analysis of internal communications and documents
- focus groups with school staff members
- an examination of STAR testing data
- a study of process activities

These various methods were used to ensure a holistic understanding of the iZone program and its intended goals. Based on those goals, we developed and sought to answer several research questions:

- Did the intentionality behind creating a network result in a perceived sense of support by iZone school administrators and staff?
- Did the professional development offerings promote the goals of the iZone program?
- Did the introduction and use of specialized facilitators create additional support for teaching staff?
- Did the number of discipline incidents and referrals decrease since SY1415?
- Did performance on reading and math assessments improve throughout the school year?
- Were truly innovative methods explored and implemented in the iZone schools?

Methodology: Qualitative Data

Qualitative data was gathered through several points of contact with leaders, practitioners, and school staff members. Initially, the evaluator met with program leaders several times in order to discuss the motivation behind the grant application and the intended outcomes of the program. Interviews with school administrators and focus groups with school staff members were conducted to gather school-level perception data.

Methodology: Quantitative Data

Two goals of the iZone program are based on quantifiable data: academic gains and decrease in discipline referrals. To determine academic gains, and because state assessment data was

not available for SY1516, school-wide STAR testing data was used as a proxy. It should be noted that the KCS grant application outlined the use of state assessments to measure ambitious achievement improvement, not STAR data.

There are three STAR assessments administered in KCS in the Fall, Winter, and Spring as benchmarks:

1. STAR Early Literacy (SEL), administered in Kindergarten and occasionally first grade
2. STAR Reading (SR), used in in elementary through middle school grades
3. STAR Math (SM), used in elementary through middle school grades

This evaluation looked at growth from the Fall to Spring benchmark assessments. Change in both median percentile rank and mean NCE for each of the STAR assessments was calculated to compare performance between beginning and end-of-year benchmarks.

Due to the similarities between the elementary iZone schools, it was difficult to find non-iZone schools with similar demographics (race and ethnicity, economically disadvantaged population, incoming academic achievement) with which to meaningfully compare STAR data. Nonetheless, two schools at both the elementary and middle levels were identified to provide a comparison point based on shared characteristics. Christenberry and Maynard Elementary and Northwest and Whittle Springs Middle schools were designated as the non-iZone comparison schools. After ensuring equal or unequal variances, the appropriate t-tests were used to determine if the differences in mean change in NCE were significantly different for each type of assessment (SEL, SR, SM) between iZone and non-iZone schools.

To measure the increase or decrease in discipline referrals, the last two years of school-wide discipline data was collected for all of the iZone schools. While the iZone schools use SWIS to track discipline referrals, not all of the schools used SWIS in SY1415. Therefore, Aspen discipline data was used to compare incidents in SY1415 and SY1516. Lonsdale is an exception to this; Lonsdale only tracks suspensions in Aspen, so SWIS data was used to track disciplinary action at Lonsdale.

Results

Overall, there were positive academic and non-academic achievements at the iZone schools in SY1415. In particular, administrators reported feeling more supported by the network than through regular principal networks. Both administrative and teaching staff regarded the iZone facilitators as very useful in the building and classroom. Gains in early literacy were demonstrated in SY1516 and were encouraging. Additionally, intentionality in student behavior management has yielded a decrease in discipline referrals. The trends at the iZone schools are optimistic.

Results: iZone Administrators

One goal that was not explicit in the grant application, but was oft-repeated in interviews with the program director, was to create a specialized network for priority school administrators. All of the iZone principals said that in district-wide principal meetings, they frequently felt unable to relate to their peers because their issues were so different. The iZone program was successful in addressing that concern. There were special iZone administrator meetings in which principals were able to discuss issues that were relevant in their buildings. Additionally, iZone program leaders used an e-mail group not only to connect regularly with school administrators, but also to encourage communication among administrators themselves. Overall, iZone principals reported a distinct sense of "network" with their fellow iZone partner schools.

