

Capstone Bookroom Efficacy Investigation

Introduction

The purpose of this quasi-experimental study was to compare the efficacy of Capstone Bookroom on reading fluency scores between a classroom that uses Capstone Bookroom and one that does not.

Capstone Bookroom is a resource that provides leveled books to support reading instruction for students at their individual reading levels. Being able to read at identified reading levels leads to improved reading fluency, increased motivation to read, and general reading improvement (Zrna, 2012).

Methods

To determine whether Capstone Bookrooms improves student reading fluency, pre- and post AIMS Web R-CBM scores were obtained from one first grade classroom in which Capstone Bookroom is used, and one first grade classroom in which no product is used. Demographic data between the two schools were similar to each other, and both schools were fairly similar to Clark County School District overall demographic data (See Table 1).

Table 1.

Demographic Makeup of School 1 and School 2 with CCSD Comparison.

	<u>School 1</u>	<u>School 2</u>	<u>Clark County School District</u>
Asian	2.32%	5.76%	6.36%
Hispanic	54.18%	60.45%	46.25%
Black	19.56%	12.27%	13.78%
White	18.66%	12.88%	25.25%
Two or More Races	4.25%	5.91%	6.40%

Male	50.32%	51.21%	51.70%
Female	49.68%	48.79%	48.30%

Pre-and post-test scores were examined, and outliers were eliminated. One outlier was identified by computing z-scores for each pre-and post-test score, with the elimination cutoff set at greater than two standard deviations above or below the mean. Also, anomalous scores were excluded, which included two instances in which the post score was markedly lower than the pre-test score. This can happen for a variety of reasons, including uncooperative student behavior, poor testing conditions, and the general well-being of the student on the testing day. Adjusted means and standard deviations can be found in Table 2.

Table 2.
Means and Standard Deviations for Each Classroom.

	Pre-test		Post test	
	M	SD	M	SD
Class 1 (N = 12)	15.75	14.57	68.25	33.00
Class 2 (N = 10)	15.70	10.21	87.40	22.24

Findings

An independent t-test was computed to examine the pre-test scores for both classrooms for equivalency. Analyses indicated no significant difference between Site 1 and Site 2 on R-CBM pre test scores, $t(21) = 1.80, p = .09$. This means that the pre-test scores were mathematically close enough that when we compute statistical tests on them, we can treat them as equal.

An Analysis of Covariance (ANCOVA) was computed to determine whether there were significant differences between post R-CBM scores for the two sites while controlling for any remaining differences in pre-scores. Results indicate NO significant difference between post test scores between the two classrooms ($F = 3.96, p > .05$). This means that the post test scores were mathematically close enough that we can treat them as equal. These findings indicate that the use of Capstone Bookroom improves student reading fluency as well as classrooms that use other materials.

Discussion

While the use of Capstone Bookroom did not show a greater increase in reading fluency over our comparison classroom, it's important to note that the differences between average post-test scores were not significantly different. This means that using Capstone Bookroom does at *least as well* as other methods for improving student fluency. As discussed below, future studies may very well show the true potential for Capstone Bookroom.

Limitations

Data were collected from only two classrooms, one Capstone Bookroom classroom and one comparison classroom. Further, because only two classrooms were studied, the sample size in each classroom was relatively low. The data were gathered post-hoc, from readily available sources. Differences in testing conditions may have impacted the results of this study.

Future Directions

In order to more fully understand the impact of Capstone Bookroom, it will be important to conduct a larger-scale, well-planned study. Experimental classrooms and comparison classrooms must be matched, to the extent possible in a classroom

study, student population, and teacher variables such as education, years of experience, and fidelity of implementation. Future studies should also be conducted in other regions of the country in order to provide more generalizable data.

Resources

Zyrna, J. (2012). Engage literacy: Using leveled texts. [White Paper] Retrieved 10/2017.