Texas A&M University

English Language and Literacy Acquisition – Validation (ELLA-V)

WHAT WAS ELLA-V'S IMPACT ON STUDENTS' SCIENCE PERFORMANCE, THEIR ENGLISH LANGUAGE SKILLS, AND THEIR SELF-ESTEEM?

Project Overview

THE PROBLEM: What Challenge Did the Program Try to Address?

As of the 2016-2017 school year, English Language Learners (ELLs) comprised 19% of the K-12 student body in Texas, representing a 38% increase over 10 years. As a group, ELLs were also the lowest achieving student subgroup on state assessments in Texas. Part of the explanation for these circumstance lies in the fact that only 30% of ELL teachers have the necessary training to teach ELL students effectively. In response, research has shown that additional training and support in the form of professional development (PD) can improve instruction and boost ELL student achievement when it's sustained over time, joined with curricula, and focused on both pedagogy and academic content. In particular, PD positively impacts ELLs when tied to cognitive-academic language proficiency within an academic content area. Accordingly, Texas A&M University received an i3 Validation grant[1] (2012–2017) to implement and evaluate a validation study of the English Language and Literacy Acquisition program (ELLA-V).

THE PROJECT: What Strategies Did the Program Employ?

The original ELLA program provided PD and curricular materials to K-3 ELL teachers over four years, with the PD aligned to English as a Second Language (ESL) and content-area standards in both literacy and science. ELLA-V built on this work by providing virtual PD, virtual mentoring and coaching, and ELL-relevant curricula for K-3 ELL teachers. The program components were evaluated through two different program groups in a multisite cluster randomized controlled trial, with schools assigned to either one of the two program groups or the comparison groups. The program groups received the same PD and coaching but differed in their curricular materials.

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[1] Validation grants provide funding to support the expansion of projects that address persistent education challenges to the regional or national level. All i3 grantees are required to conduct rigorous evaluations of their projects. The quality of evidence required to demonstrate a project's effectiveness depends on a project's level of scale or grant type. Texas A&M University received an i3 validation grant supported by the U.S. Department of Education's Investing in Innovation program through Grant Number U411B120047

THE ELLA-V MODEL

- **Virtual Professional Development (VPD).** The program provided program teachers with 90 minutes of virtual training on a bimonthly basis from September-May of each school year. The PD sessions gave teachers the chance to review and practice their lessons, discuss their students' progress, and reflect on their instruction. The goal of this component included developing ELLs' academic language skills and imparting ESL pedagogical strategies. These strategies included providing students with more structured opportunities to practice speaking English, engaging students via questions, using structured activities, and employing multiple types of communication.

- **Virtual Mentoring and Coaching (VMC).** Texas A&M provided trained coaches to mentor teachers in ELL strategies. The coaches provided up to three rounds of lesson feedback to teachers during each school year via field notes and observation records that assessed different aspects of instruction. All of the coaching was provided virtually through platforms such as LogMeIn, with coaches also equipped to provide real-time feedback during instruction through Iris cameras and earpieces.

- **Curricula.** The program gave teachers curricular materials, including lesson plans, lesson scripts, activity supplies, and formative assessments. The materials were designed to fit into a daily 45-minute ESL block. The curricula for both interventions were infused with science content to differing degrees. For the first program group, the curricula focused on oral language and phonological awareness for kindergartners and reading for 1st-3rd graders. For the second program group, the curricula centered on oral language development for all grades, as well as writing for 2nd and 3rd grade students.

Summary of Results

WHAT WAS ELLA-V'S IMPACT ON STUDENTS' SCIENCE PERFORMANCE, THEIR ENGLISH LANGUAGE SKILLS, AND THEIR SELF-ESTEEM?