Incidentally, the overwhelming majority of teachers at all of the iZone schools (except Green) knew what "iZone" stood for, but not necessarily what it meant in practical terms. Ensuring a beginning of the year introduction to the program, its goals, processes, and facilitators will likely increase buy-in and engagement in the program. Greater understanding of the concept behind iZone should improve outcomes.

Results: Professional Development

Although the program leaders developed iZone-specific professional development (PD) sessions, most teaching staff reported that they were either unaware or uninterested in the sessions. Given the volume of various PD opportunities available to KCS teachers, this was not a surprising finding. Offering iZone PD sessions at the iZone schools may be one way to improve interest and attendance. Teachers reported that due to the extended day schedule, it was difficult to wrap up the school day and travel to the training site for PD. Focused PD that addresses issues specific to the school (or schools) may also result in better attendance.

One teacher recalled visiting another school with one of the iZone facilitators and reported that being a very helpful use of her time. Creating similar avenues by which teachers can share their struggles and solutions may be a practice worth exploring moving forward. Teachers would likely benefit from the collaboration across schools, just as the administrative staff have opportunities to discuss and debate various methods of improvement.

Results: iZone Facilitators

The interview and focus group question that yielded the most positive reaction and response was the question about the iZone facilitators. The iZone program leaders used the grant money to fund literacy, math, special education, and behavior specialists that would only serve the four iZone schools. The facilitators were previously coaches, a supervisor, and a system-wide liaison considered highly effective in their specialty area. They worked closely with school administrators and staff members in several different ways.

The content area facilitators worked with teachers on lesson plans, modeling lessons, and curriculum pacing. The content area facilitators also attended PLC meetings and assisted with data usage and analysis. All of the iZone facilitators met with administrative staff to discover and address their school-wide needs. Additionally, administrative staff pinpointed teachers who may benefit most from extra support in the classroom. iZone facilitators would informally observe classrooms and offered support through feedback and lesson modeling.

While teachers were highly appreciative of the supports the facilitators provided, many reported that they did not initially know who the facilitators were or what services the facilitators offered. Some teachers also reported feeling uncomfortable having an "unknown observer" in their classroom at the beginning of the year. An initial introduction to the facilitators at each school would eliminate any ambiguity surrounding the facilitators and the services they offer.

Results: Discipline Referrals

Based on discipline data pulled from Aspen, the overall number of discipline referrals decreased from SY1415 to SY1516, see table 1 below. It is important to note that all of the iZone schools have implemented the Positive Behavioral Interventions and Support (PBIS) system. PBIS is a framework by which to improve non-academic student goals and intervene in the case of non-cognitive issues. As such, it is difficult to trace the decrease in discipline referrals to the implementation of iZone and use of the iZone behavioral facilitator. The iZone behavior facilitator worked closely with the PBIS staff at the schools and participated in the PBIS team meetings.

Table 1. Discipline Referrals, iZone Schools

School	SY1415	SY1516	Difference
Green	249	325	76
Lonsdale*	263	216	-47
Sarah Moore Greene	855	416	-439
Vine Middle	1760	960	-800

*based on SWIS data

Each of the schools showed a decrease except for Green. The reason for the rise in referrals at Green was an administrative change. A new principal was at the helm for SY1516 and followed protocol more stringently than in previous years. Additionally, the administration at Green reported that they aimed to remove disruptive students from the classroom so they would not interfere with other students' instructional time. That intentionality resulted in increased referrals.

The other schools credit the decrease in referrals to implementing PBIS with fidelity and working in the classroom to minimize disruptive behavior. The most dramatic decrease came at Vine Middle. The principal explained that referral rules were followed just as closely in SY1516 as in previous years, but that various efforts were made to improve student behavior. School-wide implementation of PBIS was carried out with fidelity and expanded to the classroom-level, focused on engaging, effective instruction to keep students on task and out of trouble.

