

# **A SCIENTIFIC REPORT OF SUCCESS**

## **EDUCATOR PREPARATION FOR ACHIEVEMENT IN READING (E-PREP)**

*A Research-Based Professional Learning Program  
for Teachers of Reading*

Research conducted by

**e\_Valuation, Inc.**

P.O. Box 311

Cataula, Georgia

November 3, 2005

### **RESEARCH MANAGERS**

---

**Jeanne L. Dugas, Ph.D.**

Vice-President

**e\_Valuation, Inc.**

**Polly K. Adams, Ph.D.**

President

**e\_Valuation, Inc.**

## INTRODUCTION

The Educator Preparation for Achievement in Reading professional development program (E-Prep) evolved in the elementary schools of West Central Georgia as a tool for addressing the illiteracy and persistent poverty that cyclically abound in this region of the country. Based upon the premise that improving student literacy achievement can break the cycle,<sup>1</sup> E-Prep has been employed successfully since 1999 to provide teachers in historically underperforming schools with the skills and technological resources that support delivery of effective, scientifically-based and data-driven reading instruction.

Building upon previous field research designed to validate E-Prep, researchers conducted a scientific study of the program during the 2004-2005 academic year. The results of that study, described in this report, reflect the impact of E-Prep upon a sample of 29 K-3 teachers and their 550 students, who worked and learned at two elementary schools located in West Central Georgia.

### The Professional Development Program

Grounded in the research-based findings of the 2000 Report of the National Reading Panel, E-Prep equips educators with the skills and tools to provide data-driven reading instruction that addresses their student's diagnosed instructional needs. Using non-traditional delivery methodologies, the technology-enhanced curriculum provides a total of 125 clock hours of hands-on training, online learning and collaborative opportunities, and classroom application exercises. Professionals knowledgeable in educational technology and reading education deliver five comprehensive training modules across five, full-day, face-to-face sessions in a computer laboratory equipped with modern assessment and data reporting tracking tools. The remaining five modules, presented asynchronously through an online course delivery system, require teachers to apply in their classrooms the skills they have learned in training seminars.

Throughout this intensive professional development program, instruction addresses the five essential components of reading: Phonemic awareness, phonics, reading fluency, vocabulary development and reading comprehension strategies. Systematic classroom observations and reading achievement assessments conducted at the beginning, middle and end of training, provide participants with timely feedback on their classroom practice.

---

<sup>1</sup> This idea of breaking the cycle by improving literacy has received widespread comment in literacy circles. See, for example, Dubow, E. F., & Ippolito, M. F. (1994). Effects of poverty and quality of the home environment on changes in the academic and behavioral adjustment of elementary school-age children. *Journal of Clinical Child Psychology*, 23, 401-412; Smith, S. S. & Dixon, R. G. (1995). Literacy concepts of low- and middle-class four-year-olds entering preschool. *Journal of Educational Research*, 88, 243-253; and others.

## SUMMARY OF RESEARCH OUTCOMES

The following table presents age and ethnicity patterns that describe the research sample.

### Sample Demographic Characteristics

<i>Ethnicity</i>	<i>Students</i>	<i>Teachers</i>
Asian	1	1
African-American	218	1
Caucasian	253	20
Hispanic or Latino	29	
Mixed Ethnicity	10	
<i>Age</i>	<i>Students</i>	<i>Teachers</i>
Mean	7.71	38.05
Minimum	5	23
Maximum	11	57
Missing Values	39	7

### OVERVIEW OF KEY FINDINGS

- ▶ Teachers transferred professional development training to their classrooms
- ▶ Teachers reported high levels of self-efficacy for their reading instructional practice by year's end
- ▶ Students' reading achievement levels improved
- ▶ A majority of students read at or above grade level by year's end

## CHANGES IN TEACHERS' PROFESSIONAL PRACTICE

Trained classroom observers used the Classroom Observation Rating System—Reading and Writing (CORS-RW) to document changes in teachers' professional practice. This instrument is designed to evaluate teachers' classroom practice against four criteria specified in the International Reading Association *Standards for Reading Professionals—Revised 2003*.<sup>2</sup> Recent research has demonstrated that the CORS-RW exhibits excellent reliability and validity.<sup>3</sup>

