

**Does the BURST Reading Intervention Program truly improve Kindergarten  
students' literacy scores at CH Elementary?**

Taylor Columbus

University of Central Arkansas

### **Abstract**

Over the course of 10 weeks, research has been collected on a select group of students who were struggling in the area the DIBELS (Dynamic Indicators of Basic Early Literacy Skills) assessment. The teachers at CH Elementary provided intervention 30 minutes a day, 5 days a week, progress monitoring in the recommended areas every 7-10 days. This program was purchased by the school in hopes of improving literacy scores in all students with the use of research-based intervention.

This research project involved 5 students who were considered “below” or “well-below” benchmark at the conclusion of their beginning of the year assessment of the DIBELS test. The results of this project showed growth in all students in all areas, proving that the BURST: Reading Intervention Program does indeed help to improve literacy scores.

## KINDERGARTEN STUDENTS' LITERACY SCORES AT CH ELEMENTARY?

### **I. Background**

Intervention is key in helping a child succeed in the classroom. It is giving them extra small-group or individualized time to help master a skill they are struggling with.

This can happen in any subject area, but more commonly it is in math or literacy.

Intervening as early as possible is in the best interest of the child. "Early intervention in reading has a long and effective history" (Buysse, 2013). Continued intervention, if it is quality intervention, has even helped to improve test scores, according to Buysse.

Interventions that tend to be the most successful are evidence-based interventions. One of the most challenging aspects of intervention is implementing it. Berringer and Rosenfield state that the chosen program "should be viable and sustainable"(2009). They believe that the program should be effective and a problem should be solved.

The Burst:Reading program is one such program that is a research-based intervention that reflects the National Reading Panel's thinking in literacy ([www.amplify.com](http://www.amplify.com)). This program studies data to create literacy interventions to meet students' needs every 10 days. After 10 days of intervention, students are progress monitored, and adjustments to groups are made as needed.

### **Definition of Terms**

The following terms are used throughout the paper and are listed here to aide in understanding:

- **DIBELS:** Dynamic Indicators of Basic Early Literacy Skills. These are "a set of procedures and measures for assessing the acquisition of early literacy skills from kindergarten through sixth grade. They are designed to be short (one minute)

## KINDERGARTEN STUDENTS' LITERACY SCORES AT CH ELEMENTARY?

fluency measures used to regularly monitor the development of early literacy and early reading skills” (dibels.org).

- **Intervention:** action taken to improve a situation
- **BURST: Reading:** program that identifies students who are struggling and provides them with support to build a strong literacy foundation
- **First Sound Fluency:** test administrator calls out provided words and student must identify first sounds. This assessment is one minute.
- **Phoneme Segmentation Fluency:** test administrator calls out provided words and student must recall all the sounds they hear. This assessment is one minute.
- **Letter Naming Fluency:** Students are provided with a page of letters and are given one minute to identify as many letters as possible.
- **Nonsense Word Fluency:** Non-real words are provided and the student is to read the whole word, or any sounds they know. This assessment is one minute.
- **Progress Monitoring:** Assessing students performance over a period of time.

### **Purpose of the Study**

The purpose of this study was to see if the BURST: Reading Intervention program truly helped to improve the scores of struggling Kindergarten students at CH Elementary. The program itself does a lot of the work for educators, but it is up to the schools who purchase it to make sure they take the time to implement it so that can take effect and be fully beneficial to students. With programs like this, it is hard to tell if is worth the money and time if it is not fully implemented. Throughout the time of gathering information for the research project, the researcher was sure to check that interventions were being

## KINDERGARTEN STUDENTS' LITERACY SCORES AT CH ELEMENTARY?

provided as recommended by the BURST: Reading program.

### **II. Research Methods**

#### **Research Question**

Does the BURST: Reading Intervention Program truly improve Kindergarten students' literacy scores at CH Elementary?

#### **Participants and Setting**

A Kindergarten teacher at CH Elementary assessed, reviewed data, and provided interventions for students whose beginning of the year DIBELS (Dynamic Indicators of Basic Early Literacy Skills) scores showed them to be “below” or “well below benchmark” for the assessed categories. The assessed categories included First Sound Fluency (FSF), Letter Naming Fluency (LNF), and Phoneme Segmentation Fluency (PSF). DIBELS is a required assessment at CH, having all students be assessed three times throughout the year: beginning, middle, and end. CH is a relatively large school, housing over 700 elementary aged students. The school is considered Title 1, due to the percentage of free and reduced lunch recipients. The information to follow is based off of an experimental group of 5 students who received their interventions in the areas they were seen to be struggling in. Interventions were provided by different teachers; seeing as how the BURST program breaks students up based on need, not by class alone. Although interventions and progress monitoring were provided by multiple Kindergarten teachers for the experimental group, the program is scripted, so no matter who provides the intervention, the child is learning how the program is designed for them to learn.