In addition to PBIS at the school and classroom-level, Vine staff employed various methods to improve student behavior and decrease referrals. Staff members cultivated positive, close relationships with students who had historically received referrals. These relationships helped improve student behavior. Teachers were more intentional in the classroom to manage classroom disruptions without an escalation to a referral. Use of minor and major infractions also helped pace the discipline process. Additionally, teaching staff worked to include parents early on and often in the behavior process. Parent engagement appeared to help in modifying student behavior.

Vine students were also engaged in the process by way of school-wide assemblies and surveys. Weekly whole-school meetings were held in to discuss issues with student, including behavioral issues. Students were surveyed to discover what they wanted as incentives for proper behavior. Through the survey process, staff members also made clear to the students what steps had to be taken in order to earn those incentives. The principal at Vine believes these two processes (meetings and surveys) helped improve buy-in at the student level, which ultimately yielded fewer disciplinary incidents.

Results: Academic Gains

STAR data was used as a proxy for state assessment data to measure academic gains at the iZone schools. Initial results indicate significant growth in early literacy, modest gains in literacy, while math remained flat. Similar non-iZone schools were identified to see how students fared in comparison. Figure 1 shows a summary of the academic results at the elementary, and each assessment type is discussed at length below. Results were negative in both assessments at the middle school level at iZone and non-iZone schools.

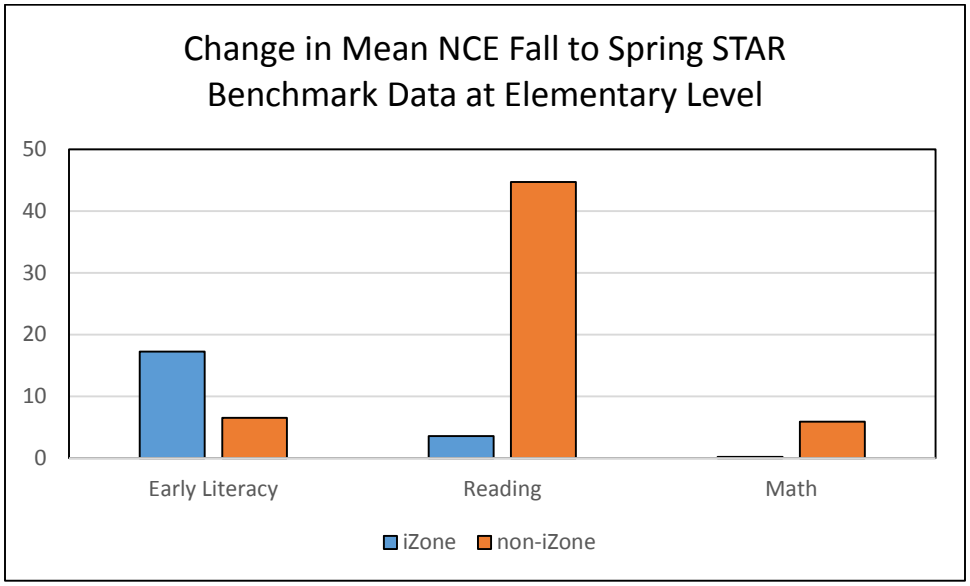

Figure 1. Change in Mean NCE on STAR Assessments, SY1516

Results: STAR Early Literacy

STAR Early Literacy (SEL) benchmark data indicates that students in the iZone schools did improve on that assessment over the school year. There were 417 data points for the Fall and 233 for the Spring SEL benchmark assessments. Since the Spring sample was almost half the size of the Fall sample, the analysis was limited to 182 students that took both assessments (SEL n=181).

The students made great gains from their initial benchmark to the final benchmark. Sarah Moore Green showed the greatest growth on the SEL assessment. See tables 2 and 3 for details.

