

Impact of the Iowa SPDG Grant on Teacher Outcomes

Four years of Specially Designed Instruction (SDI)-related supports, resources, and content provided to participating schools through Iowa's SPDG grant has resulted in positive improvements in the use of SDI practices that are designed to improve literacy outcomes for learners with disabilities. The most recent findings from the external evaluation, which are summarized in this report, show that teachers who participated in the grant increased their implementation of practices that are outlined in the SDI Framework. Moreover, the study found that teachers' level of SDI implementation was related to the frequency of coaching provided by grant-designated SDI Coaches.

The findings presented in this issue of the *SPDG Spotlight* are derived from analyses conducted on the data from the SDI Framework Implementation Tool (SDI FIT) and Coach Log. The SDI FIT is designed to assess teachers' implementation of the nine critical features associated with the Diagnose, Design, and Deliver components of the SDI Framework. Teachers complete the assessment in the fall and spring by rating their level of implementation using a five-point scale that ranges from *not at all* to *sustained*.¹ To date, the grant has gathered SDI FIT data at three time points, fall 2017, spring 2018, and fall 2018.² The Coach Log, on the other hand, is a collection of data submitted by SDI Coaches bi-monthly and serves to document the type and frequency of supports that they provide to teachers.

About the Iowa SPDG

In October 2015, the Iowa Department of Education received a five-year SPDG funding award from the Office of Special Education Programs, called *Ensuring Effective Specially Designed Instruction (SDI)*. The project will develop a statewide system to effectively implement and support personnel preparation and professional development in the area of specially designed instruction. The goal is to build the capacity of educators to effectively implement SDI and improve literacy outcomes for learners with disabilities.

¹ The levels were defined as follows: 1) not at all, I am not implementing this feature; 2) planning, I plan to implement this feature and am exploring ways to do so; 3) partial, I have begun to implement this feature but my implementation is inconsistent; 4) routine, I am implementing this feature consistently; and 5) sustained, I have fully integrated this feature in my work and can adjust to meet individual student needs.

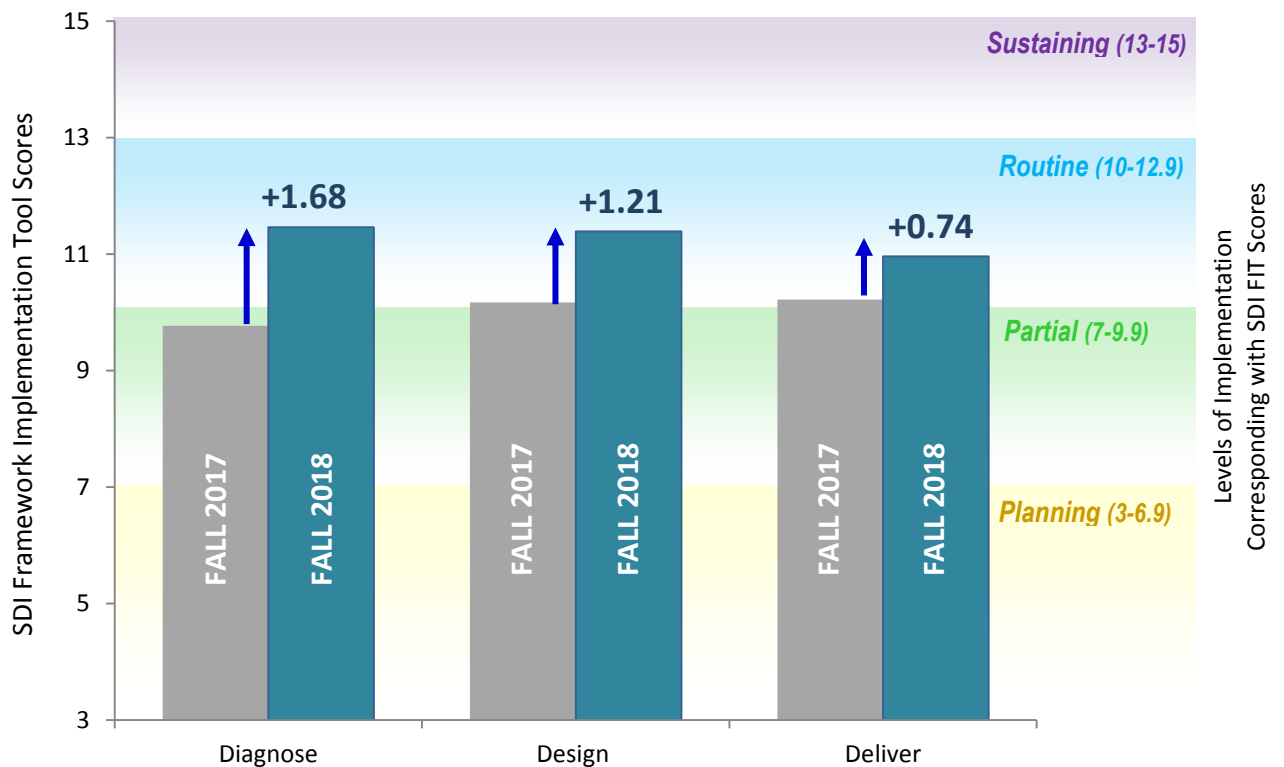
² The data presented in this report includes teachers' matched scores across all three time points. The matched data set included 101 teachers from 30 districts.

