Maryland's Largest School District

MONTGOMERY COUNTY PUBLIC SCHOOLS

Expanding Opportunity and Unleashing Potential

INNOVATIVE SCHOOL CALENDAR (ISC) INITIATIVE

Evaluation Summary Report

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Applied Research and Evaluation

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Background

On July 8, 2019, Montgomery County Public Schools (MCPS) began implementing the Innovative School Calendar (ISC) at Arcola and Roscoe R. Nix (Nix) elementary schools. The initiative extends the school year calendar by 30 days to increase students' exposure to academic content and access to innovative, enriched science and social-emotional learning programs.

more exposure to academic content for students

more access to innovative, enriched programs in science and social-emotional learning

The three major components of the initiative

Extra 30 Days
Additional 30 days added to traditional school calendar

Project Lead the Way (PLTW)
Launch (K-5)**and Children Study Their World** (PreK)
Engineering science modules for each grade level based on project-based learning

Mindfulness
Lessons for staff and students integrated into the classroom learning environment

Purpose of Evaluation

To provide information supporting the development of an extended school year model calendar that includes innovative curricula

To analyze the impact of the model on student achievement outcomes

To provide key stakeholders with a comprehensive evaluation summary of the ISC program

Timeline of Key Events

2016-2017

- Release of MSDE document (July) I*nnovative School Schedules (ISC): Recommendations to Enhance Student Achievement*
- MCPS exploration of Innovative School Calendar begins

2017-2018

- MCPS exploration of extended calendar options continues
- Adoption of two school pilot by MCPS BOE (December)

2018-2019

- MSDE approves MCPS waiver to start school earlier (September)
- Implementation Team developed
- Innovative programming researched and selected

2019-2020

- Summer professional learning delivered
- First year implementation of a new calendar and innovative programming
- Pivot to virtual learning due to COVID-19 pandemic (March)

2020-2021

- Second year implementation through virtual learning
- Implementation of Eureka Math and Benchmark Advance
- Implementation of MCPS SEL Curriculum

Research Design

A **non-experimental design** using multiple measures was used to examine the implementation of the ISC initiative as well as the experiences and perceptions of stakeholders. Two **quasi-experimental analyses** were conducted to assess the impact of the initiative on the math and reading performance of students.

Evaluation Questions

[1] How and to what extent was the initiative implemented?

[2] What were the experiences and perceptions of stakeholders?

[3] What was the impact on student academic outcomes?

Data Analysis

Non-experimental: Descriptive summary statistics were computed for the structured items in the survey. Some staff survey items were combined, and percentages were computed. Responses to open-ended survey questions, interviews, and program documents were categorized and summarized into emergent categories.

Quasi-experimental: A five-year longitudinal analysis comparing changes in math and reading achievement of students in ISC schools to students in non-ISC schools. A cohort analysis examining the achievement of students enrolled in the ISC schools since the initiative's start compared to similar students in non-ISC schools.

Three (3) things to consider when interpreting the results of this study

1 COVID-19 Health Pandemic

Due to the pandemic, students, teachers, administrators, and parents experienced significant disruptions. For example, the shift to virtual learning due to the pandemic during year one of the initiative forced everyone to quickly shift how they teach, support, and learn.

2 Adoption of New Academic Curriculum

Three new academic curriculum were implemented in elementary schools during the time frame of this initiative (reading, math, and elementary science).

3 New Social-Emotional Curriculum

MCPS also introduced a social-emotional learning curriculum to be implemented during the first two quarters of SY2021 that influenced the planning and schedules of Mindfulness implementation.

Question: How and to what extent was the initiative implemented?

Evaluation Results & Key Findings

1 Central Office Support

At the central office level, the ISC Implementation Team and Division of Title 1 Programs formed the nuclei of the initiative providing necessary information and supports to implement this initiative.

- **ISC Implementation Team:** This is a multi-stakeholder team essential to developing the initiative's shared vision, selecting innovative programming, gathering feedback from stakeholders, and monitoring implementation to adjust the initiative as needed.
- **MCPS Division of Title I**: This division played a key organizing role in administering the initiative, including facilitating all the ISC Implementation Team's activities and managing numerous collaboration and communication efforts necessary for an initiative of this type. They provided operational support for transportation, payroll, staffing, and technology and adapted the initiative to integrate with other MCPS initiatives.

2 School Level Implementation

Both schools implemented all three components for both years, in-person and virtually. Differences in implementation between the two years occurred as adjustments were made based on stakeholder feedback and external factors such as the shift to virtual learning and the implementation of other district-wide initiatives.

- **Additional Thirty Days**: MCPS substantially reconfigured the calendar from year one to year two due to the logistical challenges of having a separate grading and reporting timeline than other MCPS schools. During year one, the additional days were evenly distributed across the four quarters of the school year as recommended by the MSDE Innovative School calendar report. In year two, there was a substantial departure from the original structure of the calendar when the additional days were shifted to the first marking period
- **Project Lead the Way:** Overall, schools implemented the PLTW curriculum as planned together with the new elementary science curriculum. During year one, schools were on track to implement two or more modules per grade level until the shift to virtual learning. In year two, most classroom teachers reported they implemented at least one module, and some teachers up to three modules. In addition, a professional learning and support ecosystem was created at the schools to support PLTW implementation.
- **Mindfulness:** The Mindfulness curriculum was implemented in-person and virtually with significant shifts in timing for year two. Due to the implementation of the MCPS social-emotional curriculum during the first half of SY2021, specific mindfulness lessons for year two did not begin until January 2021.

Year 1 & 2

Program Implementation (Takeways) pt. 1 of 2

EVERY FACET OF SCHOOL AND DISTRICT OPERATIONS IS IMPACTED

- Various offices across the system found it difficult to incorporate the calendar dates for the ISC schools into their processes and procedures designed for the traditional school year calendar

MINDFULNESS RESOURCES KEY IN HIGH IMPLEMENTATION LEVELS

- School level Mindfulness team and coordinator
- Resources like toolkits, classroom mindfulness corners, ready-to-go lesson plans
- Provided PD and direct support to schools once a week