Table 2. Change in SEL Median Percentile Rank Fall to Spring Benchmark, iZone Schools, SY1516

School	Fall Median Percentile Rank	Spring Median Percentile Rank	Change in Median Percentile Rank
All Elementary iZone	20	49	29
Green	25	47	22
Lonsdale	12	31	19
Sarah Moore Greene	24	65.5	41.5

Table 3. Change in SEL Mean NCE Fall to Spring Benchmark, iZone Schools, SY1516

School	Fall Mean NCE	Spring Mean NCE	Change in Mean NCE
All Elementary iZone	31.86	49.12	17.26
Green	35.66	49.48	13.82
Lonsdale	26.23	38.71	12.48
Sarah Moore Greene	33.44	57.54	24.1

For comparison, performance on the SEL was also analyzed at two non-iZone schools, Christenberry and Maynard Elementary (n=102). 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 (non/iZone) was statistically significant with an alpha level of 0.05. Change in median percentile rank was greater in the iZone schools than the non-iZone schools. See table.

Table 3. Comparison of SEL Results, SY1516

School	Change in Median Percentile Rank	Change in Mean NCE	Change in Mean NCE p-value
iZone	29	17.26	0.00*
non-iZone	5	6.52	

*significant at alpha level of 0.05

Use of small groups and a modified pacing plan in early literacy at the iZone schools may explain the gains made on that benchmark assessment.

Results: STAR Reading

STAR Reading (SR) benchmark data indicates that students' performance improved slightly over the school year, although scores at Green and Vine were essentially flat. There were 1217 data points for the Fall and 1355 for the Spring SR benchmark assessments. The analysis was limited to 851 elementary students that took both assessments (SR n=851) and 249 Vine Middle students (SR n=249). All iZone SR data is presented here, but the elementary and middle school calculations were separate.

Gains at the iZone schools on the SR benchmark were modest compared to those demonstrated on the SEL benchmark, see tables 4 and 5.

Table 4. Change in SR Median Percentile Rank Fall to Spring Benchmark, iZone Schools, SY1516

School	Fall Median Percentile Rank	Spring Median Percentile Rank	Change in Median Percentile Rank
All Elementary iZone	25	31	6
Green	23	23	0
Lonsdale	25	35	10
Sarah Moore Greene	28	35	7
Vine Middle	20	22	2

Table 5. Change in SR Mean NCE Fall to Spring Benchmark, iZone Schools, SY1516

School	Fall Mean NCE	Spring Mean NCE	Change in Mean NCE
All Elementary iZone	35.43	38.98	3.54
Green	33.47	35.3	1.84
Lonsdale	34.88	38.08	3.21
Sarah Moore Greene	36.7	41.02	4.33
Vine Middle	33.22	33.22	0

When compared to two non-iZone elementary schools, the non-iZone elementary schools performed better on the SR assessment (see table 6). The difference in the mean change in NCE score between the two elementary groups was statistically significant. Vine performed slightly better than the non-iZone middle schools, though the difference in mean change in NCE was not statistically significant.

Table 6. Comparison of SR Results, SY1516

School	Change in Median Percentile Rank	Change in Mean NCE	Change in Mean NCE p-value
Elementary iZone	6	3.54	0.00*
Elementary non-iZone	7	44.72	
Middle iZone	2	0.00	0.31
Middle non-iZone	-1	-0.73	

*significant at alpha level of 0.05

Gains on the SR assessment were essentially flat at both the iZone and non-iZone schools.

Results: STAR Math

STAR Math (SM) benchmark data suggests that students did not demonstrate improvement from the beginning to the end of the school year. The student count used in the SM analysis was SM n=1195 in the elementary iZone schools and SM n=269 in the middle iZone school. All of the data is presented here, but the middle school data was not calculated with the elementary schools.

