Final Evaluation Report for the School Improvement Grant (SIG) Evaluation: Summary and Recommendations

October 2014

MONTCLAIR STATE UNIVERSITY
Center for Research and Evaluation on Education and Human Services

Submitted to:
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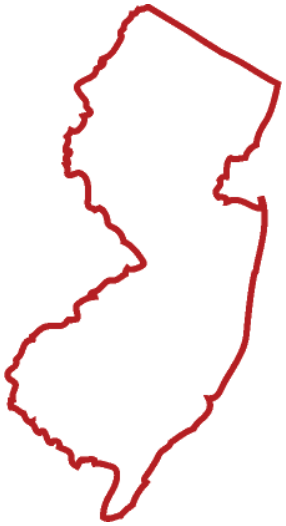

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About CREEHS:
The **Center for Research and Evaluation on Education and Human Services (CREEHS)** conducts state-of-the-art evaluation and applied research for enhancing program planning and success in order to foster a better educated, healthier, and more just society; provides high quality evaluation training and education; and advances evaluation science by bridging the research and practice communities. CREEHS collaborates with and provides services to educational agencies, community organizations and health-related government and human services agencies, to meet their accountability and program improvement needs. CREEHS serves as a professional setting for researchers, faculty and students to work together in carrying out thoughtful and responsive evaluation and research studies.

The **vision** of CREEHS is *to be a value-added partner to our clients in the planning, strengthening and sustaining of the services they provide for the health, education and well-being of individuals and their communities.*

The **mission** of CREEHS *to empower and enable professionals to plan and evaluate programs that best serve the broader community and improve people's lives. CREEHS fulfills this mission by conducting high quality program evaluations, applying innovative and collaborative techniques to bridge the gap between research and practice. This includes building capacity and providing hands-on learning to individuals who serve or will serve the community.*

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Introduction

The New Jersey Department of Education retained the Center for Research and Evaluation on Education and Human Services (CREEHS) at Montclair State University (MSU) to conduct an evaluation study of the implementation and outcomes of the New Jersey SIG program.

The New Jersey SIG program is funded by an award from the United States Department of Education (2010-2014) to the New Jersey Department of Education.

CREEHS has developed numerous reports on their findings as the evaluation progressed. This final evaluation report presents the key findings of the evaluation (a synthesis of the previous evaluation reports) and CREEHS' overall recommendations for program improvement. The findings inform these recommendations. This document is organized by the research questions that guided this evaluation.

1. How have SIGs been implemented at the state, district, and school levels?
2. To what extent has the SIG program impacted district and school outcomes?
3. To what extent can impacts be associated with the type of SIG intervention model?
4. To what extent can impacts be associated with the fidelity of implementation of the components of each model?
5. To what extent can impacts be associated with the type of SIG intervention model and the fidelity of implementation of the components of that model?

For more information about specific research questions , please refer to the original evaluation reports or contact CREEHS.

Why It Matters

- The US Department of Education aims to improve student achievement in the persistently lowest-achieving schools in the state by supporting interventions for rapid school improvement.
- The New Jersey Department of Education (NJDOE) has provided SIG funding to 20 schools in 9 districts since 2010, for up to 3 years each.
- Determining best practices for carrying out the grant can aid in increasing student achievement.

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How have SIGs been implemented at the state, district, and school levels?

Implementation Fidelity Scales

Fidelity scores quantify how well a program has been implemented and can capture the differences between the intended program and the enacted program.

Core component—Implementation of the required elements of each model, as indicated in the Federal Register, expressed on a 0-10 scale.

Key Component—Implementation of the permissible elements of each model, as indicated in the Federal Register, expressed on a 0-10 scale.

Overall Fidelity—Overall implementation of all components of the model, expressed on a 0-10 scale.

What We Did

CREEHS analyzed the Federal Register to identify the main indicators. This document describes rules and guidelines set forth by the federal government on how to implement a SIG model at a grantee school. They are very specific rules, most of which are required, but some of which are permissible.

Web-based surveys were administered to school staff and administrators to all 18 NJ SIG schools, in Spring 2014.

Responses from 359 teachers/staff members were cleaned and coded.

From these survey responses, fidelity scores were calculated to express the extent to which the core (required) components and key (permissible) components of each SIG intervention model were implemented.

Three scales were created to express implementation fidelity: 1) Core, 2) Key, and 3) Overall.