Year 1 & 2

Program Implementation (Takeways) pt. 2 of 2

Evaluation Results & Key Findings

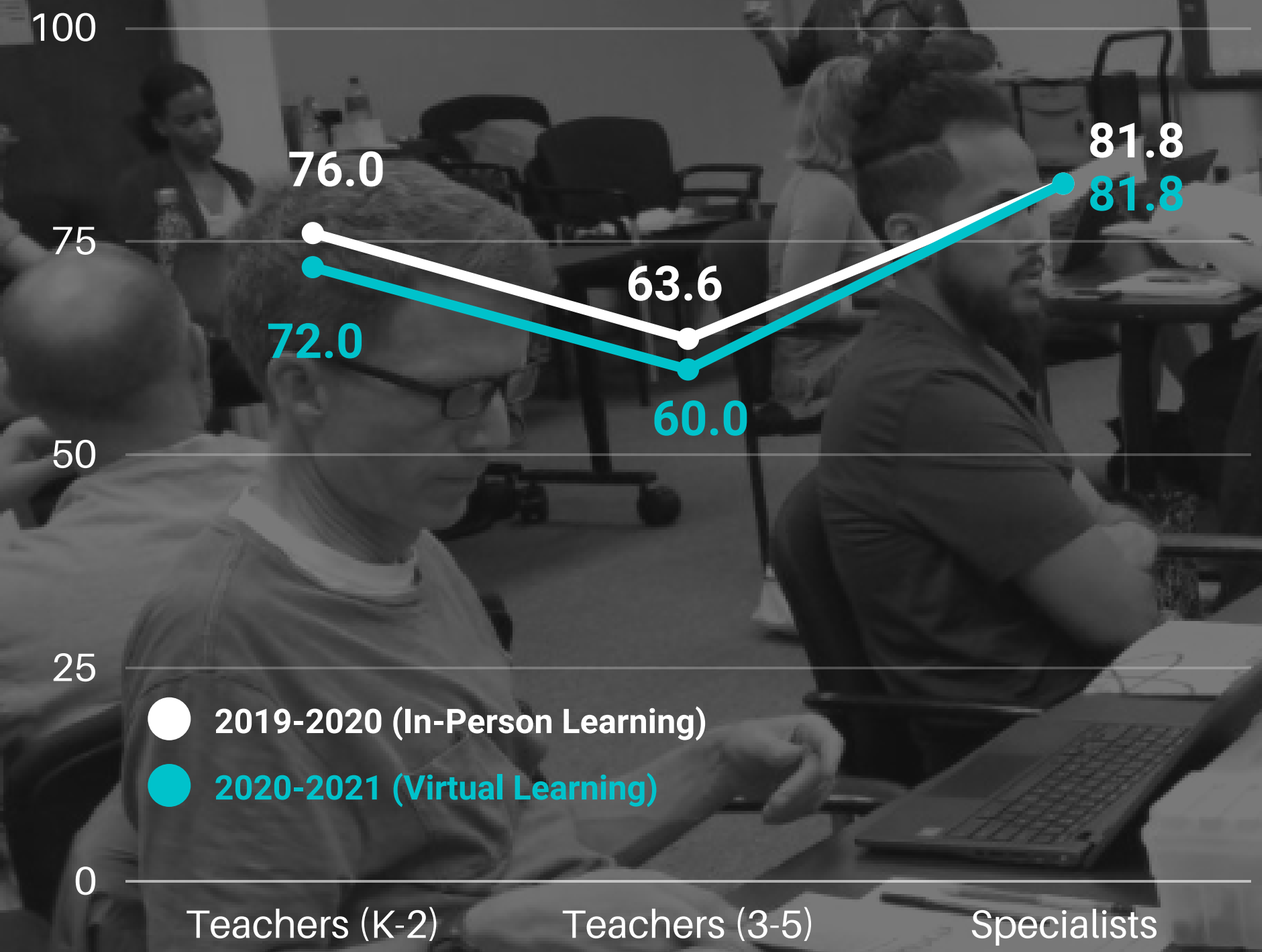
PRIMARY TALENT DEVELOPMENT (PTD) COACH CRITICAL ROLE IN SCHOOL LEVEL PLTW IMPLEMENTATION

- Managed logistics and coordination of materials
- Provided professional learning
- Created implementation schedules and science lesson guides/plans
- Organized human resources to provide direct classroom support during delivery of PLTW modules

SCHOOL-LEVEL PLTW COMMITTEE CREATED TO SUPPORT VIRTUAL IMPLEMENTATION

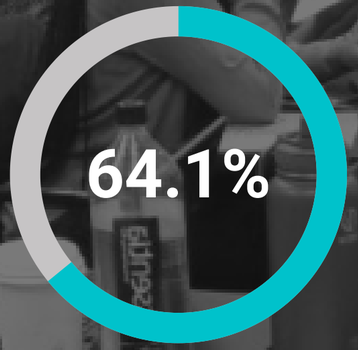
- Facilitated program implementation
- Adapted PLTW lessons for virtual learning
- Led by the PTD coach, including one representative from each grade level
- Met outside the duty day and teachers were provided a stipend

Program Implementation
Key Data Points

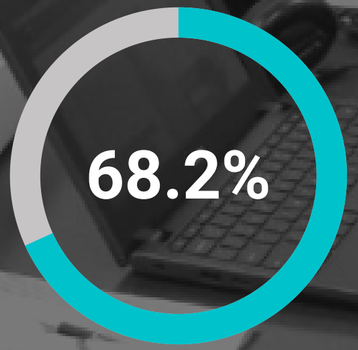


The % of teachers who agreed that the professional learning opportunities prepared them to deliver the PLTW lessons

% of specialists and non-classroom staff who **felt prepared to deliver** mindfulness lessons.



% of parents/guardians who observed their **child using mindfulness techniques** (e.g., breathing, self-talk).



% of parents/guardians who observed their **child engaging in hands-on learning** activities

Year 1 & 2 Highlights: Additional 30 Days

- **Year one**: Thirty days spread throughout the year
- **Year two**: Thirty days added to the first quarter