Table 7. Change in SM Median Percentile Rank Fall to Spring Benchmark, iZone Schools, SY1516

School	Fall Median Percentile Rank	Spring Median Percentile Rank	Change in Median Percentile Rank
All Elementary iZone	41	39	-2
Green	35.5	36.5	1
Lonsdale	41	47	6
Sarah Moore Greene	42	34	-8
Vine Middle	37	27	-10

Table 8. Change in SM Mean NCE Fall to Spring Benchmark, iZone Schools, SY1516

School	Fall Mean NCE	Spring Mean NCE	Change in Mean NCE
All Elementary iZone	43.39	43.57	0.18
Green	41.34	42.4	1.06
Lonsdale	43.72	46.37	2.65
Sarah Moore Greene	44.17	42.39	-1.79
Vine Middle	40.72	37.75	-2.98

Based on the 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. There has been a district focus on early literacy, reading foundational skills, and helping students read on grade level. This may have contributed to the SM scores, not only at the iZone schools, but across the district.

Comparatively, students at the two non-iZone elementary schools performed better on the SM benchmark than in the iZone schools, see table 9. The difference in the means between the two groups was statistically significant.

Table 9. Comparison of SM Results, SY1516

School	Change in Median Percentile Rank	Change in Mean NCE	Change in Mean NCE p-value
Elementary iZone	-2	0.18	0.00*
Elementary non-iZone	17	5.88	
Middle iZone	-10	-2.98	0.54
Middle non-iZone	1	-0.37	

*significant at alpha level of 0.05

Performance at the middle school level, the iZone and non-iZone schools were on par with one another.

Results: Innovation

In addition to reinforcements provided through the specialized network and facilitators, the iZone program also seeks to use innovative methods to improve student academic and non-

academic outcomes. The program pursued innovation through different approaches, outlined below.

Extended Day: All of the iZone schools were on an extended day schedule in SY1516, which added 30 minutes to the school day. While some schools already had an extended day schedule prior to iZone implementation, a focus was placed on intentional use of the time for instruction and intervention in SY1516. The implementation of the extended day yielded mixed results. Most math, science, language arts, and social studies teachers said they used that time to address weaknesses or review recent material. However, some teachers reported not using that time on instruction. These teachers said they usually allowed students to read or use technology (iPads, etc.) during the extended time. Related arts teachers felt that the extended day was a waste of their time as they typically aided other teachers during that time or monitored students.

Moving forward, school administrators should ensure that expectations are made clear regarding what is and is not an acceptable use of extended time. Additionally, many teachers agreed that knowing what the focus of extended time should be (literacy or math focus, test preparation, etc.) was and would be helpful—though with the discretion to use the time as teachers see fit while still addressing the goal of the extended time. Having teachers, coaches, iZone facilitators, and school administrators develop quarterly themes or tasks for the extended time may be a useful practice to zero in on school weaknesses or goals. These themes can be reinforced in planning meetings and PLCs. The themes could also provide parameters on which academic and behavioral data is useful to tackle the themes.

Thinking Outside the Box…or Desk: The iZone behavior facilitator worked closely with teachers to develop behavior plans that would address student non-cognitive deficiencies. For example, one student had difficulty sitting still in class and therefore, could not stay on task. The facilitator developed a space and way in which the student could move around in the class during class. The teacher reported the student responded immediately was engaged in instruction and on task. Continued use of simple but effective methods of keeping students comfortably engaged may help address non-cognitive issues and ultimately, impact student academic outcomes.

Literacy Pacing: A modified pacing guide in Kindergarten literacy was developed at Beaumont Magnet Elementary that was adopted in the iZone elementary schools. It called for students to have exposure to letters and site words at a faster rate than the regular curriculum. Early grade teachers reported appreciating the model, but the early literacy iZone facilitator took medical leave mid-year SY1516. After her departure, some of the teachers across the three elementary schools continued on the modified pacing guide, whereas others defaulted back to what they knew to do since she was not there to provide

feedback and support. Nonetheless, gains demonstrated on the STAR Early Literacy assessment suggest early literacy was an area of strength in the iZone schools.