Implementation fidelity scores were examined and compared across schools, models, and statewide.

Principal survey results were not included in the fidelity scoring, as principal turnover presented some administrators from completing the survey.

Some schools do not have fidelity scores because of low survey response rates.

Indicators of Implementation Fidelity

- Professional Development
- Increased Learning Time
- Parent and Community Engagement
- Teacher Evaluation
- Staff
- Operational Flexibility
- Standards-Based Instruction
- Use of Data
- School Climate
- Leadership

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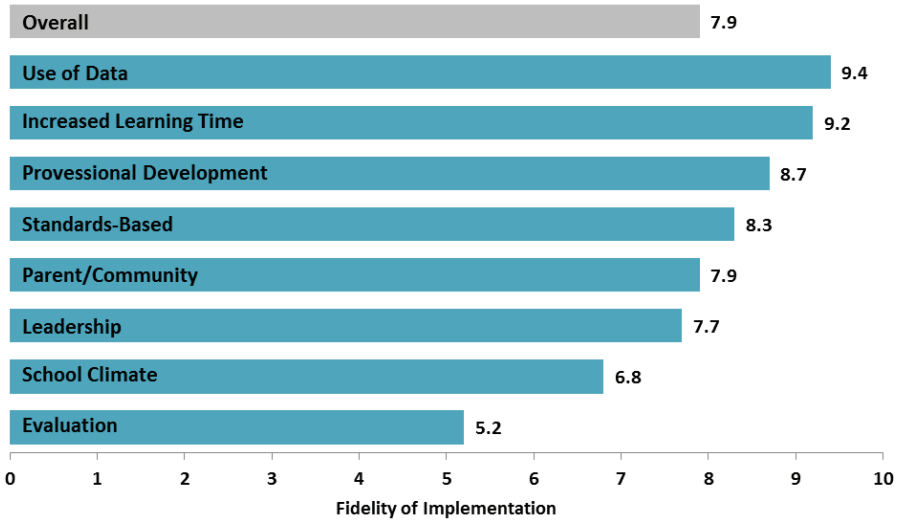
How have SIGs been implemented at the state, district, and school levels?

What We Found

- In general, NJ SIG schools have implemented the core components of the SIG models with fidelity.
- Overall, implementation fidelity scores were similar across SIG models: 7.9 ***(turnaround)*** and 7.8 ***(transformation)***.
- Across schools from both models, fidelity was highest around *Use of Data* and *Increased Learning Time* and lowest for *Evaluation*.
- Components that make up *Evaluation* were not implemented well at the SIG schools.

Overall Statewide SIG Implementation Fidelity Averages, *Turnaround* Model

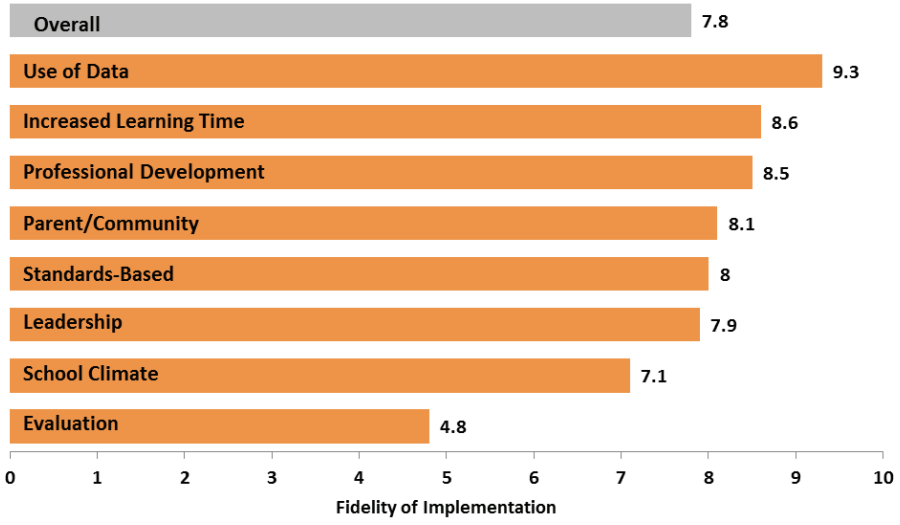


For *turnaround* model schools, overall statewide implementation had a 7.9 fidelity score.

The highest scoring statewide *turnaround* indicators were *Use of Data*, *Increased Learning Time*, and *Professional Development*. Schools across the state are implementing these indicators well.