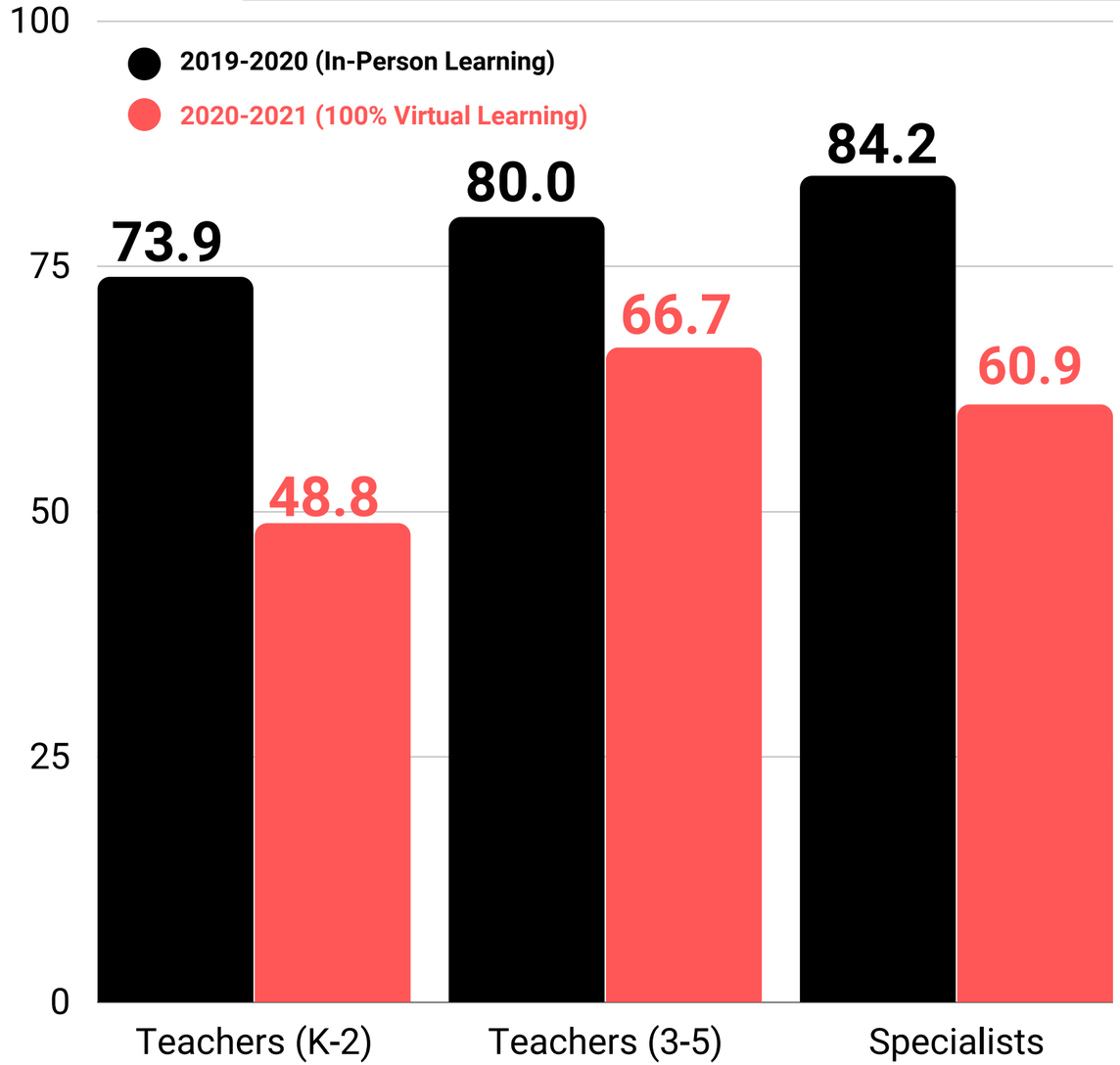
Calendar Reconfigured from Year 1 to Year 2

- A **change in the structure of the calendar occurred in year two**. The calendar was modified so the pacing of the curriculum, as well as grading and reporting timelines, aligned with the other MCPS schools following the traditional school year calendar.

What factors influenced the need to reconfigure the calendar?

- The primary factors that caused the calendar to be reconfigured from year one to year two were planning and logistical challenges related to grading and reporting.

Evaluation Results & Key Findings



% of teachers who indicated that they were able to implement Reading and Math curricula very or somewhat well earlier than traditional calendar schools

Year 1 & 2 Highlights:
Project Lead the Way (PLTW)

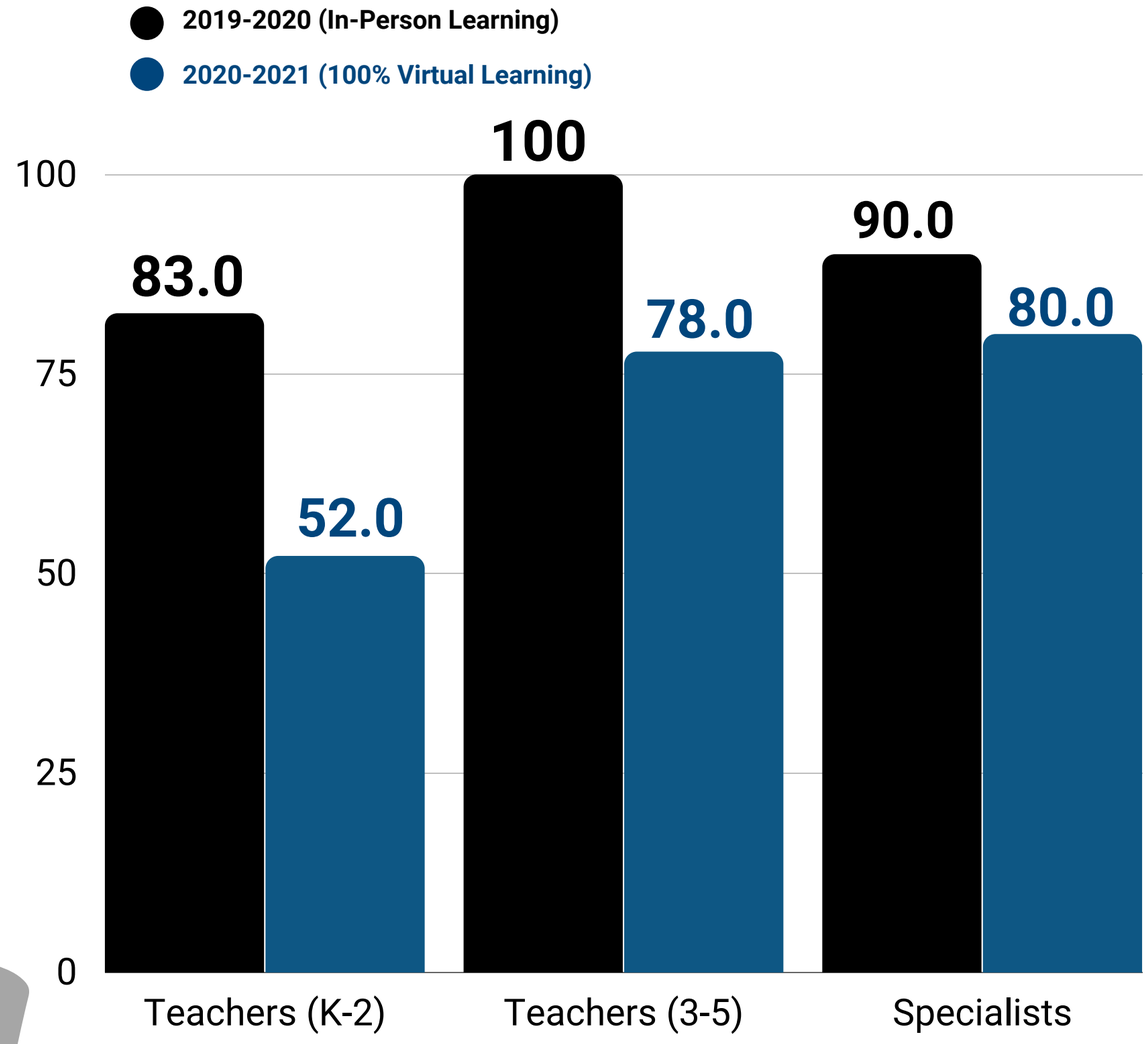
- **Year one**: Modules selected to increase engagement with the science curriculum
- **Year two**: PLTW modules implemented during virtual learning

Schools began implementing the new elementary science curriculum in grades K and 1 during year one. However, the interruption of in-person instruction due to the COVID-19 pandemic, starting in March 2020, impacted the full implementation of the modules.

