Accelerating Language and Literacy: A Longitudinal Comparison of Hispanic Male and Female 2nd Grade Bilinguals

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Introduction

• This on-going study investigates the impact of a three-year English language/literacy intervention on gender differences among 140 Hispanic 2nd graders.

• This study is part of an on-going, longitudinal, randomized-trial project, funded by IES, that is investigating Hispanic English learners’ English language and literacy acquisition.
Importance

• This study addresses
  ▪ educational inequity for Hispanic students who are acquiring language and literacy skills in their second language and
  ▪ the stereotype of overachievement of female students in second language acquisition.
• Hence, this study presents the effectiveness of a longitudinal intervention that
  ▪ accelerates Hispanic students’ English language and literacy acquisition and
  ▪ promotes gender equity for male and female students.
ELLs and Academic Success

- Cummins (2003) stated that two of the most important issues in educational research are
  - teaching English language learners (ELLs) to read and
  - increasing their academic achievement.
- Oral language proficiency has evidenced to be an important determinant of reading comprehension (August, Calderon, & Carlo, 2001; August & Shanahan, 2006; Reese et al., 2000).
Gender Differences and ELLs

- There is a stereotype notion that girls outperform boys in second language and literacy acquisition (Ellis, 1994; Millard, 1997; Slavoff & Johnson, 1995).
- No gender difference in L2 verbal abilities in K-2 in developmental bilingual programs (Medina & Escamilla, 1992; Bjorklund & Frankel, 1989).
- Recent empirical study has also demonstrated a superiority of Hispanic boys in English vocabulary and narrative skills over Hispanic girls (Nakamura, 2004).
Location of the Research

- Large School District in Southeast Texas
- Urban
- Recognized (state accountability system)
- 65% Hispanic
- 89-98% low socio-economic status
- 22 elementary schools
This study is part of an on-going, longitudinal, randomized-trial project targeting Hispanic English learners’ English language and literacy acquisition.

A random sample of 35 girls and 35 boys was drawn from both treatment and comparison groups in the bilingual education condition.
<table>
<thead>
<tr>
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<th>Female</th>
<th>Male</th>
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<tbody>
<tr>
<td>Experimental</td>
<td>35</td>
<td>35</td>
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<tr>
<td>Control</td>
<td>35</td>
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Project ELLA

- Project ELLA (English Language and Literacy Acquisition) is investigating how second language students acquire English.
- The project is longitudinal – following students from kindergarten through 3rd grade.
- Our participants include bilingual students:
  - Bilingual Experimental
    - Most content taught in Spanish
    - 75-90 minute ESL block, enhanced to reflect “Best Practices”
  - Bilingual Control
    - Most content taught in Spanish
    - 45 minute ESL block

**Note:** Project ELLA includes a structured English immersion condition (experimental & control), but only the bilingual condition was sampled in this study.
Intervention Components

- ELLA students receive structured ESL instruction for 75-90 minutes daily.
- The curriculum focuses on increasing student achievement in both language and academic content.
  - Kindergarten and first grade emphasized oral language development.
  - Second grade focused on direct teaching of reading fluency and comprehension.
  - Third grade features content area reading through science.
Daily Oral Language
(Kindergarten through Second Grade)

- 10 minutes daily
- Targets science vocabulary
- Provides sentence using words in context
- Asks a daily question using the target word
- Presents visual aids for comprehension
- In second grade, this component became Daily Oral and Written Language (DOWL).
How would you move a large mass of dirt?

wagon  bucket  box
STELLA
(Kindergarten through Second Grade)

• 35 minutes daily
• Uses authentic children’s literature
• Utilizes Bloom’s Taxonomy for questioning
• Integrates science concepts & vocabulary
• L1 clarifications (paraprofessional)
• 5-Day scripted lesson (1 book/week)
Vocabulary Development

