



# Effectiveness of *S.P.I.R.E.*

## Customer Implementation Report

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**Saint Marguerite Catholic School**  
**Tooele City, Utah**

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*Supporting Reading, Literacy, and Learning for Over 60 Years*



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## 1. INTRODUCTION

The goal of this implementation study was to evaluate the effectiveness of the Specialized Program Individualizing Reading Excellence (*S.P.I.R.E.*®) program in helping non-proficient readers attain critical reading skills. The findings are based on a sample of 14 students that used *S.P.I.R.E.* during 2014/2015 school year from Saint Marguerite Catholic School in Tooele City, near Salt Lake City, Utah.

This report presents an assessment of student performance and provides a discussion of results, addressing the following over-arching evaluation question:

***Do students that receive S.P.I.R.E. intervention demonstrate significant learning gains in reading during one school year?***

## 2. PROGRAM DESCRIPTION

*S.P.I.R.E.* is a comprehensive, intensive, and multisensory print-based reading intervention that integrates phonological awareness, handwriting, fluency, vocabulary, spelling, and comprehension. The program was created by Sheila Clark-Edmonds, is distributed by EPS Literacy and Intervention, and is currently in its third edition.

*S.P.I.R.E.* is based on the Orton-Gillingham approach to reading instruction (e.g. Ritchey & Goeke, 2006). This approach to reading has several key features that are incorporated into *S.P.I.R.E.* These features are listed and briefly described below.

- **Systematic and Explicit Instruction:** Students are given explicit instruction in phonology, phonological awareness, sound-symbol correspondence, syllables, morphology, syntax, and semantics. Students are over-taught these concepts until they achieve mastery.
- **Sequential:** Instruction follows a logical sequence from basic single sound concepts to integration of these sounds into complex words.
- **Multisensory:** Instruction is provided using visual, auditory, and kinesthetic/tactile pathways.
- **Phonics-based Approach:** The Orton-Gillingham approach strongly emphasizes phonics-based instruction as the foundation on which students become successful readers.

*S.P.I.R.E.* involves one-on-one or small group instruction incorporating the most recent research regarding best practices in reading and language arts instruction (Clark-Edmonds, 2012). *S.P.I.R.E.* is systematically structured and follows a 10-step lesson plan that ensures students experience continuous and visible success. There are eight levels of *S.P.I.R.E.* that focus on increasingly complex reading skills.

### 3. RESEARCH DESIGN

In this implementation study, students from Grade 2 to Grade 7 that were identified as non-proficient readers, based on their performance on standardized reading assessments administered at the beginning of 2014/2015 school year, were considered to take part in this implementation study. From this group of non-proficient readers, 50% of students were randomly selected to be placed in the *S.P.I.R.E.* program.

#### 3.1 METHODOLOGICAL APPROACH

Saint Marguerite Catholic School is a parish-affiliated Catholic school serving students in Pre-K to Grade 8. It is a small suburban school in Tooele City, Utah with 118 students. All students in Grades 2–7 were pre-tested with Dynamic Indicators of Basic Early Literacy Skills (DIBELS) in order to identify non-proficient readers. All non-proficient readers were then tested with the *S.P.I.R.E.* Initial Placement Assessment (IPA) to determine whether or not they would qualify for *S.P.I.R.E.* intervention. All students met the criteria for being candidates for *S.P.I.R.E.*, and so 50% of the identified non-proficient students were then randomly assigned at grade level to receive *S.P.I.R.E.* intervention.

### 4. METHOD

The program was implemented as an intervention with small groups of 4-5 students. This section describes different report components including measures, procedures, settings, and participants.

#### 4.1 MEASURES

A combination of qualitative and quantitative methods was included in the data analysis design in order to allow for a full understanding of the impact of *S.P.I.R.E.* on students' reading abilities. This section describes these measures.

##### **Student Measures**

Two measures were employed to assess changes in students' reading skills and abilities. First, the DIBELS assessment was administered as a norm-referenced assessment. Second, the *S.P.I.R.E.* Initial Placement Assessment (IPA) was given to each student. These measures were considered the primary measures of student improvement.