Creating a professional learning and support ecosystem

1. **Primary Talent Development (PTD) Coaches**
2. **PLTW Implementation Team (School Level)**
3. **Central Office Science Support**

Evaluation Results & Key Findings



% of teachers who indicated that they were able to implement the PLTW Modules, including culminating projects, very or somewhat well

Year 1 & 2 Highlights: Mindfulness

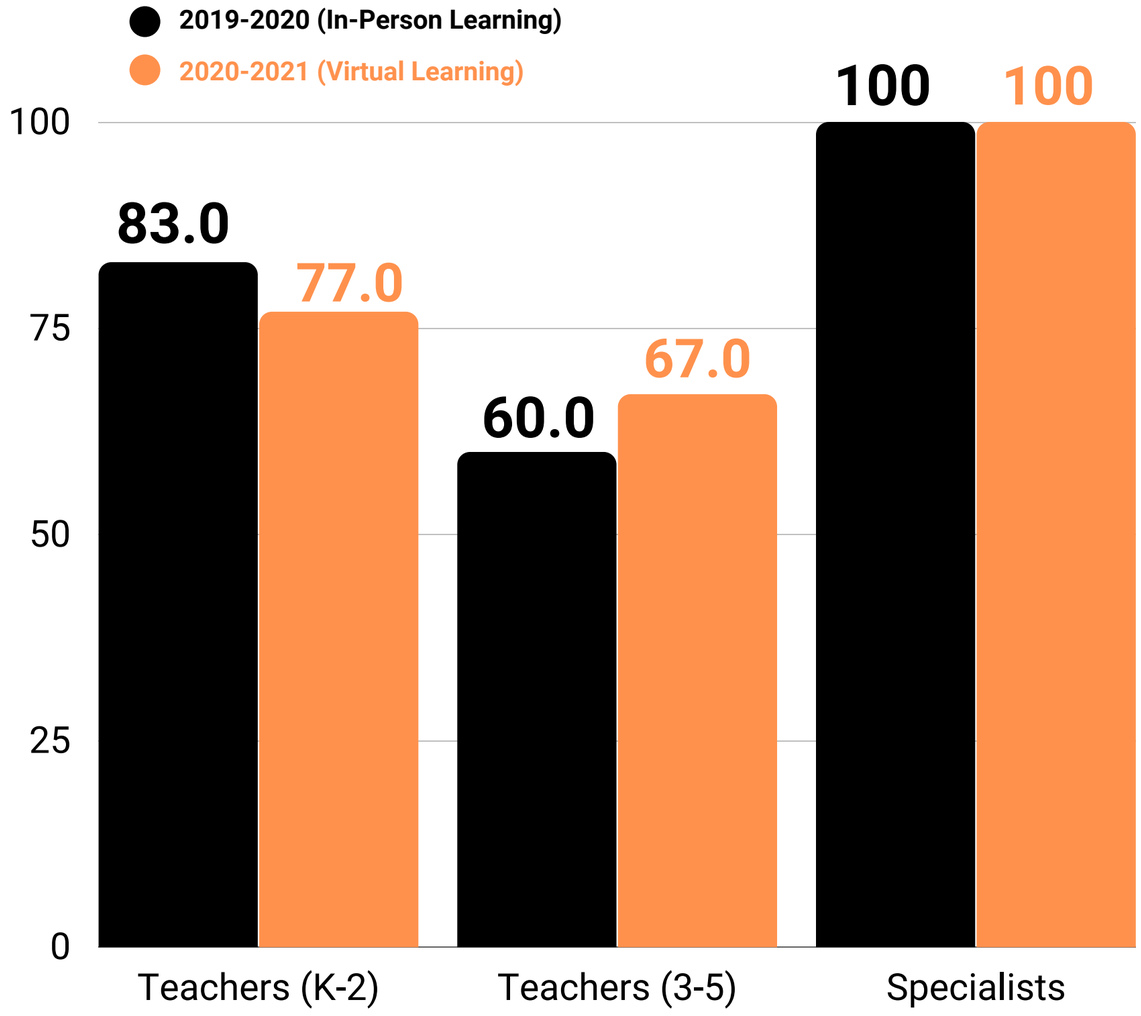
- **Year one**: Mindfulness infused throughout schools
- **Year two**: Mindfulness modules implemented during virtual learning

Both schools embraced mindful practices and supported daily mindfulness in their classes. Throughout the day students were reminded to make mindful choices and to attend to their work with greater focus. Staff at both schools reported that using mindfulness as a preventative practice in response to discipline created a more productive teaching and learning environment. **Teachers saw evidence of students displaying a greater degree of self-control** and taking time to breathe and pause before reacting.

The impact of the Mindfulness component

- Mindfulness has the **highest teacher rating** for profesional development and implementation across all three ISC components across both years.

Evaluation Results & Key Findings



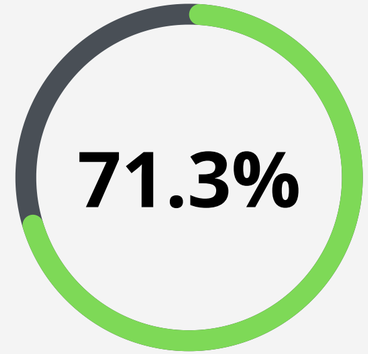
% of teachers who indicated that they were able to implement the Mindfulness lesson very or somewhat well

Question: What were the experiences and perceptions of parents?

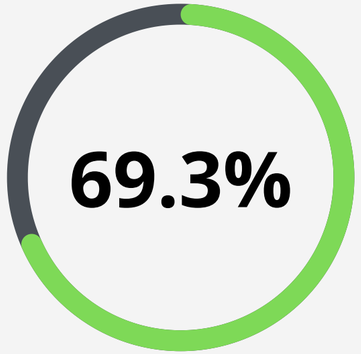
Forty percent of responding parents reported that the benefit to their child's participation in the ISC is the additional learning opportunities that occurred to maintain learning and prevent learning loss. In addition, 71% of parents agreed that the ISC calendar worked for their family, and **61% reported they preferred the ISC calendar over a traditional school year calendar.** Since the ISC initiative began, 30% of parents reported that their opinion of the ISC grew more favorable.