The lowest scoring statewide indicator was *Evaluation*, indicating that schools across the state are struggling with this indicator.

Overall Statewide SIG Implementation Fidelity Averages, *Transformation* Model



For *transformation* model schools, overall statewide implementation had a 7.8 fidelity score.

Similar to the *turnaround* model schools, these included *Use of Data*, *Increased Learning Time*, and *Professional Development.*

Transformation model schools struggled the most with *Evaluation*, just like the *turnaround* model schools.

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To what extent has the SIG program impacted district and school outcomes?

What We Did

Students enrolled in the 18 schools that received SIG funding (2010-2014) were considered the treatment group. Students enrolled in 22 schools that were eligible and applied for the SIG grant but were not funded during this period, comprise the comparison group.

All data used for these analyses were obtained from the NJDOE, including: Student demographic characteristics, longitudinal achievement on statewide assessments (HSPA/NJASK), school level characteristics, and graduation rates.

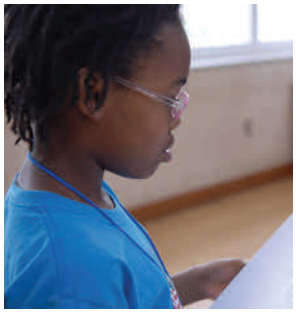
What We Found

- Graduation rates improved in the majority of SIG high schools (7 of 11; 64%) over the course of the SIG funding period.
- By Year 3 (2013), most Cohort 1 schools (4 of 6 schools; 67%) had reached the state benchmark of a 75% graduation rate.
- SIG exposure did not have a statistically significant impact on high school students' state test performance scores.
- SIG exposure did have a small, but statistically significant impact on elementary school students' state test performance.
    - When controlling for student demographics and test year, being in a SIG school is associated with increases in NJASK math (+2.14) and language arts literacy scores (+1.36) in comparison to students in other non-SIG eligible schools.
    - This difference, though small, could be a practically significant improvement for a student who is just on the cusp of crossing into "proficiency".

What does this mean for elementary students? *A hypothetical scenario*

Joy and Tiffany are both female students, who enrolled in grade 3 during the 2008-09 school year. Both students are identified as Black, economically disadvantaged, proficient in English and are not receiving any special education services.

Joy attends an elementary school that received a SIG grant from the NJDOE (treatment).

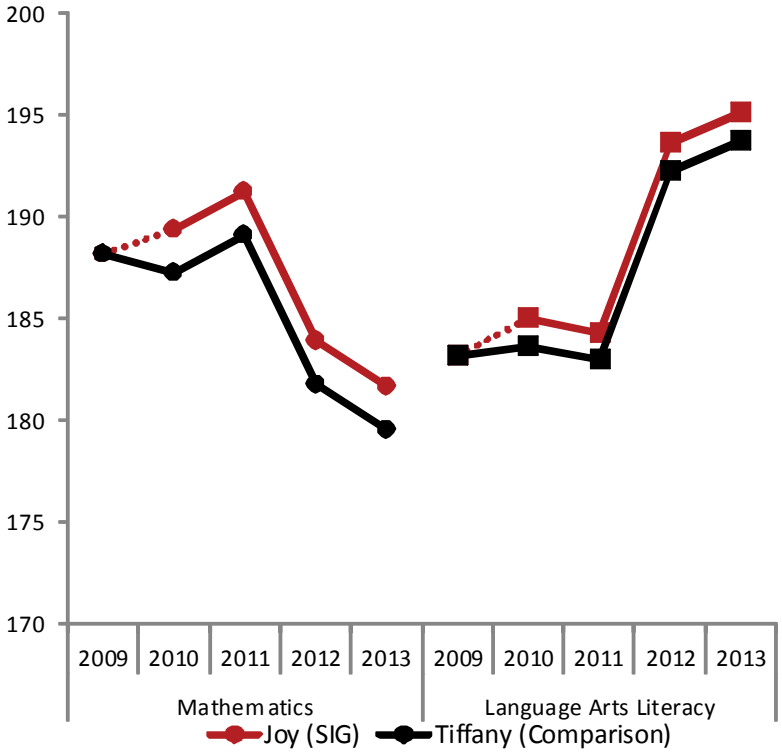


Tiffany attends an elementary school that applied for but did not receive a grant (comparison).

Joy and Tiffany scored the same on the grade 3 NJASK in math and LAL.