## KINDERGARTEN STUDENTS' LITERACY SCORES AT CH ELEMENTARY?

**Data****Data Collection and Analysis**

Over an 8-week period, students placed in the BURST: Reading Intervention Program received intervention 30 minutes a day, five times a week. Every 10 days they were progress monitored in the recommended areas. Throughout their time receiving interventions, the BURST program records and notices growth and adjusts to students' needs. The pre and post-test results, along with their overall change are listed in the tables below, as well as separate tables recording their change throughout their time being progress monitored.

**Phoneme Segmentation Fluency Results**

	<b>Pre-Test</b>	<b>Post -Test</b>	<b>Overall Change</b>
<b>Student 1</b>	<b>0</b>	<b>14</b>	<b>+ 14</b>
<b>Student 2</b>	<b>0</b>	<b>8</b>	<b>+ 8</b>
<b>Student 3</b>	<b>8</b>	<b>16</b>	<b>+ 8</b>
<b>Student 4</b>	<b>0</b>	<b>6</b>	<b>+6</b>
<b>Student 5</b>	<b>0</b>	<b>4</b>	<b>+ 4</b>

In the area of phoneme segmentation, there has been positive growth in all students. Some students have grown more than others, but the program is designed to look for gaps and patterns in order to place the students in the correct intervention group, according to their needs.

## KINDERGARTEN STUDENTS' LITERACY SCORES AT CH ELEMENTARY?

**First Sound Fluency Results**

The area of First Sound Fluency also shows positive growth for all participants. With the majority of growth for the students being 18 points and above, this is data that shows positive impact the BURST Intervention program, or intervention as a whole can have on students and their abilities.

	<b>Pre-Test</b>	<b>Post -Test</b>	<b>Overall Change</b>
<b>Student 1</b>	<b>0</b>	<b>21</b>	<b>+ 21</b>
<b>Student 2</b>	<b>8</b>	<b>41</b>	<b>+ 33</b>
<b>Student 3</b>	<b>12</b>	<b>17</b>	<b>+ 5</b>
<b>Student 4</b>	<b>2</b>	<b>20</b>	<b>+18</b>
<b>Student 5</b>	<b>0</b>	<b>30</b>	<b>+ 30</b>

**Letter Naming Fluency Results**

Although Letter Naming Fluency is not a progress monitored area, the researcher decided it would be interesting to see if there was growth in this section just from the participants being exposed to letters and sounds within their intervention groups. The results show that there is positive change. With student 1 having little growth, it shows the teacher that there could be an underlying issue in visual learning with this student, and to be on alert for ways to help the students grow. The teacher could take this information and look for other areas and interventions to help the student in recognizing letters. This information may also tell the teacher that the student is an auditory learner rather than visual. The majority of assessments in the DIBELS assessment are auditory tests where the student must listen and respond. Letter naming is a visual assessment.

## KINDERGARTEN STUDENTS' LITERACY SCORES AT CH ELEMENTARY?

	<b>Pre-Test</b>	<b>Post -Test</b>	<b>Overall Change</b>
<b>Student 1</b>	<b>0</b>	<b>1</b>	<b>+1</b>
<b>Student 2</b>	<b>6</b>	<b>31</b>	<b>+25</b>
<b>Student 3</b>	<b>7</b>	<b>26</b>	<b>+19</b>
<b>Student 4</b>	<b>2</b>	<b>32</b>	<b>+30</b>
<b>Student 5</b>	<b>23</b>	<b>46</b>	<b>+23</b>

**First Sound Fluency Progress Monitoring Results**

	<b>Pre-Test</b>	<b>Post -Test</b>	<b>Overall Change</b>
<b>Student 1</b>	<b>0</b>	<b>14</b>	<b>+ 14</b>
<b>Student 2</b>	<b>0</b>	<b>8</b>	<b>+ 8</b>
<b>Student 3</b>	<b>8</b>	<b>16</b>	<b>+ 8</b>
<b>Student 4</b>	<b>0</b>	<b>6</b>	<b>+6</b>
<b>Student 5</b>	<b>0</b>	<b>4</b>	<b>+ 4</b>

The table above records and shows the data gathered during progress monitoring of First Sound Fluency. Student 3 was not recommended to be progress monitored in the final two sessions, and Student 5 was absent on 10/22. Overall, students showed positive growth, with numbers fluctuating a little bit between the third and fourth progress monitoring's. This is normal and still shows the positive effect of intervention.

Based on information the program gathered from previous assessments, starting on 10/12/15, students started receiving intervention on Phoneme Segmentation Fluency.

KINDERGARTEN STUDENTS’ LITERACY SCORES AT CH ELEMENTARY?

The chart below shows results as recorded.

**Phoneme Segmentation Progress Monitoring Results**

	9/23	10/7	10/22	11/2
<b>Student 1</b>			<b>** not PM</b>	<b>14</b>
<b>Student 2</b>			<b>8</b>	<b>12</b>
<b>Student 3</b>			<b>8</b>	<b>16</b>
<b>Student 4</b>			<b>6</b>	<b>19</b>
<b>Student 5</b>			<b>4</b>	<b>17</b>

As previously stated, the results gathered from the various assessments, including the results from Phoneme Segmentation show growth.