Evaluation Results & Key Findings

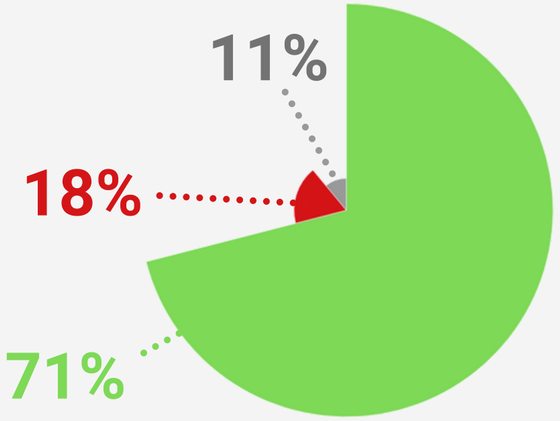
% of parents who Strongly Agreed or Agreed to the following



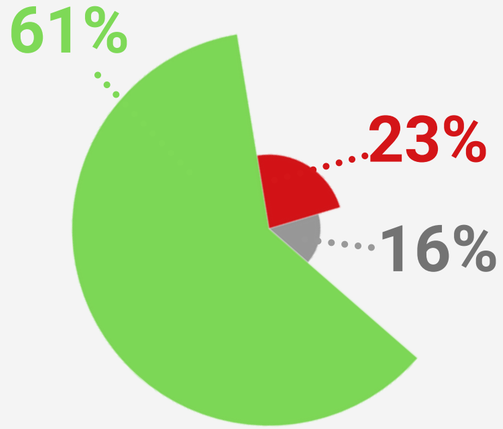
Mindfulness techniques had a positive impact on my childs well being



Mindfulness techniques helped my child recognize when they feel stressed or need help



Overall, the ISC calendar works for me and my family



I prefer the ISC calendar over a traditional school year calendar

Strongly Agree or Agree | Strongly Disagree or Disagree | Don't Know

Question: What were the experiences and perceptions of teachers?

% of teachers who felt the additional 30 days had high impact/some impact on instructional planning

82%

% of teachers who felt PLTW had high impact/some impact on their instructional planning

93%

% of teachers who felt that Mindfulness had high impact/some impact on their instrucitonal planning

94%

60%

% of teachers who felt they were given a voice to share input on the ISC

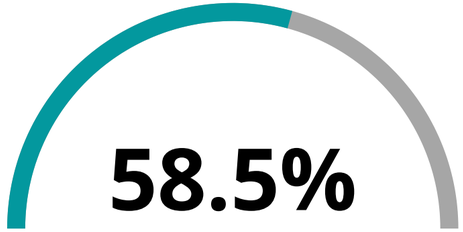
≥80%

% of classroom teachers who reported that all three components of ISC had an impact on their instructional planning

What were the teachers experiences with implementing the three ISC Components?

[Top 3 Responses]

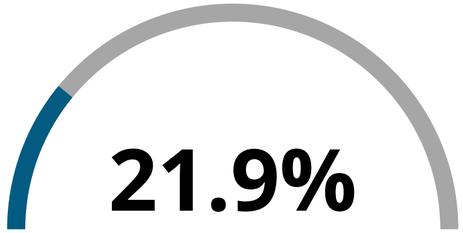
Feedback from Teachers



58.5%

[1] Required Extra Planning

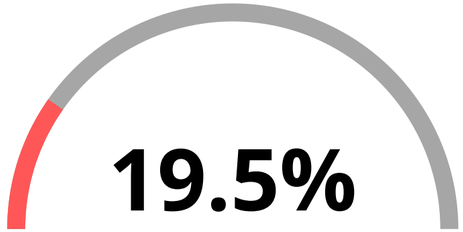
- *Increased workload, increased days of school, increased planning*
- *Extra curriculum means more planning, but no extra planning time*
- *More paperwork was added to special education teachers' caseload which is already overwhelming to keep up with*
- *No additional time was given for the extra demands*



21.9%

[2] No Planning Support

- *MCPS was not fully prepared to roll out ISC this past summer. They did not have answers to a lot of questions such as how to adjust the curriculums (Eureka and Benchmark)*
- *It was frustrating because it didn't feel like we were provided guidance so it was creating a lot of materials*



19.5%

[3] Planning Difficulties

- *We did not have access to Synergy all summer. It was very overwhelming and challenging for teachers.*
- *Planning for students that did not begin in the summer, had repeated absences due to the extended year or simply moved into our school zoning. [they] missed certain elements because we are not lock-step with the rest of the county.*

How Can ISC Implementation Be Improved?
Staff Recommendations

Adjust schedule 32%

Address teacher burnout 32%

Increase support from MCPS administrators (25%)

Adjust content/ curriculum (15%)

> Our breaks are different, our trainings should be offered at different times, and materials should be available for us when needed.

> Give more time off between each quarter to allow students & teachers to recharge.

> Incentives to keep staff members so they will stop getting burned out.

> We need to have at least a full week without school, trainings or meetings, at the beginning and at the end of the summer session.

> ISC has to be taken more seriously and the program cemented in terms of its scope….we are not treated by central office as being a fully functioning program.

> It would be great if we were able to use PLTW activities as part of our science assignments to report on their report cards.

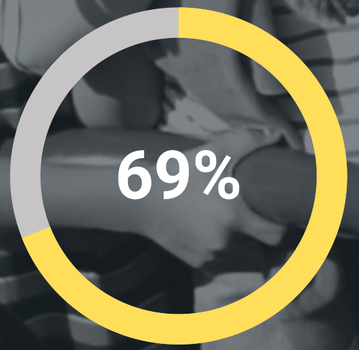
> Focus more on mindfulness and foundational skills at the beginning.

Note: Reponses could include more than one category

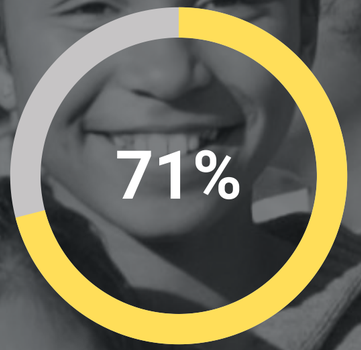
Observable Changes in Behavior

The impact on students from the teacher and parent perspective

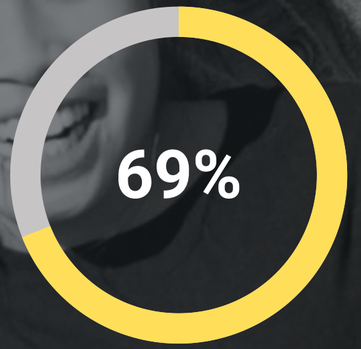
% of instructional staff who indicated **academic language skills of English Language Learners (ELL) increased** since the ISC began



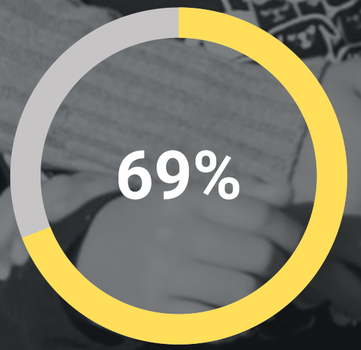
% of instructional staff who indicated **students increased their ability to identify their emotions** since the ISC began