Joy and Tiffany attended their respective schools from grade 3 until grade 7 and took the NJASK annually.

Based on results from multilevel modeling analyses, Joy, who attended a SIG school, will score approximately 2 scale score points above Tiffany on each subtest each year after grade 3—a statistically significant difference.



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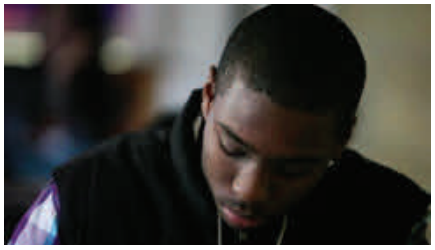
What does this mean for high school students? *A hypothetical scenario*

Marcus and Drew are both male students enrolled in grade 8 during the 2008-09 school year. Both students are identified as Black, economically disadvantaged, proficient in English and are not receiving any special education services. Both students scored 174 on the NJASK 8 in math and 196 on the LAL subtest.

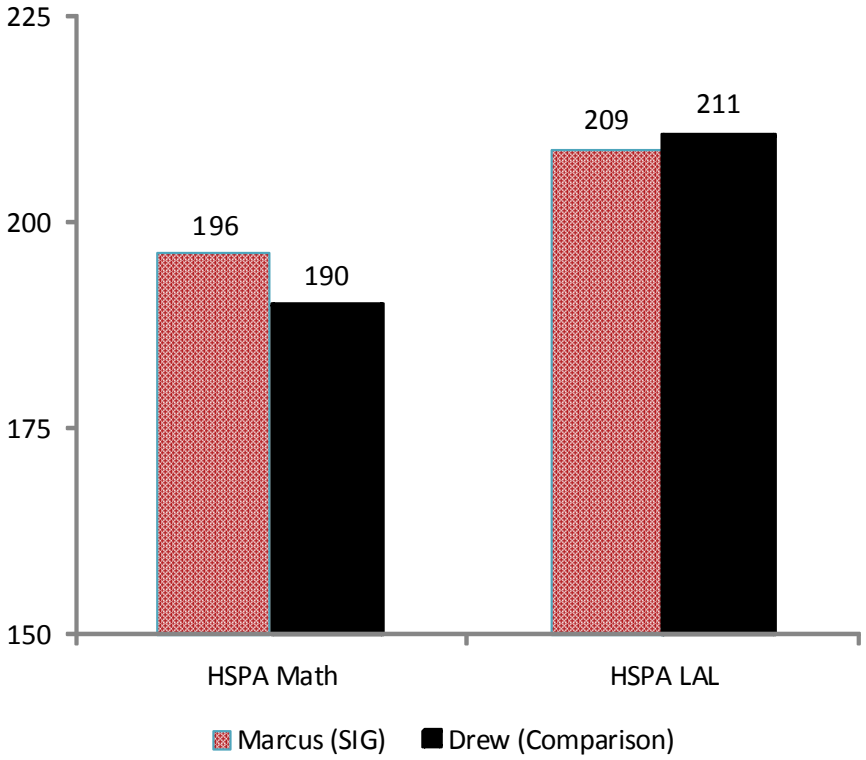


After grade 8, Marcus attended a high school that received a SIG grant from the NJDOE (treatment).

Drew attended a high school that applied for but did not receive a SIG grant (comparison).

Based on results from multilevel modeling analyses, it is expected that Marcus, who attended a SIG school, will outperform Drew, who attended a comparison school, on the HSPA exam in eleventh grade.

Marcus will outperform Drew by 6 points in math but underperform by 2 points in LAL. The differences in Drew and Marcus' high school state test performance do not reach statistical significance.



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To what extent can impacts be associated with the type of SIG intervention model?

What We Did

CREEHS examined the impacts of the SIG intervention model selected by the school on student achievement. Students' gain scores (i.e., 2010 to 2013 scale score change) were compared across SIG models (*transformation* vs. *turnaround*).

Analyses were run separately by assessment (i.e., NJASK, HSPA) and subtest (i.e., math, language arts literacy (LAL)).

CREEHS performed independent samples *t*-tests to determine whether any statistically significant differences in student gain scores exist for SIG schools applying each intervention model (*transformation* vs. *turnaround*).