**Nonsense Word Fluency Progress Monitoring Results**

**\*CLS- Correct Letter Sounds      \* WWR- Whole Words Read**

	9/23	10/7	10/22	11/2
<b>Student 1</b>	<b>0 CLS 0 WWR</b>	<b>0 CLS 0 WWR</b>	<b>4 CLS 0 WWR</b>	<b>3 CLS 0 WWR</b>
<b>Student 2</b>	<b>1 CLS 0 WWR</b>	<b>7 CLS 0 WWR</b>	<b>17 CLS 0 WWR</b>	<b>20 CLS 0 WWR</b>
<b>Student 3</b>	<b>11 CLS 0 WWR</b>	<b>17 CLS 0 WWR</b>	<b>23 CLS 0 WWR</b>	<b>20 CLS 0 WWR</b>
<b>Student 4</b>	<b>2 CLS 0 WWR</b>	<b>17 CLS 0 WWR</b>	<b>49 CLS 0 WWR</b>	<b>34 CLS 0 WWR</b>
<b>Student 5</b>	<b>10 CLS 0 WWR</b>	<b>20 CLS 0 WWR</b>	<b>34 CLS 0 WWR</b>	<b>28 CLS 0 WWR</b>

While Nonsense Word Fluency’s ultimate goal is for children to be able to read the whole word, they become able to do this by recognizing the letter sounds, first. At

## KINDERGARTEN STUDENTS' LITERACY SCORES AT CH ELEMENTARY?

this point, no one has read a whole word, but the amount of correct letter sounds they are able to read has increased the majority of the time. There was a decline in the amount of correct letter sounds the week of 11/2, but this can happen from time to time. This would be an area the teacher would need to keep an eye on. The information gathered may just result from an "off" week from the students or it could be an initial sign of a problem that may lie ahead.

**Findings**

After reviewing the results of all pre and post-tests, along with results from the various progress monitoring's, the overall result shows positive growth from all students in all areas assessed. From the information gathered, this shows that research-based interventions, such as the BURST: Reading Program, are extremely beneficial to the success of a child. By providing students with the proper interventions and insuring they are receiving those interventions can show much growth, and ultimately, benefits the child.

The researcher gathered that the literacy area that showed the most growth overall was First Sound Fluency. With 4 out of 5 student growing 18 points or more, this area alone shows the power of intervention. If interventions are research-based and are provided as they are meant to be, they can have a positive impact on the students who are receiving them. With finding positive results in all areas, if there were results that showed a student having little to no growth, this would give the teacher insight into their potentially being a bigger issue that may need to be addressed.

### **Discussions/Implications**

Research-based interventions, such as BURST: Reading show positive results when provided as created. With positive growth for all students, it shows the benefits to intervention when provided and students have a positive response to them. This study shows the benefits that intervention can have on struggling students when they are provided with the correct instruction to meet their specific needs. While the BURST: Reading Intervention Program does have to be purchased in order for a school to use it, the positive results from this study show the potential that it could have in schools and classrooms around the world. Intervention is vital to the success of struggling students and should be a priority in every classroom.

### References

- Akin-Little, Angeleque; Little, Steven (2014). *Academic Assessment and Intervention*.  
Routledge.
- Amplify. Burst:Reading. *Adaptive literacy intervention software for grades K-6*.  
Retrieved from <http://www.amplify.com/assessment/burst-reading>
- Berninger, V. W., & Rosenfield, S. A. (2009). *Implementing Evidence-based Academic Interventions in School Settings*. Oxford: Oxford University Press.
- Buysse, V. (2013). *Handbook of Response to Intervention in Early Childhood*. Baltimore, Maryland: Brookes Publishing.
- Collier, C. (2010). *RTI for Diverse Learners : More Than 200 Instructional Interventions*. Thousand Oaks, Calif: Corwin.
- Culatta, Barbara, Black, Sharon, Hall-Kenyon, Kendra. (2013). *Systematic and Engaging Early Literacy: Instruction and Intervention*.
- Dubal, M., Harnly, A., Pavlov, M., Richards, K., Yambo, D., & Gushta, M. (2012).  
Effects of Burst®:Reading Early Literacy Intervention on Student Performance:  
2012 Report. Retrieved from  
[www.amplify.com/redirect/pdf/general/BurstEfficacyStudy.pdf](http://www.amplify.com/redirect/pdf/general/BurstEfficacyStudy.pdf)
- Jimmerson, S. R.; Burns, M. K.; VanDerHeyden, A. M. (2015) *Handbook of Response to Intervention: The Science and Practice of Multi-Tiered Systems of Support*. Springer; 2nd ed.
- Serravallo, J. (2015). *The Reading Strategies Book: Your Everything Guide to Developing Skilled Readers*. Heinemann

KINDERGARTEN STUDENTS' LITERACY SCORES AT CH ELEMENTARY?

Shores, C. (2009). *A Comprehensive RTI Model : Integrating Behavioral and Academic Interventions*. Thousand Oaks, Calif: Corwin.