Story Telling and Retelling

Selected Literature
Oral Language Writing
ESL Strategies

Dense Cognitive Questions
Prior Knowledge
Background Information
L1 Clarifications
STELLA

- **Day 1:**
  - Introduce vocabulary
  - Introduce book
  - Make connections to previous lessons & activates prior knowledge
  - Topic Web
- **Day 2:**
  - Review vocabulary
  - Introduce new words and main characters
  - Read story
  - Leveled questions
- **Day 3:**
  - Review vocabulary
  - Introduce new words
  - Story review
  - Story critique
  - Story mapping
  - Closure – Word Wall
- **Day 4:**
  - Review vocabulary
  - Introduce new words
  - Interactive group retelling
  - Story Circle
  - Vocabulary Mapping Chart
  - Closure – word Wall
- **Day 5:**
  - Reread story
  - Science activity
  - Writing activity
Little Rabbit’s Journey
By: Beverly J. Irby/ Rafael Lara Alecio
Illustrated by Eva Vagretti Cockrille

Materials:
- Little Rabbit’s Journey
- Picture Word Cards
- Chart Paper for Rabbit Topic Web
- Story Mapping Chart
- Story Map/Dry Erase Marker
- Vocabulary graphic organizer
- Picture of a rabbit or a stuffed rabbit

ESL Strategy: Interactive Read Aloud, Visual Scaffolding, Preview/Review, Advance Organizer

Science: Chemistry – Earth Science/Landform

Language Arts:
- Objective 1: Writing/purposes. The student writes for a variety of audiences and purposes and in a variety of forms.
- Objective 2: To develop student’s comprehension through the use of higher order questioning and thinking strategies.
- Objective 3: To expand student’s vocabulary, listening and speaking skills.

Vocabulary:
- boulder
- wisest
- sigh
- steep
- stream
- journey

Day 1
Introduce Vocabulary
(Point to the title.)
Say This book was read to you while you were in Kindergarten last year.
Say Who remembers the title of the book?
• Say Yes the title of our story is Little Rabbit’s Journey.
(Point to the author’s name.)
- Say The **authors** of the book are **Beverly J. Irby** and **Rafael Lara-Alecio**. Say Does anyone remember another story written by **Beverly J. Irby** and **Rafael Lara-Alecio**? (**The Cowboy Mouse**).
- Say Let’s pretend you are authors, what would you write about?
- Say Now, the title of the story is **Little Rabbit’s Journey**.
- Say Do you know what a **journey** is?
- **L1 Clarification:** ¿Saben ustedes lo que es salir de viaje? (Wait for students to respond.)
- Say Looking at the cover of the book and by the title of the story, who can tell me one word we are going to learn? (Journey) (Wait for students to respond)
- Talk about any personal journey you enjoyed and ask the students about their experiences during any particular journey.
- Say Today we are going to go over three words. One of them you learned in Kindergarten. Let’s see if you remember which one.

- (Show the picture card **stream**.)
- Say This is our first vocabulary word for the story.
- Say This is the picture for **stream**.
  (Read the sentence on the back of the card.)
- Say A **stream** is a body of running water that is smaller than a river.
- **L1 Clarification:** “Stream” es como un arroyo, una corriente de agua. Una corriente de agua que no es tan grande como un río.
- (Model answer using the following stem “I **could find** _______ in a stream.” found on the back of the card. Wait for students to respond with their own sentences using the stem. Students should answer in a complete sentence. If students do not answer in a complete sentence, you need to model for them and ask them to repeat after you.
- Say I could find … **I could find** … **many pebbles** in a stream.
  Say What else can you find in a stream? Your turn, I could find… __________ in a stream.
  (Wait for students to respond. Students should answer in a complete sentence.)

- (Show the picture card for **boulder**.)
- Say Who can tell me what this is?
  (Wait for students to respond)
- Say This is a picture of a **boulder**. This is not really a new word for you, but I want to see how many of you remember what a boulder is.
- **L1 Clarification:** Esta es la lámina de una roca.
  (Read the sentence on the back of the card.)
- Say A **boulder** is a large rock.
- **L1 Clarification** Una roca es como una piedra grande en un riachuelo.
- Say Have you seen a **boulder** before? Where?
Definition:
A journey is when you travel from one place to another.