Teacher Implementation of SDI Framework

The SDI Framework was developed to help define the *what* and *how* of diagnosing, designing, and delivering SDI that addresses individual learner needs to ensure their access to the general curriculum. As participants of the grant, teachers collaborated with SDI Coaches and other teammates - that may have included administrators, support staff, and AEA personnel during school-based team meetings - to develop and implement SDI action plans and child-find studies. The action plans included teacher professional growth goals, and the SDI FIT was used to identify goals and provide teachers with a means to monitor their implementation levels. Over the course of the four years, new teachers were added to the grant which allowed the study to track different cohorts of teachers.

Table 1 provides a comparison of fall 2017 and 2018 mean scores on Diagnose, Design, and Deliver³ for all teachers participating in the grant. The scores could range from 3 to 15, with 3 indicating no implementation and 15 indicating full implementation.

Table 1
Gains in Mean Rating Scores received by Teachers on the SDI FIT between Fall 2017 and Fall 2018



³ The individual teachers' scores for each of the nine critical features from the SDI FIT were aggregated up to the component level – the Diagnose, Design, Deliver components – for ease of interpretation.

The table shows that teachers' average scores on all three components increased from the fall of 2017 to the fall of 2018. Teachers made the largest gain in the area of diagnosing for instructional design, where the mean score increased from what would be considered the *partial* range (i.e., 9.77) to the *routine* range of implementation. Next, the mean score for designing SDI instruction increased, from low to high, within the *routine* range of implementation. Finally, teachers' mean implementation score for delivering instruction increased approximately half a point but stayed at the low *routine* level.

Table 2 compares the percentage of teachers at each implementation level in 2017 and 2018 to reveal where improvements were made. The patterns were fairly similar for Diagnose and Design which show a decline in the percentage of teachers at the lower three implementation levels, coupled with an increase in the percentage of teachers at the upper two implementation levels from one year to the next. Conversely, there were small increases in the percentage of teachers who were at the *partial*, *routine*, and *sustaining* levels in Deliver, suggesting less movement from one level to the next as compared to the percentages in Diagnose and Design.