### Results

- Most teachers achieved positive changes in their classroom practice:

#### Summary of CORS-RW Changes From Fall 2004 to Spring 2005 (29 Teachers)

<i>CORS-RW Dimension</i>	<i>*Frequency of Positive Change</i>	<i>Percent of Positive Change</i>	<i>*Perfect Score at Time 3</i>
Foundational Knowledge (Max = 32)	18	62	10
Appropriate Practice (Max = 32)	18	62	9
Data Management (Max = 32)	24	83	5
Literate Environment (Max = 36)	21	72	0
COCR Total (Max = 132)	15	52	0

\* Unit of measure: Number of teachers

- Teachers achieved statistically significant gains from beginning to end of training:

#### Best Practice Gains Across the Year (Mean Observation Scores for 28 teachers)

<i>CORS-RW Dimension</i>	<i>Fall 2004</i>	<i>Spring 2005</i>	<i>Gain</i>
Foundational Knowledge	17.00	25.18	8.18*
Appropriate Practice	15.46	24.43	8.97*
Data Management	14.18	26.00	11.82*
Literate Environment	11.96	22.32	10.36*
Total Score	58.89	97.89	39.00*

\* Gains are significant at  $p \leq .00000007$

<sup>2</sup> International Reading Association (IRA) Professional Standards and Ethics Committee (2004). *Standards for Reading Professionals—Revised 2003*. Retrieved on 11/4/05 from the IRA website: [http://www.reading.org/resources/issues/reports/professional\\_standards.html](http://www.reading.org/resources/issues/reports/professional_standards.html)

<sup>3</sup> e\_Valuation, Inc. (2005). *The Promise of Teacher Quality Project 2005 Summative Report*. Tech. Rep. #2, Columbus, GA.

## CHANGES IN TEACHERS' DISPOSITIONS

At the end of the academic year, teachers completed online a reliable and valid self-efficacy instrument that measured the degree to which they believed they could successfully use science-based reading research (SBRR) instructional practices and impact positively their students' achievement in reading.

### Results

- Teachers reported high levels of self-efficacy for instructional practice
- Teachers reported high levels of self-efficacy for teaching impact

#### <sup>1</sup> Levels of Self-Efficacy for Reading Instruction

<b>Efficacy Measure</b>	<b>Descriptive Statistic</b>	<b>K</b>	<b>Grade 1</b>	<b>Grade 2</b>	<b>Grade 3</b>	<b>All Teachers</b>
SBRR Best Practice Efficacy	Mean	57.50	49.00	56.40	59.30	<b>57.70</b>
	Minimum	50.00	49.00	49.00	51.00	<b>49.00</b>
	Maximum	62.00	49.00	63.00	63.00	<b>63.00</b>
Number of Teachers		4	4	1	5	14
Teaching Impact Efficacy	Mean	52.25	45.50	44.00	55.36	<b>51.32</b>
	Minimum	47.00	40.00	36.00	47.00	<b>36.00</b>
	Maximum	63.00	51.00	54.00	63.00	<b>63.00</b>
Number of Teachers		4	2	5	11	22

<sup>1</sup> Efficacy scores could range from a low of 7 to a high of 63

### CONCLUSIONS

**Completion of E-Prep is associated with:**

- ▶ **Adoption of scientifically-based and data-driven best reading instructional practices in K-3 classrooms**
- ▶ **High levels of self-efficacy for use of new, best practices to teach reading**
- ▶ **High levels of self-efficacy for increasing students' reading achievement levels**

## CHANGES IN STUDENTS' READING ACHIEVEMENT LEVELS

The Iowa Test of Basic Skills (ITBS), administered in spring 2004 & spring 2005 to Grade 3 students at one school in the sample, pinpointed the impact of changing classroom practices upon reading achievement across this period of time.