##### **Dynamic Indicators of Basic Early Literacy Skills (DIBELS)**

DIBELS assessments, published by the Dynamic Measurement Group, are norm-referenced, individually administered measures of student skills in each of the key basic early literacy skills from kindergarten through Grade 6. The assessments are designed to be short fluency measures used to monitor the development of early literacy and early reading skills.

Two forms of the test, equated for difficulty, were administered to students in the fall and spring to evaluate the impact of *S.P.I.R.E.* training on their oral reading fluency, retell fluency, and maze comprehension skills. The DIBELS Composite Score consists of all the scores calculated together to give an overall picture of student reading ability.

### ***S.P.I.R.E.* Initial Placement Assessment (IPA)**

The IPA proprietary test included with *S.P.I.R.E.* must be administered to determine the skills students have already mastered and to help determine at which level of *S.P.I.R.E.* students should start (Clark-Edmands, 2012). The IPA consists of five tests that teachers can administer one-on-one to assess which phonological skills students have mastered.

EPS Literacy and Intervention recommends that teachers administer Test 3 and Test 4 to determine students' placement in *S.P.I.R.E.* (Clark-Edmands, 2012). For Test 3, students are shown increasingly complex phonogram cards and must produce the sound on that card. Teachers stop testing after a student makes three mistakes in a row. This test evaluates students' knowledge of sounds and letters outside of words. For Test 4, students read increasingly complex concept words and nonsense words to evaluate their knowledge of sounds and letters. Both of these tests were administered in the current study to place students into the appropriate *S.P.I.R.E.* level and evaluate their gains at the end of the school year.

The test produces two types of scores. First, students are assigned to a specific level of *S.P.I.R.E.* Second, the specific skills that they have mastered are also identified. Thus, one can investigate the gains of students by looking at whether their *S.P.I.R.E.* level changed from the fall to the spring. Although a valid method, this type of analysis ignores data of the more detailed skills the students mastered. For example, level one of *S.P.I.R.E.* has 11 skills that students must master before they move on to level two. If a student masters all but one skill by the spring, and only their IPA level is examined, it will appear that they have made no gains when, in fact, they had. Therefore, to avoid this issue, the number of skills mastered in the fall and spring were calculated for each student to provide a more accurate picture of growth over the course of the study.

## **4.2 PROCEDURES**

This section describes procedures followed for various study design factors including site selection, data collection, test administration, scoring, training, and implementation.

### **Site Selection**

Specific site selection criteria were set up in order to guarantee settings and a student population that are typical of *S.P.I.R.E.* users. These are:

1. Implementation of *S.P.I.R.E.* in Grades 2–7
2. Application of a Response to Intervention (RTI) approach
3. Teachers' completion of implementation training
4. Schools' commitment to implement intervention with fidelity
5. Ethnic and economic diversity, and
6. No other primary reading intervention or research studies occurring

### **Data Collection Timeframe**

The student measures were administered to all Grade 2–7 students at the beginning of the 2014/2015 school year. After student assessments were completed, the product and teacher training occurred. Teacher training was led by a certified *S.P.I.R.E.* implementation specialist. After the training, implementation of *S.P.I.R.E.* began.

Initial teacher training for *S.P.I.R.E.* started in October of 2014, and classroom support visits began three weeks after this initial training. These classroom-support visits included observations, discussions with reading teachers, modeling of intervention strategies, and additional training for staff. The trainer visited the school district on a monthly basis to provide guidance throughout the implementation.

Students were post-tested at the end of the school year.

### **Test Administration and Scoring**

Teachers and a certified *S.P.I.R.E.* implementation specialist were presented with an overview of tests, including instruction for administration, make-up testing, accommodating students with Individualized Education Program plans, and assessment return. Scoring was done by a research assistant, trained teachers, and a *S.P.I.R.E.* specialist.

### **Implementation Fidelity**

In order to ensure that the *S.P.I.R.E.* program was implemented with fidelity, various implementation monitoring procedures were used. The monitoring included teacher completion of Student Attendance Record Sheets on a daily basis, following and tracking *S.P.I.R.E.* implementation guidelines, regular training, site visits, and fidelity checks by the *S.P.I.R.E.* trainer.