What We Found

- On three of the four subtests (NJASK Math, HSPA LAL, HSPA Math), students in *transformation* SIG schools showed more positive 2010-2013 gains than did students in *turnaround* SIG schools. These differences, however, were not statistically significant.
- For the HSPA LAL subtest, 2010-2013 gains (from 8th to 11th grade) were larger/more positive for students in *transformation* schools. Students improved at a significantly greater rate than did students in *turnaround* schools. This difference was statistically significant ($t = 7.58$, $p < 0.05$).
- Overall, schools that implemented the *transformation* model demonstrated more student gains.

To what extent can impacts be associated with the fidelity of implementation of the components of each model?

What We Did

CREEHS computed Pearson's product-moment Correlations between implementation fidelity scores and students' subtest gain scores (LAL and Math) aggregated at the school-level. That is, the implementation fidelity scores for each school were correlated with the mean student gain scores (2010-2013 scale score change) in each school.

These analyses provided insight into whether higher fidelity of implementation relates to better student outcomes. CREEHS ran correlation analyses for each of the fidelity of implementation scores by subtest.

What We Found

- Correlations between 2010-2013 mean achievement gain scores and SIG fidelity scores were not statistically significant.
- However, some correlations were positive and strong (+0.50 or greater), which means that as fidelity of implementation increased so did gains in student achievement. For example:
    - Professional Development fidelity and NJASK math gain (0.50)
    - Standards-Based Instruction/ Assessment/Curricula/Interventions fidelity and NJASK math gain (0.50)

To what extent can impacts be associated with the type of SIG intervention model and the fidelity of implementation of the components of that model?

What We Did

Multiple regression analyses were employed to explore the relationship between fidelity and intervention type in their predictive relationship to student outcomes. This set of analyses predicts students' 2013 test scores in math and LAL from students' baseline (2010) scores, school SIG model, and overall fidelity of implementation scores (including their interaction). NJASK and HSPA scale scores are interpreted on the same scale (100 – 300). Two models were estimated:

Model 1	**Model 2 (full model)**
Constant (control)	Constant
2010 Score	2010 Score
	Overall Fidelity Score
	Model Type
	Model Type x Overall Fidelity score

Analyses were conducted by subtest (i.e., NJASK math, NJASK LAL, HSPA math, HSPA LAL) and for each, Model 1 and Model 2 were estimated. These are measures of the amount of variance in 2013 scale scores that is explained by the models predictors. In other words, how well could we predict a students' 2013 scale score if we knew only their 2010 scale score (Model 1) or if we knew their 2010 scale score in addition to their school's SIG intervention model and their overall implementation fidelity score (Model 2).

What We Found

- There is some evidence of the impact of SIG (both model and fidelity of implementation) on student achievement.
- Regression analyses reveal that knowing which SIG intervention model a student's school implemented and how well it implemented that model helped to determine the student's 2013 achievement.
- That is, the addition of SIG model and implementation significantly improves the prediction of 2013 student achievement, above and beyond baseline (2010) achievement.
- It is not clear from these analyses, however, whether the SIG intervention model selected or the overall fidelity of implementation alone influence student achievement outcomes.