### ITBS Results

- For 87.5% of teachers, students significantly increased their Comprehension, Vocabulary and Language Total Developmental Standard Scores
- Students made striking significant gains in mean Developmental Standard Scores:

#### \* Gains in Mean ITBS Standard Scores (151 Grade 3 Students)

	2004	2005	Gain
<b>Comprehension</b>	178.37	189.30	10.93*
<b>Vocabulary</b>	172.68	182.35	9.67*
<b>Reading Total</b>	175.52	185.79	10.28*
<b>Language Total</b>	175.17	186.03	10.87*

\* Gains are significant at  $p \leq .00000000000000015$

- For most teachers, student Grade Equivalent Scores improved: Comprehension (100% of teachers), Vocabulary (75%) and Language Total (87.5%)
- Overall, mean Grade Equivalence Scores increased significantly:

#### \* Gains in Mean ITBS Grade Equivalence Scores (145 Grade 3 Students)

	2004	2005	Gain
<b>Comprehension</b>	3.174	3.762	0.59*
<b>Vocabulary</b>	3.506	4.219	0.71*
<b>Language Total</b>	3.203	3.922	0.72*

\* Increase from 2004 to 2005 significant at  $p \leq .00000000000000005$

- By spring 2005, over 75% of these Grade 3 students could read at or above grade level:

Comprehension	Vocabulary	Language Total
79.2%	77.1%	78.4%

## CHANGES IN STUDENTS' READING ACHIEVEMENT LEVELS

The spring 2005 administration of the Georgia Criterion-Referenced Competency Test (CRCT) provided another validating look at E-Prep.

### CRCT Results

- In general, high percentages of students in the sample met or exceeded the state-defined criterion<sup>4</sup> on the CRCT reading subtests at all grade levels:

\* Georgia CRCT Performance Standard Achievement (Spring 2005)  
Percent of Students Meeting or Exceeding Standard

	Grade 1	Grade 2	Grade 3	All Students
Vocabulary	81.8%	81.1%	92.6%	87.5%
Locate-Recall	92.6%	73.0%	75.5%	80.0%
Meaning	86.8%	67.6%	88.6%	84.4%
Critical Analysis	90.1%	70.3%	83.8%	83.2%
Reading Total	93.4%	74.3%	92.1%	89.4%
Number of Students	121	74	229	424

\* Unit of measure: Individual students' CRCT Standard Scale Scores

- Of particular note for No Child Left Behind accountability: 92.1 percent of Grade 3 students met or exceeded the state standard for Reading Total scores

### CONCLUSIONS

**Most students of E-Prep trained teachers:**

- ▶ **Improved ITBS reading achievement levels significantly across the year-long professional development intervention (sub-sample of 145 Grade 3 students)**
- ▶ **Could read at or above grade level at the end of the intervention year (ITBS Grade Equivalence scores in sub-sample and CRCT Reading Standard Scores)**
- ▶ **Met or exceeded state expectations for performance on the CRCT Reading subtests**

<sup>4</sup> Performance Levels: Standard Scale scores below 300 = Does not meet standard; Scores at or above 300 = Meets or exceeds standard

## FINAL CONCLUSIONS

After one year of E-Prep Professional Development:

- Most teachers demonstrated high self-efficacy for applying scientifically-based and data-driven reading instructional strategies in their professional practice
- Most teachers demonstrated competency in applying scientifically-based and data-driven reading instructional strategies in their professional practice
- Students of most teachers significantly improved their reading achievement levels
- Mean reading achievement levels increased significantly, and at year's end most students taught by E-Prep trained teachers read at or above grade level
- In general, E-Prep Professional Development was associated with positive student reading achievement outcomes

### ABOUT E-PREP RESEARCH

*The scientific validation of E-Prep, begun in 1999 and continued through to the present study, provides critical information about this professional development program's effectiveness. Unique to this research, program evaluation experts have designed reliable and valid measures that provide*

- ▶ *Verification of classroom practice through direct observation; and*
- ▶ *Profiles of teacher disposition, including self-efficacy for and attitudes about their newly-learned classroom practice*

*Taken together with systematic measures of reading achievement throughout training, and pre- and post-training standardized measures of student's reading achievement, the research allows very clear conclusions to be drawn about E-Prep effectiveness. In this validation process, data have been analyzed with appropriate statistical procedures that allow inferences about the program's impact upon teachers and students.*

*Presently ongoing: Two studies of E-Prep in which treatment schools (teachers trained with E-Prep) are compared to demographically similar control schools (teachers receive no training), using observational, dispositional and standardized reading achievement data. Results from these studies will become available in early summer 2006.*