### **Student Attendance Records**

Student Attendance Record Sheets were completed by teachers daily. They contain the date of each *S.P.I.R.E.* class, list of students that attended a class, and the list of lessons and concepts instructed during a class.

### **Implementation Guidelines**

The *S.P.I.R.E.* program's direct, systematic instruction is highly structured and the Teacher's Guide provides a clear plan for program implementation. Accordingly, teachers followed the guidelines in the Teacher's Guide, having the students use the program four times a week for 30 minutes each session. Teachers were also not allowed to use any other intervention material.

### **Professional Development and Site Visits**

Professional development and teacher support is an important component of *S.P.I.R.E.* EPS Literacy and Intervention professional development specialists follow a specific implementation model for *S.P.I.R.E.* This model is based on hundreds of implementations

with Tier II, Tier III, English Language Learners, and Special Education students. The main focus of professional development is to ensure fidelity of *S.P.I.R.E.*

A certified *S.P.I.R.E.* implementation specialist was chosen to provide the site with training and classroom support consistent with typical *S.P.I.R.E.* services.

**Phase 1—Plan:** Initial planning was conducted between the school and EPS Literacy and Intervention to make sure all study requirements were met. An implementation plan was developed for the students who were to be on *S.P.I.R.E.*

**Phase 2—Deploy:** Professional development specialists equipped teachers with product knowledge and tools to implement *S.P.I.R.E.* effectively. The teachers received hands-on guidance during training, and teachers learned how to monitor and manage student activities. At the end of this phase, teachers:

1. Understood the theory and benefits of the program
2. Knew how to assess students' reading proficiency
3. Were able to monitor and manage student learning on *S.P.I.R.E.* effectively

A certified *S.P.I.R.E.* implementation specialist from Professional Development started the program with students to model best practices and ensured that teachers were engaged with the implementation. At the end of this phase, teachers were able to:

1. Articulate the benefits of the program to students
2. Create excitement for student learning in the program
3. Start student activities and interpret all test results

**Phase 3—Coach:** Ongoing classroom coaching and implementation support helped teachers analyze data and apply appropriate intervention strategies for each student. This ensured ongoing program fidelity. During these classroom visits, teachers were coached on:

4. Monitoring student progress
5. Analyzing and assessing data
6. Deploying Intervention strategies

**Phase 4—Evaluate:** This report represents the evaluation stage of using *S.P.I.R.E.* at Saint Marguerite Catholic School by outlining overall program fidelity and effectiveness as per the research design of the study.

## 4.3 SETTINGS

The sample for this report represents students from Saint Marguerite Catholic School. A total of 14 students and two teachers participated in the study. See Table 1 for school characteristics.

**Table 1:** School Characteristics

<b>GEOGRAPHIC LOCATION AND CITY DESCRIPTION</b>	<b>Suburb, Small</b>
<b>Total student enrolment</b>	<b>118</b> (based on August 2015 data)
<b>Percent qualifying as low income (free/reduced lunch)</b>	<b>20%</b>
<b>Ethnic breakdown</b>	
Asian	3%
Black	3%
Hispanic	37%
American Indian/Alaskan Native	0%
Multiracial	2%
White	55%
<b>Past performance on statewide assessments</b>	<b>Below average</b>

#### 4.4 PARTICIPANTS

The final student sample for the study included 14 students in Grades 2–7. Table 2 shows the distribution of students by grade.

Saint Marguerite’s principal acted as the school-level intervention coordinator. The principal was the primary contact for study-related issues. Responsibilities included ensuring that materials were distributed, assessments were completed on time, the program was being implemented with fidelity, and site visits were scheduled, amongst other responsibilities.

**Table 2:** Distribution of Students by Grade

<b>GRADE</b>	<b>Number of Students</b>
2	3
3	2
4	1
5	5
6	2
7	1
<b>Total</b>	<b>14</b>

#### Teacher Participants

A sample of two teachers contributed to *S.P.I.R.E.* implementation. Each teacher taught two groups of students.