Stem:
I would like to go on a journey to..., 
Vocabulary Mapping Chart

Draw a Picture

Project ELLA
STELLA
2005-2006

Synonym
straight-up

Definition: when something is straight up and down, having a very sharp slope.

Antonym
flat

WORD
steep

Write a sentence using the new word.

__________________________________________________________________________________
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Santillana Intensive English
(Kindergarten and First Grade)

• 35 minutes daily
• Promotes oral language development
• Models syntax and sentence structure to encourage students to speak in complete sentences
• Helps students build social and academic language
• Integrates content-based instruction
• Incorporates small group/pair activities
• Supports phonemic awareness
Homes Long Ago

Teach
You may wish to review previous vocabulary using the Lesson Cards, Vocabulary Cards, and student Word Banks. WORD BANK

- Vocabulary Cards: Introduce Personal Vocabulary Cards 186-190. Pass the cards around the group and ask Are you hungry? Are you thirsty? Are you hot? Are you cold? Are you tired? Are you dizzy? Have each student take turns choosing the card that describes the response lie of the would like to give and respond by saying I'm ______. Have students trace the letters and color the pictures on Personal Vocabulary Cards 186-190.

- Help students relate personal past events. Ask each student What did you do yesterday? Elicit varied responses. Then ask What are you doing today? and What are you going to do tomorrow? Have students offer ideas for the timeline by noting what the class did yesterday, is doing today, and will do tomorrow.

<table>
<thead>
<tr>
<th>Yesterday</th>
<th>Today</th>
<th>Tomorrow</th>
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- Review Vocabulary Cards 17-18 and 62-63. Ask students How do people change over time? How have cars changed over time? How have clothes changed over time? How do places change over time?

- Lesson Card 1.59: Introduce the Lesson Card by explaining that ancestors include grandparents or great-grandparents. Review with students what they have learned about change over time. Then say Houses have changed. Your grandparents and great-grandparents (the mothers and fathers of your grandparents) had a different house than you have today. Look at the house. Does it look like your house? This is what houses looked like long ago. Have you ever seen a house like this one? Say Look and listen. Then read the story.

- My ancestors had to cook their food every day. They bad no refrigerator to store it away.
- My ancestors had to wash their clothes by hand and hang them to dry. No washing machine could they buy.
- My ancestors had to go to the bathroom outside. They had no indoor plumbing inside.
- My ancestors had no electric lights. They had only a candle to light at night.
- My ancestors had no phone. They had no way to call their friends when they were alone.

Homes long ago were very different from the homes today, in almost every way.

- Ask listening comprehension questions, such as What are ancestors? Where did Sara's ancestors live? What's a log cabin? How did Sara's ancestors warm their feet? Did they have a heater? Why not? Did Sara's ancestors have bathrooms inside the house? (Explain outhouses.) Did Sara's ancestors have electric lights? What did they use for light? What is the story mainly about?

Practice and Apply

- Paired/Collaborative Activity: Have students work with a partner to make a chart of three things that have happened in their lives. (You might wish to give examples to guide them as shown below.) Ask each pair to dictate their events and write them as sentences on the board.

<table>
<thead>
<tr>
<th>My Life</th>
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<tbody>
<tr>
<td>When I was a baby, I cried.</td>
</tr>
<tr>
<td>When I was in kindergarten, I learned to read.</td>
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- Review the meaning of ancestors and make a word map with the word "ancestors" in the center.

- Review and discuss the timeline.

- Bridge to Reading

- Phonemic Awareness: Practice oral blending of initial consonants. Say /b/ /g/—what's the word? Continue with the following words: bat, bank, book, box, boat, bread, Bob, bird.