% of parents/guardians **who agreed that mindfulness techniques have a positive impact** on their child's well-being



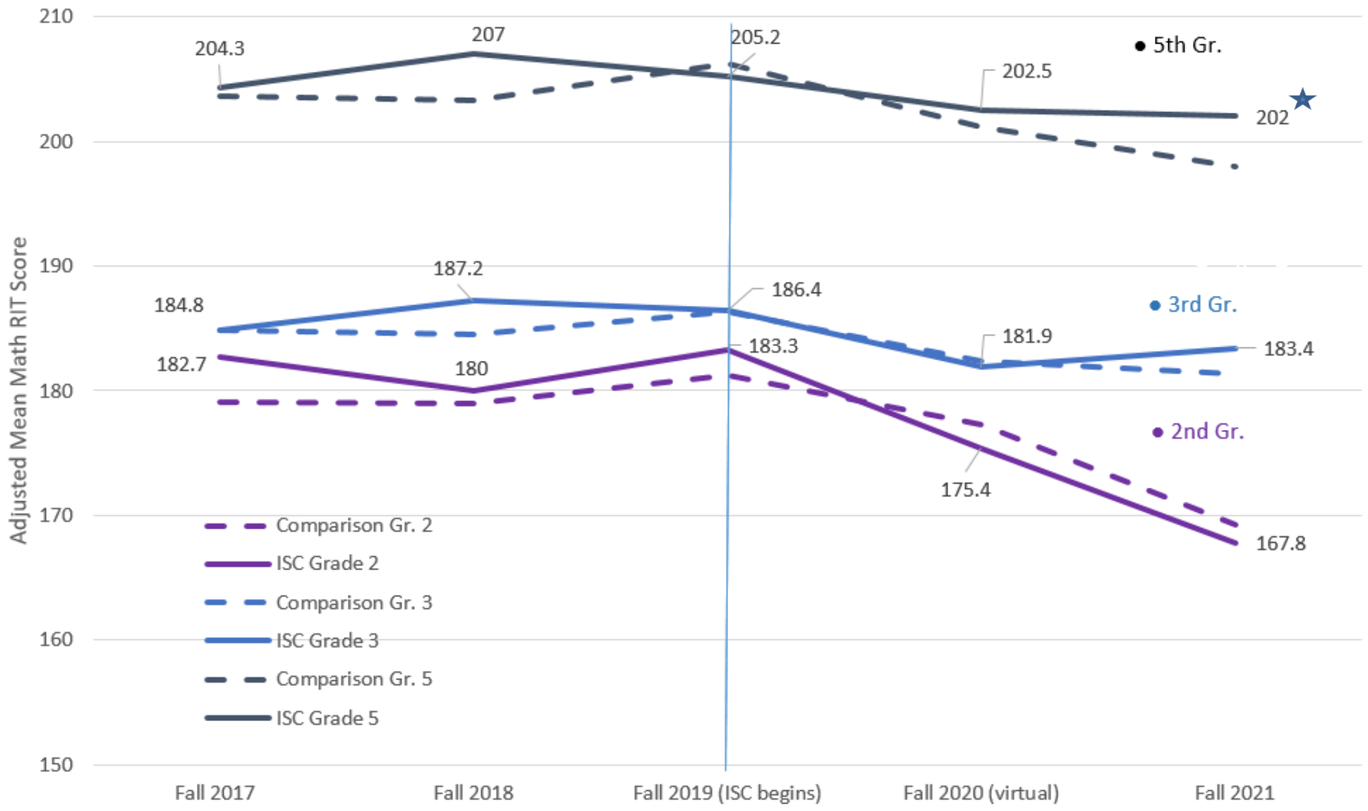
% of parents/guardians who agreed that the **mindfulness techniques have helped their child recognize when they are stressed**



% of parents/guardians who agreed that their child was **interested in PLTW activities**

Question: What was the impact on student Mathematic learning outcomes?

Grade 2, 3, and 5 Mean Math MAP RIT scores Over Five Years for ISC schools and Schools without the Initiative



★ Denotes statistical significance at p <.05 level

Analysis & Findings

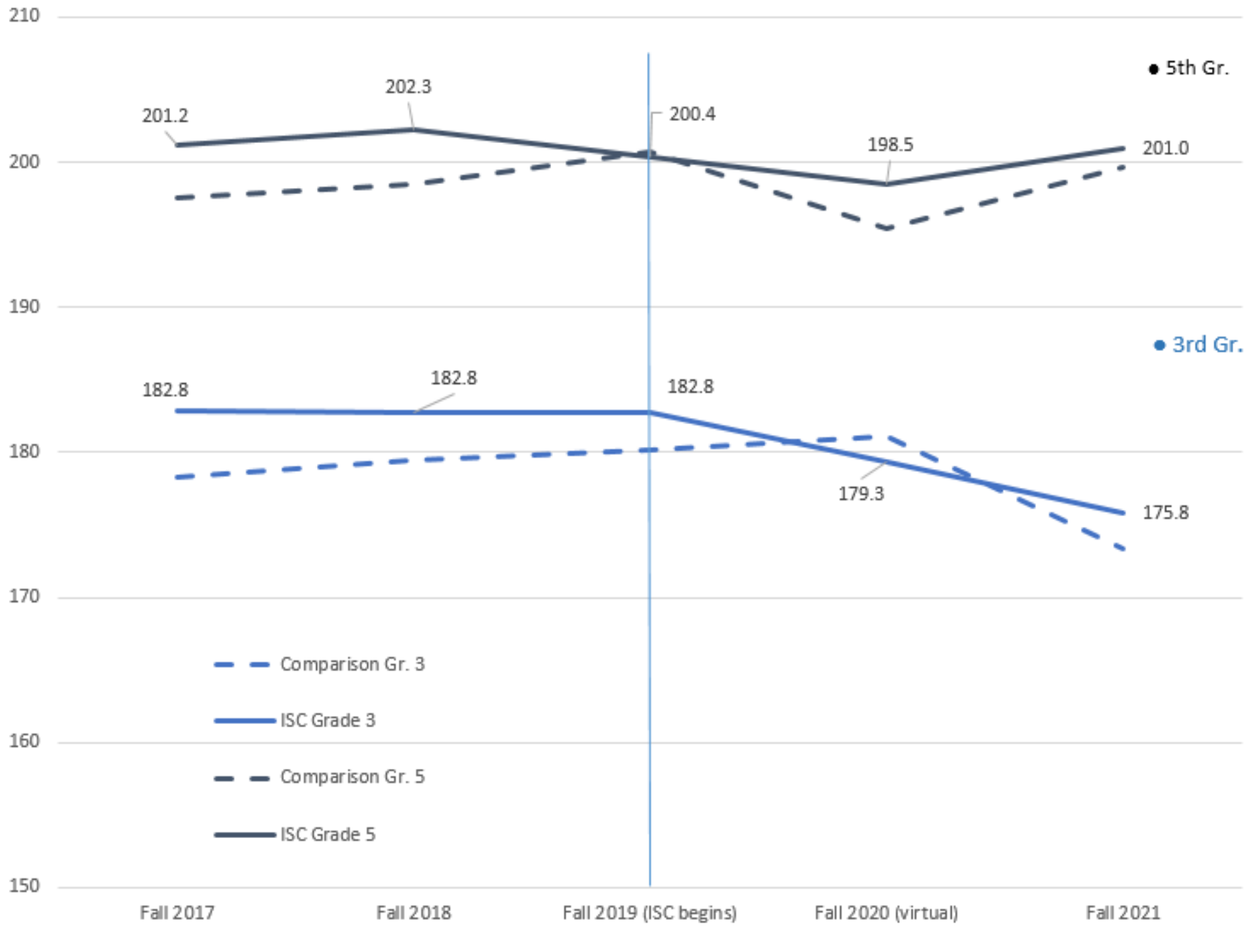
The figure on the left shows the adjusted mean MAP-M RIT scores for Grades 2, 3, and 5, over the past five years, for students in ISC schools and students in comparison schools.