#### Student Participants

The final sample for the study included 14 students in Grades 2–7.

#### Attrition

As indicated earlier, the initial study sample comprised of 14 *S.P.I.R.E.*-trained students. All the students completed the training.

## 5. PROGRAM IMPLEMENTATION

As described in Section 4.2, teachers received implementation guidelines before the beginning of the study that asked them to use the program for a minimum of 30 minutes, four times a week.

The implementation fidelity is characterized by the extent to which students used the program on a regular basis for the specified time each day. Each teacher recorded students' attendance on a daily basis. In addition, an EPS Literacy and Intervention *S.P.I.R.E.* specialist had the opportunity to monitor the teachers' fidelity of implementation through site visits that involved classroom observations and prepared regular reports.

## 6. STUDENT PERFORMANCE RESULTS

In order to appropriately address the questions pertaining to student performance, various analyses were conducted, including descriptive, inferential, and multi-level analyses. This section details student performance.

### 6.1 *S.P.I.R.E.*'S IMPACT ON LEARNING

This section presents the learning gains of non-proficient students in reading who were trained with the *S.P.I.R.E.* program in the 2014/2015 school year. Results are presented for student performance on the DIBELS test and *S.P.I.R.E.* Initial Placement Assessment (IPA), and are broken down by subtest where appropriate.

#### QUESTION

**Do students who were on *S.P.I.R.E.* intervention for one school year demonstrate significant learning gains in reading?**

As indicated previously, 50% of non-proficient readers from Grades 2-7 were randomly placed on *S.P.I.R.E.* intervention. Intervention teachers in these schools followed explicit implementation guidelines to ensure program fidelity. To address whether students who participated in the *S.P.I.R.E.* program demonstrated significant learning gains in reading from the beginning of the school year to the end of the school year, gains on various subtests of DIBELS were calculated. In addition, gains on the *S.P.I.R.E.* IPA were considered.

#### Descriptive Analysis

##### *DIBELS Gains*

The data from all available DIBELS tests was included in these analyses. Note, that there were additional DIBELS subtests that were administered to students in the lower grades. However, due to the small sample sizes, analyses of students' gains where N was lower than 13 were not performed.

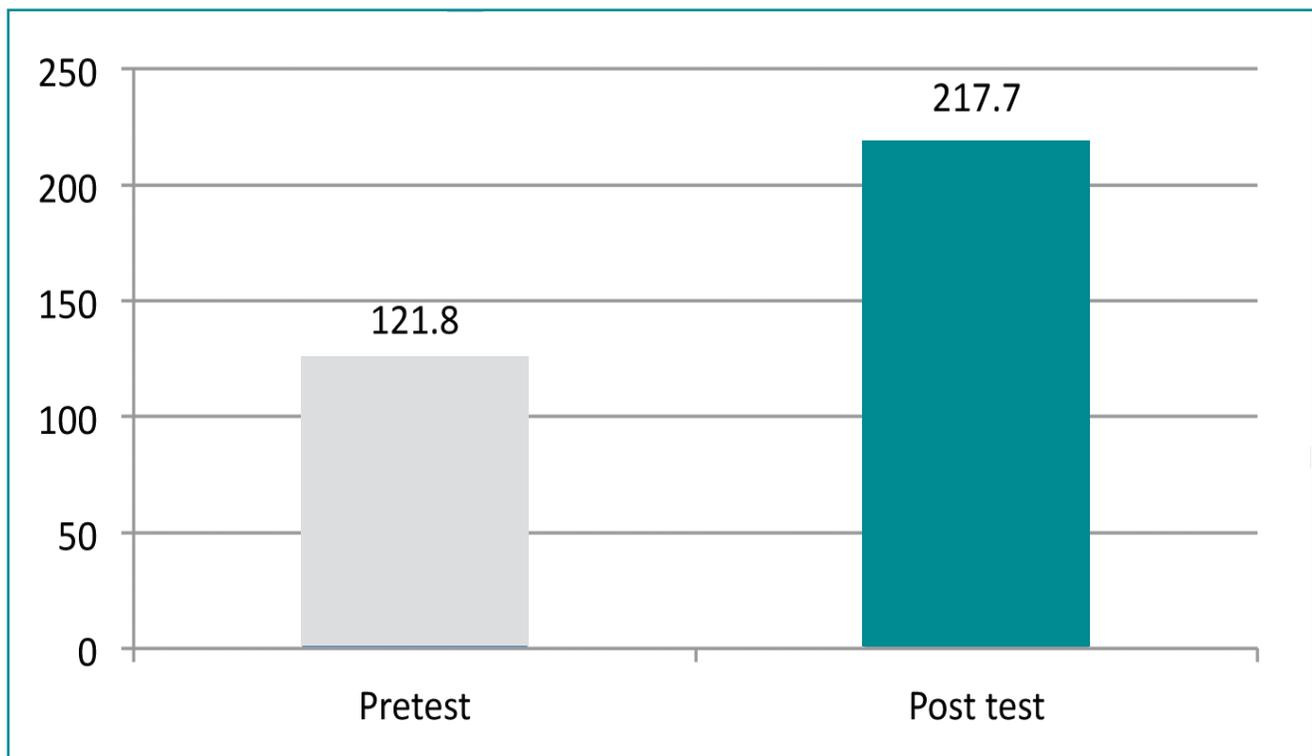
To examine whether the *S.P.I.R.E.* program had an effect on students' reading improvement, descriptive analyses were conducted. As shown in Table 3, students participating in the *S.P.I.R.E.* program improved in reading on average by 25.6 words correct per minute during the study, 6.8 points on retell fluency, 9.15 points on comprehension (calculated as number of correct words – ½ number of errors), and 95.8 points on composite score, which represents all the scores on DIBELS calculated together to give a general overall picture (see Figure 1 for pre-test/post-test Composite Scores). All the gains on the DIBELS were significant (all  $p < .05$ ).