Table 2
Fall 2017 to Fall 2018 SDI FIT Comparisons:
Percentage of Teachers at each Implementation Level

Diagnose	Fall 2017	Fall 2018	Change
Not at all	6%	0%	-6
Planning	13%	4%	-9
Partial	41%	29%	-12
Routine	30%	47%	+17
Sustaining	10%	20%	+10
Design	Fall 2017	Fall 2018	Change
Not at all	3%	0%	-3
Planning	12%	4%	-8
Partial	42%	26%	-16
Routine	30%	55%	+25
Sustaining	13%	15%	+2
Deliver	Fall 2017	Fall 2018	Change
Not at all	1%	1%	0
Planning	18%	6%	-12
Partial	31%	36%	+5
Routine	37%	41%	+5
Sustaining	13%	16%	+3

Finally, to demonstrate the pattern of increased implementation across teacher cohorts, **Table 3** provides the mean scores for each component disaggregated by year of participation, in addition to the average percentage of teachers at the *routine* and *sustained* levels in the fall of 2018. The table shows that for each year of participation, teachers' mean implementation

scores increase (for both time periods). For example, the mean Diagnose implementation score for teachers who were in their second year of the grant in the fall of 2018 was 10.94, compared to a mean score of 12.67 for teachers who were in their fourth year of the grant at that time. The percentages of teachers at the *routine* and *sustained* levels in the fall of 2018 also show increases with each year of participation in the grant. Looking under Diagnose, for instance, 57% of teachers in their second year of participation were fully implementing related SDI practices, compared to 89% of teachers in their fourth year.

Table 3

Fall 2017 to Fall 2018 SDI FIT Comparisons by Year of Participation: Mean Scores and Fall 2018 Percentage of Teachers at the Routine/Sustaining (R/S) Implementation Level

Diagnose	Fall 2017	Fall 2018	Fall 2018 % R/S
Two years (n=53)	9.25	10.94	57%
Three years (n=42)	10.21	11.93	75%
Four years (n=6)	11.33	12.67	89%
Design	Fall 2017	Fall 2018	
Two years (n=53)	9.70	11.08	63%
Three years (n=42)	10.55	11.57	73%
Four years (n=6)	11.67	12.83	100%
Deliver	Fall 2017	Fall 2018	
Two years (n=53)	9.89	10.60	53%
Three years (n=42)	10.50	11.21	61%
Four years (n=6)	11.17	12.33	72%

Impact of Coaching on Teachers' Use of SDI Practices

As mentioned in the previous section, SDI Coaches collaborated with teachers to help them increase the use of SDI practices. Coaching supports were tailored to the needs of teachers and the types of supports that they provided varied. There was consistency, however, in that all SDI Coaches were expected to guide SDI teams through the action planning process and to facilitate SDI-team meetings. To add, SDI Coaches could have also supported teachers by engaging in coaching conversations using an SDI conversation protocol, conducting classroom observation and feedback, and co-teaching or modeling SDI practices, to name a few.

To determine the impact of coaching supports on teachers' use of SDI practices, the study executed a series of regression analyses. The results of these analyses found that teachers' implementation of SDI practices in the Diagnose and Deliver components of the SDI Framework were significantly related to several coaching activities. In other words, the coaching activities

bulleted below significantly predicted SDI implementation scores in the spring of 2018 after taking into account scores at the beginning of year 3 (i.e., fall 2017).⁴

- SDI coaching conversations,
- SDI-related meetings and PLCs
- SDI action planning

Table 5

Significant Relationships between Coaching Activities and Teachers’ Implementation of the SDI Framework Components and Critical Features

SDI Framework Components and Critical Features	Related Coaching Activities
Diagnose	Coaching conversations; Action planning
1. Define areas of concern and verify potential reasons for the concern.	
2. Identify strengths, interests, and preferences that sustain learner engagement.	Coaching conversations; Action planning
3. Determine critical supports needed for learner success.	Coaching conversations; Action planning
Deliver	Coaching conversations; SDI-related meetings and PLCs
7. Deliver the instruction as designed and monitor instructional fidelity.	
8. Monitor learner progress.	Coaching conversations; SDI-related meetings and PLCs
9. Adjust instruction as necessary based on learner progress and instructional fidelity.	Coaching conversations; SDI-related meetings and PLCs

* approached significance, p=.06

Table 5 summarizes the significant predictive relationships between the coaching activities and the SDI FIT components and critical features. For instance, the Diagnose component in the table shows that in districts where there was a higher frequency of coaching conversations and action planning around SDI, teachers were expected to be at higher levels of SDI implementation in Diagnose - including critical features two and three scores - compared to teachers in districts where there were less coaching conversations and action planning. Furthermore, teachers' implementation of SDI practices related to the Deliver component of the SDI Framework -including critical features eight and nine – were at a higher level in districts where there was a higher frequency of coaching conversations and SDI-related meetings and PLCs (though not action planning), as compared to in districts where these coaching activities

⁴ The analyses were conducted using matched SDI FIT data from year 3.

occurred less frequently. Finally, it should be noted that none of the coaching activities were significantly related to teachers’ implementation of practices in the Design component of the SDI Framework.