In both groups, the most notable change occurred between fall 2019 and fall 2020 when virtual learning occurred and the fall 2020 MAP-M was administered virtually during the COVID-19 school closure. **The data indicates that students in Grades 3 and 5 at ISC schools improved more than their non-ISC peers on MAP-M**, while mean math scores of Grade 2 students in both ISC and non-ISC schools decreased further in fall 2021.

Analysis of the groups' MAP-M adjusted mean RIT scores over the five years revealed that in Grade 5, **the change in math performance was significantly greater for students in the ISC schools than for students in the comparison schools (p<.05)**. The difference was not statistically significant for Grade 3 but was significant (p<.02) for Grade 2 in favor of the comparison group.

Question: What was the impact on student Literacy learning outcomes?

Grade3 and 5 Mean Reading MAP RIT scores Over Five Years for ISC schools and Schools without the Initiative



Note: Grade 2 not included because a different assessment was used.

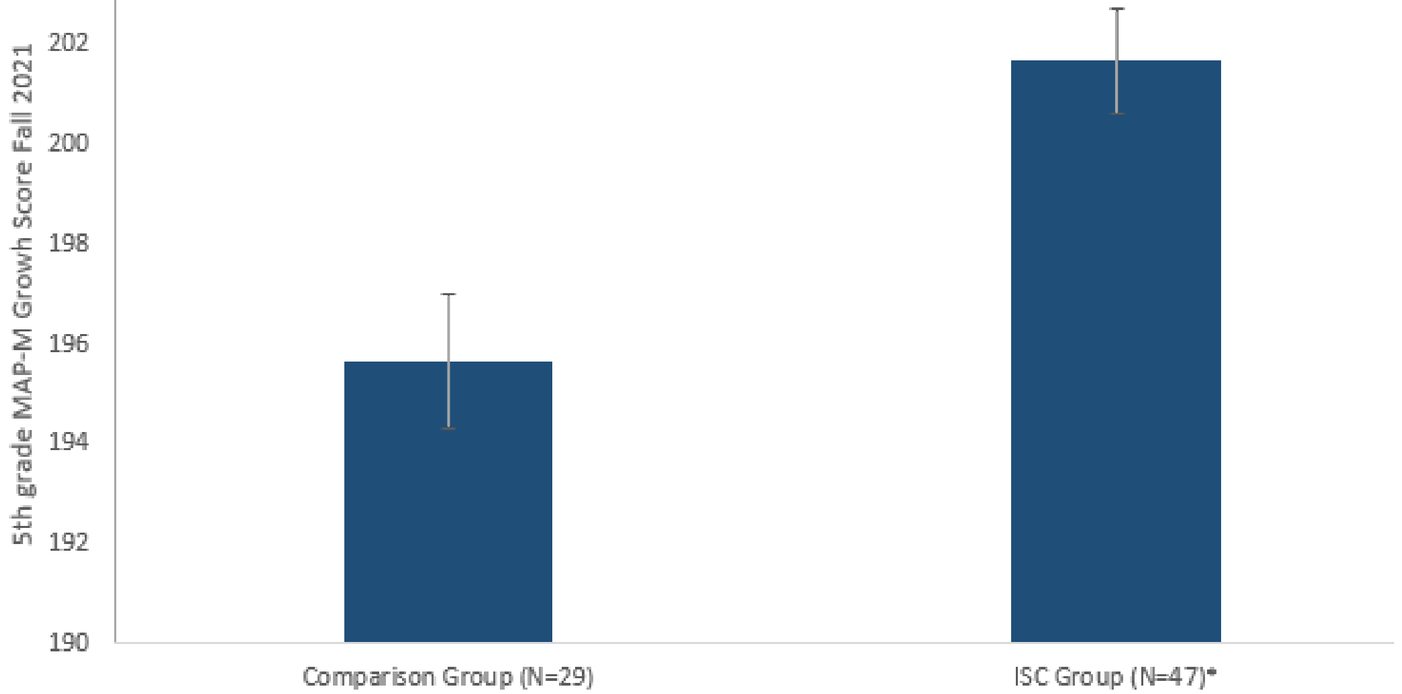
Analysis & Findings

The figure on the left shows the adjusted mean MAP-R RIT scores for Grades 3 and 5 over the five years, for students in ISC schools and for students in comparison schools.

Analysis of the groups' MAP-R adjusted mean RIT scores over the five years revealed that the **differences between the two groups were not statistically significant** for Grade 5 or Grade 3.

5th grade Math scores were significantly higher for Hispanic/Latino students receiving FARMS in the ISC schools than students in the school without ISC.