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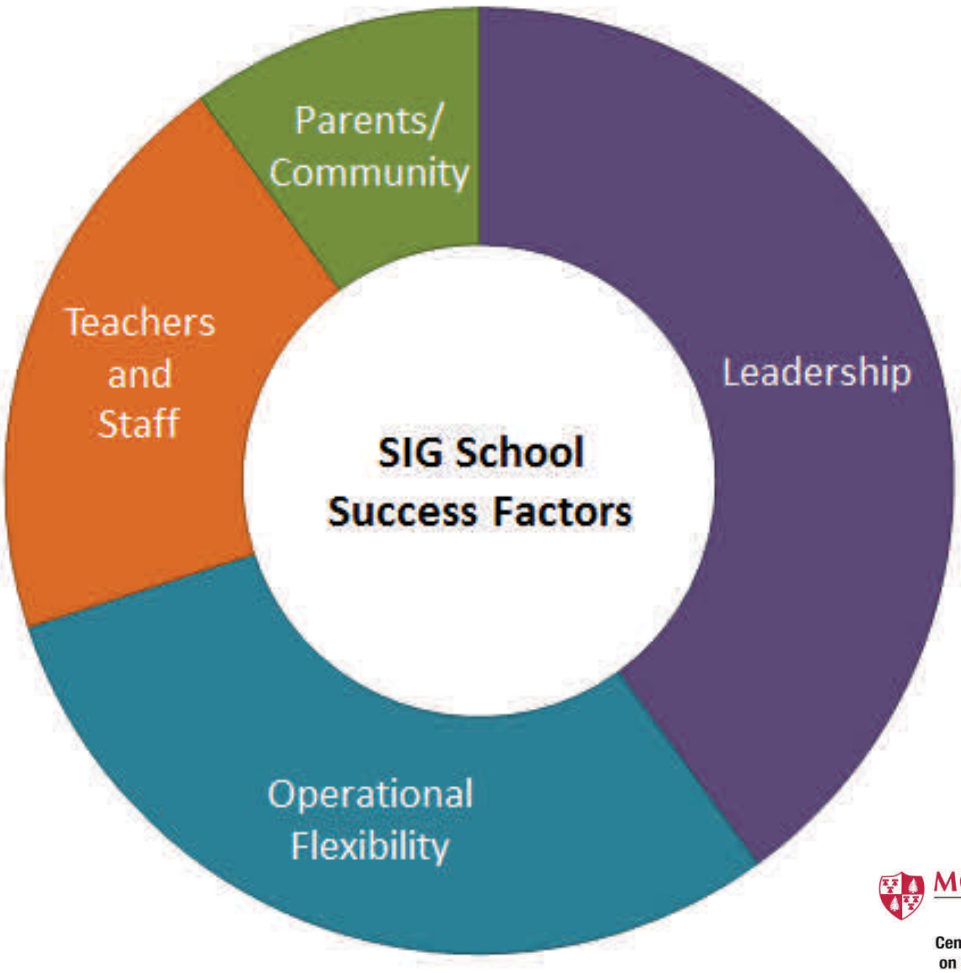
Critical Success Factors

As part of the evaluation, CREEHS conducted interviews with key administrators and district personnel and focus groups with teachers/staff and parents. Analyses of data from these 18 interviews and 21 focus groups as well as examination of the existing Federal Register, revealed several critical success factors that may be organized into four characteristic areas of successful SIG implementation: (A) leadership, (B) operational flexibility, (C) teachers and school staff, and (D) parents and community.

Based on the emerging themes and commonalities from content analyses of the data and Federal Register, the evaluation team attributed the importance of each of these success factors as illustrated below. As shown, larger areas represent characteristics determined to be of greater importance to SIG implementation success.



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SIG Recommendations by Success Factors

Management: Strong, responsive leader who creates school cohesion
Vision: Clear idea/goals for school community
Stability: Steady, consistent principal/ leadership
Relational Trust: Trust and respect among school community

School Leadership Recommendations

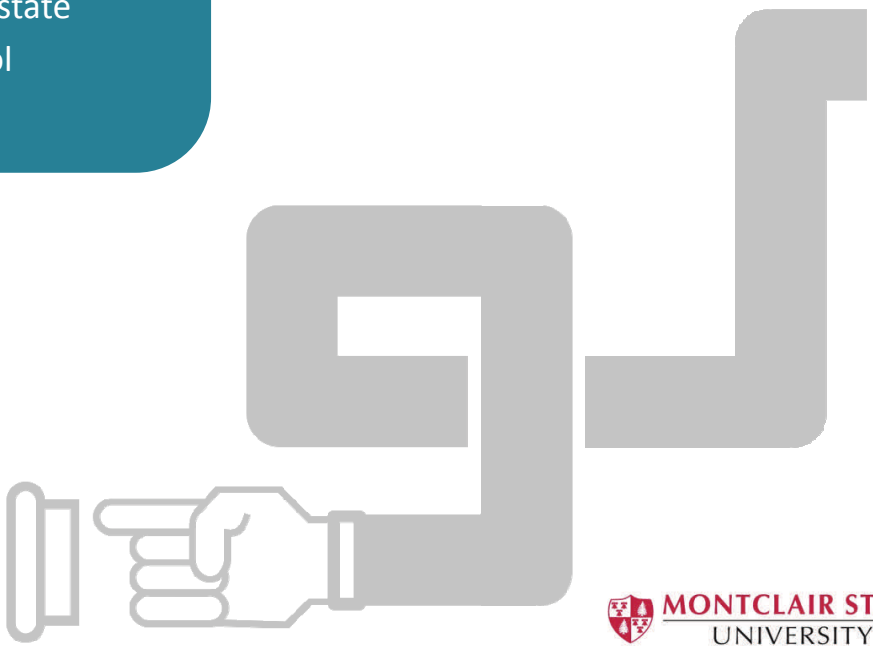
- At the onset of the grant, it is critical to hire a principal that is a good fit for the school situation and that will promote a positive school climate. This principal should be a strong leader that will advocate for the school as well as the surrounding community. Hiring a principal from within the school has been shown to promote organizational and relational trust.
- The principal's vision needs to be clear and strong. The principal needs to make sure that this vision is clearly conveyed to staff (with examples and reasoning) to help increase buy-in.
- The principal should be allowed enough time to carefully select the leadership staff at the school, to ensure there is a shared vision. Additionally, the principal should be given the time to observe and evaluate the current faculty before any changes to staffing are made. Ideally, the principal would identify highly effective teachers before the onset of the grant.
- When possible, the SIG school leadership (principal and leadership staff) should remain consistent for the duration of the grant period. Stability is key and facilitates positive school climate, teacher buy-in, and successful implementation of SIG.
- School leadership should plan to extend the school day in core subject areas in advance. This will allow for ease when adjusting schedules.