TREATMENT ONE: Science-Infused Literacy Curriculum
Difference between Program and Comparison Students
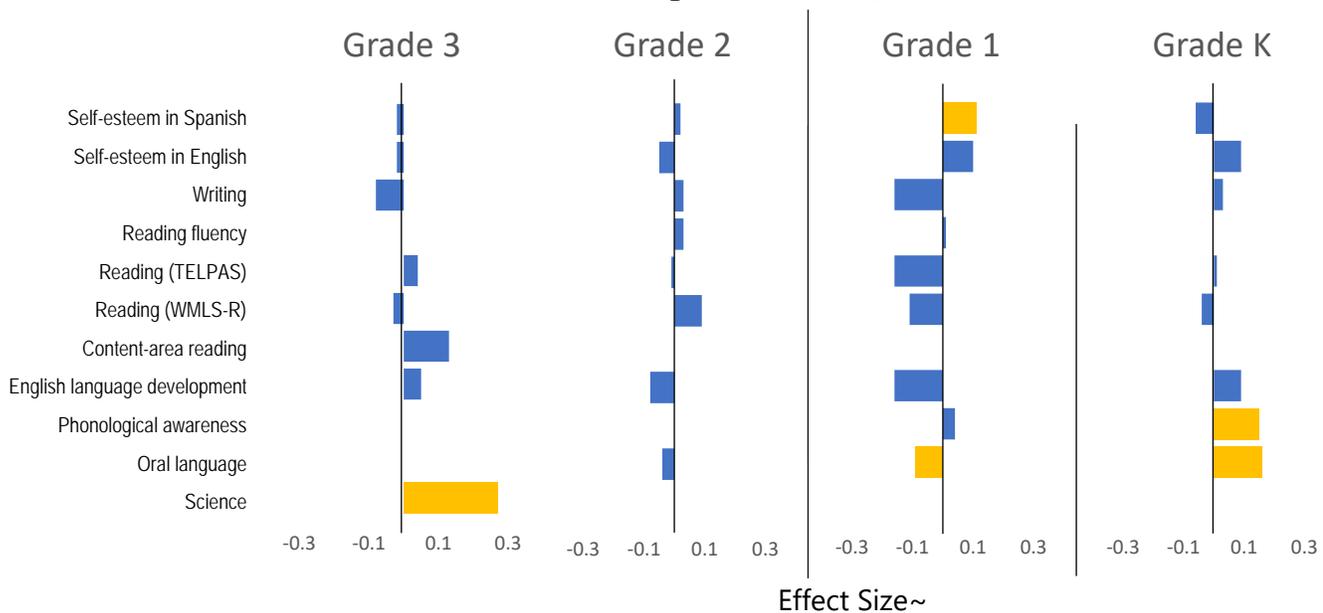
Effect Size~

~ Education researchers generally interpret effect sizes as follows: 0.2 = small, 0.5 = medium, and 0.8 = large. If the impact does not have an effect size of 0.2 or greater, it is not meaningful, even if it is statistically significant. [2]
Bars in gold are statistically significant. The findings are ordered as reported in the evaluation report.

[2] Cohen, J. (1992). A power primer. Psychological Bulletin, 112, 155-159.

TREATMENT TWO: Science-Infused Oral Language Curriculum
Difference between Program and Comparison Students
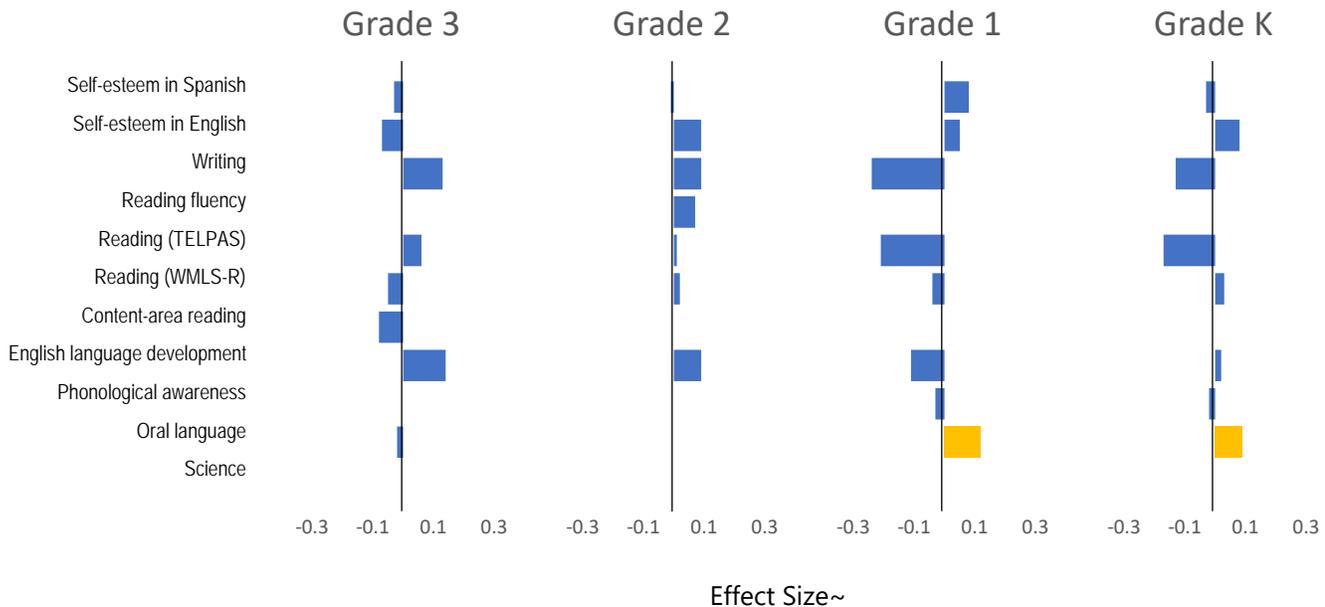
Effect Size~

~ Education researchers generally interpret effect sizes as follows: 0.2 = small, 0.5 = medium, and 0.8 = large. If the impact does not have an effect size of 0.2 or greater, it is not meaningful, even if it is statistically significant.
Bars in gold are statistically significant. The findings are ordered as reported in the evaluation report.