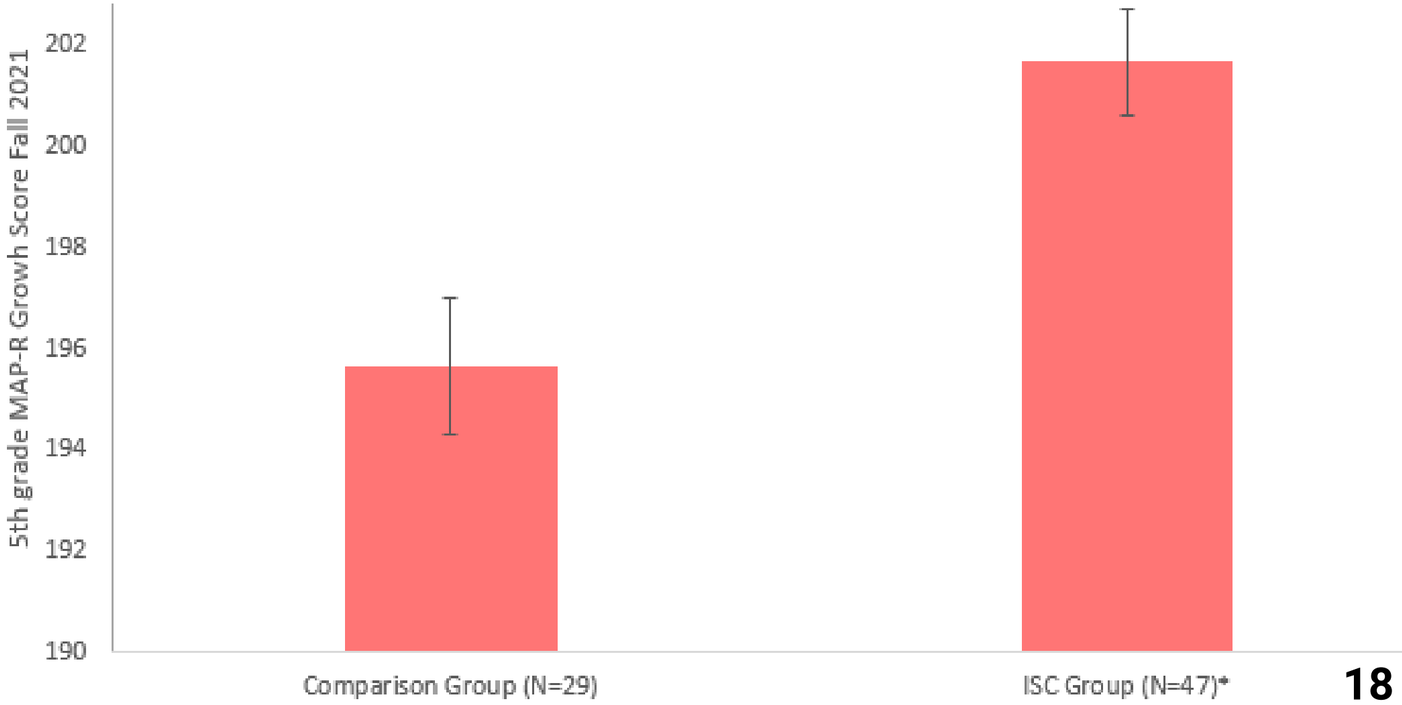
For Hispanic/Latino students receiving FARMS, the students in the ISC school had significantly higher fall 2021 MAP-M RIT scores than students in the school without ISC after controlling for previous performance and demographics.



5th grade **Literacy** scores were significantly higher for Hispanic/Latino students receiving FARMS in the ISC schools than students in the school without ISC?

For Hispanic/Latino students receiving FARMS, the students in the ISC school had significantly higher fall 2021 MAP-R RIT scores than students in the school without ISC after controlling for previous performance and demographics.

*Denotes statistical significance at p <.05 level



ISC Program Strengths

The findings from this study suggest the ISC program is strong in the following highlighted areas:

ADAPTIVE LEADERSHIP

Leadership exhibited traits of adaptive leadership by responding to adjustments in programming and implementation challenges that arose by problem-solving with multiple stakeholders.

ENRICHED LEARNING

PLTW modules were implemented during in-person and virtual learning, providing students access to hands-on, innovative science activities that align with Next Generation Science Standards.

STRONG STAFF & MATERIALS

Mindfulness committees provided lessons, materials and support, and infused mindfulness into every aspect of the school. Mindfulness implementation received the highest rating from staff.

EXTENDED LEARNING

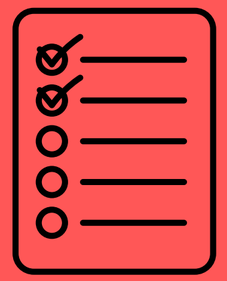
Providing an additional thirty days allowed for consistency of the learning environment during the summer months.

CONSISTENT COMMUNICATION

Consistent and clear communication occurred with the community. A majority of responding parents agreed the information about the school calendar was understandable. They received information on the innovative programs and they were given opportunities to provide input on the calendar.

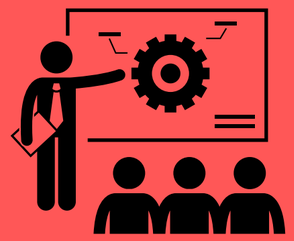
ISC Program Areas for Improvement

The findings from this study suggest the ISC program has areas to improve upon:



PLANNING & LOGISTICS

Principals and staff spent a considerable amount of extra time tracking down and coordinating resources. School staff expressed frustration at being considered an afterthought when offices were planning and delivering services.

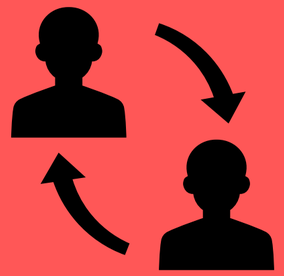


IMPROVE MATH & READING PD

Professional development for the reading and math curriculum during the additional thirty days was lacking in areas related to timeliness of delivering professional learning and materials as well as guidance on adjusting the curriculum for an additional thirty days.

BETTER BALANCE

Schools report substantial impacts on planning due to the implementation of multiple initiatives at the schools. Teachers mentioned there was little planning support, particularly related to the reading and math curriculum.



TEACHER TURNOVER

Considerable teacher turnover occurred as a result of the calendar change. One school lost many experienced teachers and now has very few staff with more than 5 years of experience.

TEACHER BURNOUT

Teacher burnout was a consistent theme that arose in the staff responses to several open-ended questions. It was one of the top areas cited by staff that would improve the ISC initiative.

ISC Program Recommendations

1 **Collaborate with the Office of Curriculum and Innovative Programs to develop specific guidance on delivering the various curricula and related professional learning during the summer learning months.**

This includes the reading and math curricula, PLTW modules, and Mindfulness programming. Staff reported little professional learning or support for implementation during the additional thirty days.

2 **Move up timelines for staffing and recruitment procedures at the ISC schools.**

This includes distribution of staffing allocations, teacher preference form distribution, deadline for teacher's opportunity to switch schools, distribution of the next year's calendar, and finalized union agreements.

3 **Develop a PLTW observation tool to assess the quality of implementation in the elementary classroom as well as the impact of PLTW instruction on student outcomes in the clasroom.**

This would provide a common set of guidelines and expectations for implementation of PLTW modules in the elementary classroom. It would also provide a useful way to collect information for continuous improvement. The PDT coaches, PLTW team members, and staff from the MCPS Office of Science, Technology, and Engineering should collaborate to develop the tool

4 **Revisit student achievement data to assess the impact of an additional 30 days of instruction on student performance in reading and math.**

The interruption to in-person learning impacted the collection of assessment data and led to decreases in student scores across the school system for all student groups.

5 **Provide staff larger blocks of time off particularly in the first quarter and at the end of the school year.**

Staff feedback on the pacing of the initiative and multiple professional learning requirements indicates an increase in teacher fatigue. This also aligns with research on extended school year calendar models.