SIG Recommendations by Success Factors

Autonomy: Control of budget, staffing, and goals
District Involvement: Relationship between district and school principal
State Support: Role of NTO, state support to district and school

Operational Flexibility Recommendations

- There should be clear and constant communication as well as aligned goals between school, district, and state leaders.
- Ideally, the SIG principal should help create the SIG plan from the beginning.
- School leaders should be empowered with the autonomy and operational flexibility to control the budget, make staffing decisions, set goals for learning and instruction, implement school reform, as well as exercise authority over the school. Granting this autonomy will allow for more effective use of grant funds.
- A Network Turnaround Officer (NTO), who will stay for the entire duration of the grant, should be hired at the onset of the grant. The NTO operates as a key liaison between the school and district.



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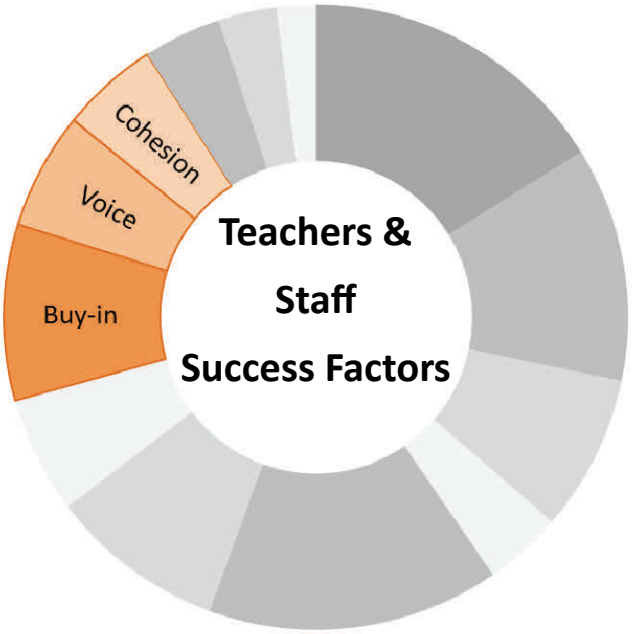
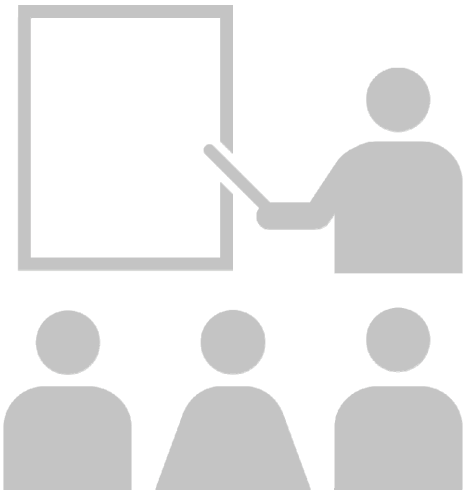
SIG Recommendations by Success Factors



Buy-in: Teachers/staff on board with the plan

Voice: School community has input about SIG

Cohesion: Teachers/staff working together as a unit



Teachers and Staff Recommendations

- School leaders should inform staff of the SIG model, how it will be implemented, and what it could help the school accomplish.
- It is recommended that the school provide opportunities for teachers and staff to voice their opinions during the grant process. This will increase teacher buy-in and increase the probability of the SIG plan being carried out at the classroom level.
- It is important to establish clear evaluation criteria for teachers from the beginning. Criteria should focus on the school vision and remain fixed for the duration of the grant. Evaluation feedback should be given in a timely manner.
- School leaders should demonstrate teacher appreciation in order to facilitate SIG implementation. Practices that fire all teachers and then rehire some are not well-received by staff.
- Mandatory professional development should be provided for all teachers in subject areas that are related to the vision of the grant, thus increasing the skill set of all teachers. School leadership should support teachers in the use of data-driven instruction, in order to help foster student success.