For illustration purposes, **Table 6** displays the average percentage of teachers at the *routine* or *sustaining* levels of implementation in two groups: one where coaching occurred on an average of every two months; and one where coaching occurred monthly, on average.⁵ For instance, the table shows that nearly three-quarters of teachers (72% to 74%) were diagnosing and delivering SDI instruction at *routine* or *sustaining* implementation levels in districts where coaching conversations occurred monthly. By comparison, 55% or less of teachers in districts where coaching conversations occurred on average every 2 months were diagnosing and delivering at the *routine* or *sustaining* implementation levels. Similarly, 83% of teachers were diagnosing learner needs at higher implementation levels in districts where action planning occurred monthly, compared to 52% of teachers in the districts where action planning took place every two months. Finally, a higher percentage of teachers (i.e., 81%) were delivering SDI instruction at *routine* or *sustaining* levels in districts where SDI meetings and PLCs occurred about monthly, compared to 51% in districts where the same coaching occurred about every two months.

Table 6
Comparison between Frequency of Coaching Activity and Percentage of Teachers at Routine/Sustained Levels of Implementation

	Diagnose	Deliver
<i>Coaching Conversations</i>		
Every 2 months	55%	47%
Monthly	74%	72%
<i>Action Planning with the SDI Framework</i>		
Every 2 months	52%	
Monthly	83%	
<i>SDI Meeting and PLCs</i>		
Every 2 months		51%
Monthly		81%

Summary

The findings reported in this issue of the *SPDG Spotlight* provide important evidence for the impact of Iowa’s SPDG grant at several levels. One, teachers increased their implementation of SDI practices as evidenced by the positive changes in their SDI FIT scores from the fall of 2017 to the fall of 2018. The largest gains appear to be at the *routine* implementation level for the

⁵ Comparisons are only provided for the components that were significantly related to each coaching activity.

Diagnose and Design components of the SDI Framework, which resulted in between 47% and 55% of teachers consistently using SDI practices by the beginning of year 4 of the grant. What's more, the findings point to the cumulative impact of the grant over time as evidenced by teachers' increased scores with each year of participation.

Two, the study found that teachers' level of implementation for the Diagnose and Deliver components was improved when SDI Coaches provided frequent support in several ways, i.e., coaching conversations, SDI meetings and PLCs, and action planning around the SDI Framework. The findings suggest that monthly provision of these supports should be encouraged of all SDI Coaches and perhaps more frequently when supporting teacher practices related to delivering instruction. Recall that teachers made smaller gains in the Deliver component of the framework despite the impact of coaching supports; therefore, it would seem that greater gains can be achieved with more frequent supports.

It should be noted, however, that coaching did not impact teachers' implementation of practices related to Design component even though teachers made statistically significant gains from one year to the next. Further investigation is warranted to identify other activities or supports that may be impacting teachers' use of SDI practices in this area so that the grant can ensure that these supports are available to all teachers.

The next phase of the study will include an examination of the impact of the grant on student outcomes as per teachers' implementation of the SDI Framework, and will be summarized in the spring edition of the *SPDG Spotlight*.

About the Evaluation

Measurement Incorporated was contracted by the Department to conduct a 5-year, independent evaluation of the SPDG grant. The evaluation is designed to provide both formative and summative data to support decision making on the development and implementation of grant activities. For further information about this Spotlight or about the evaluation, please contact Dr. Shelly Menendez at (630) 857-9592 or smenendez@measinc.com.