**Table 3:** Mean DIBELS Gains

OUTCOME MEASURE	Gains (Mean)	Standard Error	t-value	Approximate df	p-value
Oral Reading Fluency	25.60	.13	6.86	37	0.00*
Retell Fluency	6.83	.16	6.07	37	0.02*
Maze (reading comprehension)	9.15	.70	5.51	37	0.00*
Composite Score	95.9	.87	3.53	35	0.00*

\* Significant at the 0.01 level for all but retell fluency which is significant at 0.05 level

**Figure 1:** *S.P.I.R.E.* Students' DIBELS Pre-test and Post-test Composite Score



***S.P.I.R.E. Initial Placement Assessment (IPA) Gains***

The data from all 14 students was available for *S.P.I.R.E.* IPA tests and was included in these analyses.

See Table 4 for the average skills (concepts) mastered gains that *S.P.I.R.E.* students achieved over the course of the school year.

**Table 4:** Average skills mastered gains on the IPA\* Significant at the 0.01 level

OUTCOME MEASURE	Gains (Mean)	Standard Error	t-value	Approximate df	p-value
IPA (Skills Mastered)	6.64	.60	10.93	13	0.00*

Students who used *S.P.I.R.E.* mastered, on average, seven skills (concepts) over the course of the study (Table 4). These gains were statistically significant. This clearly illustrates that students who trained in *S.P.I.R.E.* achieved significant gains in terms of the reading skills (concepts) they mastered over the school year.

## 7. CONCLUSION

This report of the *S.P.I.R.E.* program was prepared to measure the effectiveness of the program on non-proficient readers. Saint Marguerite Catholic School participated in the implementation study. The findings in the report represent a sample of 14 students in Grades 2–7 who were placed in the *S.P.I.R.E.* program as an intensive reading intervention. The students who participated in the *S.P.I.R.E.* program demonstrated significant learning gains in their general level of reading achievement, comprehension, and fluency, as well as their retell fluency.

In sum, these results indicate that participating in the *S.P.I.R.E.* program for the duration of one school year is useful to teachers in providing a comprehensive reading intervention for non-proficient readers. Teachers and students adapt easily to the program structure, pace, and routine, and results indicate that the program is successful in significantly improving children's general level of reading skills as well as in the specific areas of fluency and comprehension.



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