Ella-V had positive impacts on student achievement in some of the content areas targeted by its curricula. These areas included science achievement for 3rd graders in one intervention group as well as oral language development for early grade students in both intervention groups.

- **SCIENCE ACHIEVEMENT.** For program group 1, in which 3rd grade students were exposed to a science-infused literacy curriculum, ELLA-V had a statistically significant positive impact on 3rd graders' science achievement. The effect size of the difference was 0.27. In the other program group, in which 3rd grade students received a science-infused oral language curriculum, the program had no significant effect on 3rd graders' science achievement.

- **PHONOLOGICAL AWARENESS.** Kindergartners in program group 1, who were exposed to a curriculum that emphasized phonological awareness, performed relatively better than comparison group students on a measure of phonological awareness. The difference was statistically significant, with an effect size of 0.15.
- **ENGLISH LANGUAGE DEVELOPMENT.** ELLA-V had no statistically significant impacts on English language development in any of the intervention groups or grades.

- **ORAL LANGUAGE DEVELOPMENT.** In grades where ELLA-V curricula placed strongest emphasis on oral language, the program had a positive impact on oral language development. Kindergarteners in program group 1 and kindergarten and 1st grade students in program group 2 thus had statistically significant positive impacts on their oral language development. The effect sizes were 0.16 for kindergartners in program group 1 and 0.09 and 0.12 for, respectively, kindergartners and 1st graders in program group 2. On the other hand, the program had a statistically significant negative effect on 1st graders' oral language development in program group 1, with an effect size of -0.09.
- **READING.** The program had no effect on students' reading abilities in any of the intervention groups or grades.

- **WRITING.** The program featured a small writing component in its curricula for program group 2 second graders and third graders. The impact on these students' writing skills was positive but not statistically significant.
- **SELF-ESTEEM.** The results of a student survey indicated no difference in program and comparison group students' self-esteem in their English and Spanish classes, except for 1st graders in program group 1, who demonstrated statistically significant greater self-esteem in Spanish. The effect size of this impact was 0.11.

Please see Appendices B and C for information about the evaluation's design and the quality of the evidence, respectively.

OTHER CONSIDERATIONS

The study reported results regarding fidelity of implementation, changes in teachers' instructional practices, responses to the main program components, and limitations to the study.

- **IMPLEMENTATION.** All three of the main program components were implemented with fidelity, with the exception of virtual professional development in kindergarten and 3rd grade. Falling short of the fidelity threshold of 90%, this component was implemented with a score of 88% in kindergarten and 43% in 3rd grade.
- **INSTRUCTIONAL PRACTICES.** Program teachers used research-based ESL strategies to a greater degree than non-program teachers. The four principal strategies they used were grouping students, differentiated instruction, sentence stems, and use of visuals to build vocabulary. They also spent more time teaching new academic content in English.

- **LIMITATIONS: RESEARCH DESIGN.** Regarding the lack of impact on English language development, reading, writing, and self-esteem, the evaluators indicated that the backwards research design, in which students in each grade received the program for only one year (starting with 3rd grade and working backward to kindergarten), may have prevented higher grade ELLs from benefitting from the cumulative effect of the intervention.

- **FEEDBACK.** Intervention group teachers and principals reported that the professional development, coaching, and curricula helped them address ELLS' needs. However, the curricula component met with a divided response, as nearly all kindergarten and 1st grade teachers approved of the materials while only about half of 2nd and 3rd grade teachers did so.

- **LIMITATIONS: ASSESSMENTS.** The absence of impacts in certain areas may also have been a result of the instruments used to measure some of the outcomes. Specifically, the evaluators noted that it is usually more difficult to identify program impacts on high-stakes assessments such as state or district tests than on low-stakes assessments. Consequently, this may explain the program's lack of observed impact on English language development, which was measured via a state test.