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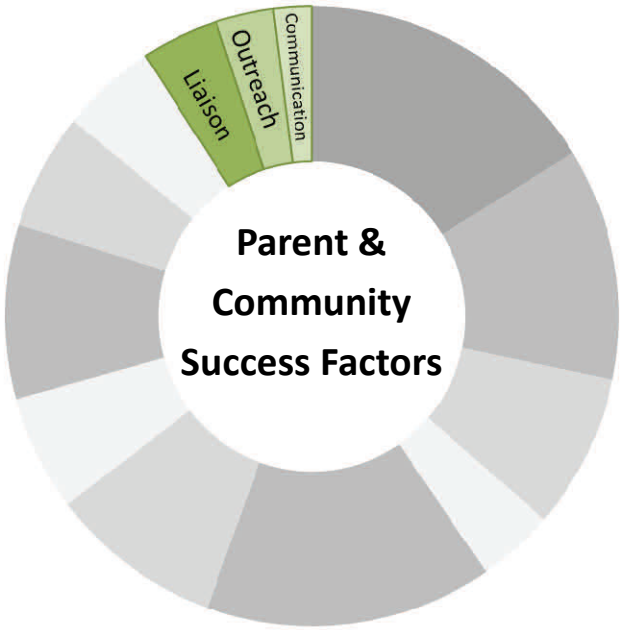


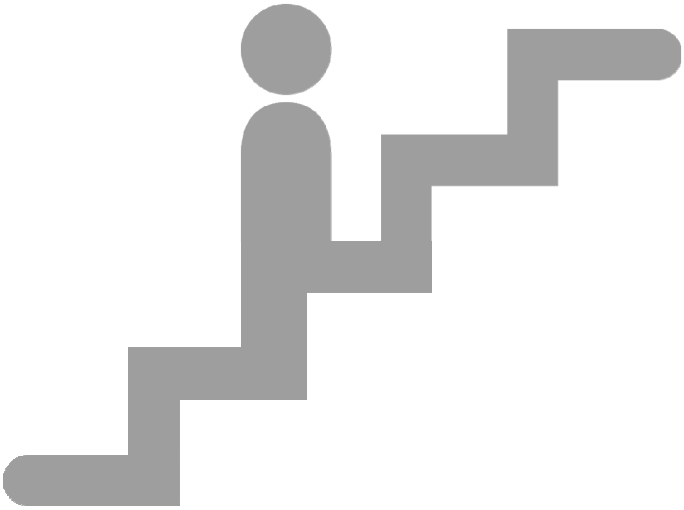
Liaison: Informs parents about school goals and vision
Outreach: Programs/workshops to increase parental involvement
Communication: School communication to parents helps increase parental involvement

Parent & Community Recommendations

- Parent and community involvement is paramount. It is important that a parent liaison is in place throughout the duration of the grant. Schools may need to receive guidance on how to best utilize this staff person.
- Schools should develop programs, workshops, and events that are geared towards parents and guardians. Parental involvement increases the success of students.

Evaluation Next Steps

The evaluation examined the implementation and outcomes of the SIG program across 18 schools in the state. The evaluation team made recommendations about critical success factors that emerged from data triangulation across all sources. SIG schools may find it useful to receive individual fidelity scores as these data could help schools identify areas of strength and need.



Since the SIG program is an ongoing federal program, the evaluation team has identified three main evaluation next steps for the SIG program.

- The SIG implementation period should span a longer time period to allow for well-planned changes, successful leadership, staff buy-in, and other important changes to occur at the school.
- Achievement changes may take longer than 3 years to appear. A longer period of time would allow teachers, administrators and students to absorb the new rules, expectations, and procedures.
- Fidelity scores can help State and District administrators identify areas of need in order to plan ongoing SIG activities, target the professional development and support provided to SIG schools, and engage principals.