Data Usage: Teachers reported an increase in the use of data to inform PLCs and lesson planning in SY1516 over SY1415. What was notable was that teachers reported that students begun to use to data to track their own progress. Students were able to track their growth using test results, standards-based grading, and progress monitoring data. Through this process, teachers said students felt more ownership for their academic outcomes and engaged in the learning process. Continued and expanded use of relevant data in the classroom and at the school-level will help inform instruction and intervention.

Conclusion and Considerations

Optimistic trends were noted after the initial year of implementation of the iZone program. Academic and non-academic goals outlined by the grant application and program leaders were met with varying levels of success. Moving forward, program leaders should ensure that staff members at the iZone schools are aware of the program and its resources. Additionally, school administrators should provide clear expectations to teaching staff on usage of extended day time. The research questions developed at the outset of this program evaluation are addressed below with recommendations.

- **Did the intentionality behind creating a network result in a perceived sense of support by iZone school administrators and staff?**
    - Yes. Administrators reported a distinct difference in the support they received in SY1516 when compared to prior years. Principals reported that the ability to discuss issues with other school administrators who struggled with similar problems was very beneficial.
    - Providing chances for iZone administrators to work together should be a continued goal and process.
- **Did the professional development offerings promote the goals of the iZone program?**
    - No. While the professional development created by and for the iZone schools was focused, it did not have its intended impact of promoting innovation and collaboration among teaching staff members.
    - Creating on-site PD opportunities and assessing the PD offerings (district-wide) and where gaps exist may help address this weakness.
    - Clearer expectations on who is to present and attend PD may also encourage iZone teaching staff members to attend iZone-specific PD.
    - Opportunities for teachers to visit other schools (iZone and otherwise) and opportunities to share between iZone staff members

- **Did the introduction and use of specialized facilitators create additional support for teaching staff?**
    - Yes. The facilitators were reported as the most positive addition to the school as a result of the iZone program. Continued and expanded use of facilitators in the schools would likely improve academic and non-academic outcomes.
    - Since many teachers reported not knowing who the facilitators were at the beginning of the school year, it is important for program leaders and school administrators to make clear who they are and what services they provide.

- **Did the number of discipline incidents and referrals decrease since SY1415**
    - Yes. However, it is difficult to attribute the decrease to the implementation of iZone given the concurrent implementation of PBIS.
    - Expanding PBIS to the school-level, as well as providing adequate support through the PBIS framework should help improve student behavior. Use of the iZone behavior facilitator goes hand-in-hand with those processes.
- **Did performance on reading and math assessments improve throughout the school year?**
    - Somewhat. Slight academic gains were demonstrated in STAR Early Literacy but the reading and math assessments were essentially flat. It is important to note that achievement for the iZone was to be measured based on TNReady and TCAP and STAR data was a proxy. Additionally, there was no gauge of science of social studies. Social studies teachers reported receiving tremendous support through the iZone facilitators.
    - Continued support from the literacy and math facilitators, as well as data usage by the school literacy and numeracy coaches may help to address the perceived lack of growth in reading and math.
    - Moving forward, measuring achievement through state assessments will meet the requirements of the grant.
- **Were truly innovative methods explored and implemented in the iZone schools?**
    - Yes. While there was room to try more innovative approaches, administrators and teaching staff believed that they had opportunities to try to do things differently.
    - School administrators should provide clear guidelines on what to do (and what not to do) during extended schedule time.
    - A more holistic approach to integrating STEAM was requested by teachers in the magnet schools.

There are questions that could not be answered after the first year of implementation for various reasons. For example, due to discontinuation of state testing in SY1516, there is no state assessment data available for this evaluation. Retention of effective educators, a goal of the program, is also something that may be best measured year-over-year for the duration of the grant. Therefore, these research questions should be considered in any future iterations of the iZone program evaluation:

- Did students demonstrate growth on state assessments?
- Were effective teachers (Level 3 or above) recruited and retained at the iZone schools?
- How were the additional minutes (due to the extended day) actually used in the classroom and school?