For More Information

Evaluation Reports	Additional Reports
[Final Evaluation Report (ERIC) (Center for Research and Reform in Education (CRRE), August 2018)](#) [3]	

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[3] The information and data for this result summary was collected from the most recent report as of 01/22/2020: Center for Research and Reform (CRRE). (2018, August). *Evaluation of ELLA-V (i3 Valid 22)*. Retrieved from https://eric.ed.gov/?q=U411B120047&id=ED594703

Appendix A: Students Served by the Project[4]

GRADE(S)

PK	K	1	2	3	4	5	6	7	8	9	10	11	12

GENDER	RACE/ETHNICITY	COMMUNITY
Not reported	Not reported	

Urban 10%
Town 10%
Suburban 50%
Rural 30%
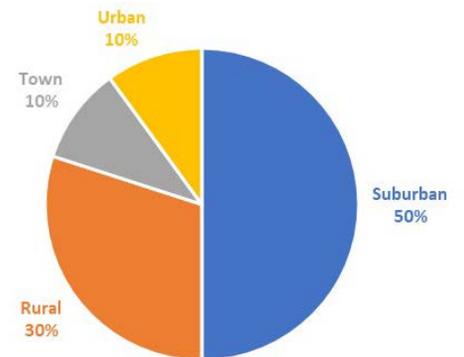
HIGH-NEED STUDENTS[i]

Free/Reduced-Price Lunch	English Learners	Students with Disabilities
82%	33%	N/A

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[4]These data reflect the entire student population served by the intervention, not just the evaluation sample used in the impact study.

Appendix B: Impact Evaluation Methodology[5]

RESEARCH DESIGN:

Design:	Randomized Controlled Trial
Approach:	▪ The study randomly assigned 79 schools in 10 districts across Texas to either one of two intervention conditions or a comparison (business-as-usual) condition. Study recruitment focused on districts and schools that served a majority ELL and Spanish-speaking student population. To be eligible, a school had to have approximately 40 ELL 3rd grade students during the 2013-2014 school year. Schools were first divided into three groups on the basis of district and state assessments before being randomly assigned to one of the three conditions.
Study Length:	Four years

DATA COLLECTION AND ANALYSIS

Study Setting	Seventy-nine schools in 10 Texas districts
Final Sample Sizes	▪ *Intervention Group 1:* 26 schools ▪ *Intervention Group 2:* 26 schools ▪ *Comparison Group:* 27 schools
Intervention Group 1 Characteristics (School-level):	▪ Low-income: 92% ▪ ELL: 63%
Intervention Group 2 Characteristics (School-level):	• Low-income: 91% • ELL: 61%
Comparison Group Characteristics (district-level averages)	▪ Low-income: 90% ▪ ELL: 61%
Data Sources:	▪ Student Assessments ▪ Student Survey

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[5] These data reflect only the evaluation sample in the impact study, not the entire population served.

Key Measures:

- Science Achievement - Iowa Test of Basic Skills (ITBS)
- Oral Language & English Language Development in Reading - Woodcock-Muñoz Language Survey-Revised (WMLS-R)
- Phonological Awareness - Test of Phonological Awareness 2nd Edition Plus (TOPA 2+)
- English Language Development, English Language Development in Reading, & Writing - Texas English Language Proficiency Assessment (TELPAS)
- Reading Achievement - State of Texas Assessments of Academic Readiness (STAAR)
- Reading Fluency - Dynamic Indicators of Basic English Literacy Skills (DIBELS) Oral Reading Fluency (ORF)
- Self-Esteem in English and Spanish - The Hispanic ELL Self-Esteem Inventory (SEI)

Appendix C: Quality of the Evidence

Although an evaluation may not have been reviewed by the time of publication for this summary, it is possible that the study will be reviewed at a later date. Please visit the websites found in the footnotes on this page to check for updates.

WHAT WORKS CLEARINGHOUSE REVIEW[6]

STUDY	RATING
Not reviewed as of 01/22/2020	N/A

EVIDENCE FOR ESSA REVIEW[7]

STUDY	RATING
Not reviewed as of 01/22/2020	N/A

NATIONAL CENTER ON INTENSIVE INTERVENTIONS REVIEW[8]

STUDY	RATING
Not reviewed as of 01/22/2020	N/A

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[6] https://ies.ed.gov/ncee/wwc/FWW
[7] https://www.evidenceforessa.org/
[8] https://intensiveintervention.org/

The ***Investing in Innovation Fund (i3)***, established under section 14007 of the American Recovery and Reinvestment Act of 2009, is a Federal discretionary grant program at the U.S. Department of Education within the Office of Elementary and Secondary Education (OESE). i3 grants help schools and local education agencies work in partnership with the private sector and the philanthropic community to develop and expand innovative practices that improve student achievement or student growth, close achievement gaps, decrease dropout rates, increase high school graduation rates, and/or increase college enrollment and completion rates for high-need students.

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[i] "High-need student" refers to a student at risk of academic failure or otherwise in need of special assistance and support, such as students who are living in poverty, attend high-minority schools, are far below grade level, who have left school before receiving a regular high school diploma, at risk of not graduating with a diploma on time, who are homeless, in foster care, have been incarcerated, have disabilities, or who are English learners. For more information see: Applications for New Awards; Investing in Innovation Fund-Development Grants, 81 FR 24070 (April 25, 2016).