- Phonemic Awareness: Practice listening for long vowel sounds. Say I am going to say some words. You say the word and tell me which long vowel sound you hear: bake, beat, bone, boat, bike, bean.

- Phonics: Review the /b/ sound using Personal Vocabulary Card 204. Say Bobby is bouncing the ball. Have students identify other words they know that start with /b/. Using Personal Vocabulary Cards 4, 27, and 39-40, review the /b/ sound. Say I am going to say some words. You hold up the picture of the word I say. Then review all Personal Vocabulary Cards that start with "b." Have students write the “b” words and underline the /b/ sound in
Early Interventions in Reading Level II (Second Grade)

- 45 minutes daily
- Daily, explicit, and systematic instruction
- Incorporates five strands of reading:
  - Phonemic awareness
  - Letter-sound correspondence
  - Word recognition and spelling
  - Fluency
  - Comprehension
Comparison Students

- The comparison students received regular ESL instruction approximately 45-60 minutes daily with great variation across teachers.
Research Questions

• Is there any difference between male and female 2nd grade bilinguals’
  ▪ Spanish oral language proficiency over 3 years?
  ▪ English oral language proficiency over 3 years?
• Is there any difference between male and female 2nd grade bilinguals’
  ▪ Spanish literacy skills over 3 years?
  ▪ English literacy skills over 3 years?
Assessments

- Oral language skills
  - Spanish IPT & English IPT
    - Kinder, BOY
    - Grade 1, EOY
    - Grade 2, EOY

- Literacy skills
  - English & Spanish DIBELS Oral Reading Fluency subtest
    - Grade 1, MOY & EOY
    - Grade 2, BOY, MOY, & EOY

- We are still collecting other measures from the end of 2nd grade that will be analyzed in the near future.
Results: Spanish IPT

• No statistically significant difference between boys and girls in experimental and control classrooms at the end of 2nd grade, controlling for initial level
• Average level of each group:
  ▪ Beginning of K: Level B
  ▪ End of 2nd grade: level E
Level Designations for Spanish IPT
Results: English IPT

- Significant differences ($p < .001$) among four groups, adjusting for initial level.
  - Pair wise comparison revealed that experimental girls outperformed control girls ($p = .032$, ES = 4.01) and control boys ($p = .013$, ES = 4.40).
  - No difference was found between experimental boys and girls.
- Average level of group
  - Beginning of K: Level B
  - End of 2nd grade
    - experimental groups Level E
    - control groups reached Level D
Level Designations for English IPT

Beginning of Kindergarten

End of 2nd Grade
Results: DIBELS Oral Reading Fluency

- **Spanish**
  - No statistically significant difference between boys and girls in experimental and control classrooms at the end of 2nd grade, controlling for initial level.

- **English**
  - Marginally significant differences ($p = .053$) among four groups, adjusting for initial level.
    - Pair wise comparison revealed that experimental girls outperformed control girls ($p = .025$, ES = 3.22) and control boys ($p = .029$, ES = 3.14).
    - No difference was found between experimental boys and girls.
Conclusions

• L2 can be gained within primary language instruction (Hakuta, 1986; Medina & Escamilla, 1994; McLaughlin, 1985).

• Contradictory to a ‘common sense’ notion that girls outperform boys in school, our study presented an intriguing fact that both girls and boys receiving the English intervention had similar average scores and levels of oral proficiency. They also had a similar level of reading fluency in both first and second language. This has led us to claim that both boys and girls have benefited from participating in the project.
Conclusions

- Consistent with previous studies that boys do not differ from girls in language acquisition rate, our study found no differences between experimental boys and experimental girls. However, we did find differences between experimental girls and control boys. Thus, the differences are not related to gender, rather they are based on the quality of instruction.
Implications for Future Research

- Gender difference in relation to language of instruction
- Studies utilizing a more comprehensive pool of measures in literacy-related skills
Acknowledgements

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