

Effective Early Literacy Skill Development for English Language Learners: An Experimental Pilot Study of Two Methods*

Jo Ann M. Farver, Ph.D.
Department of Psychology
University of Southern California, Los Angeles

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Introduction

- Spanish-speaking students are largest bilingual subgroup and fastest growing population of children in public schools
- In California, 1 / 3 kindergarteners are classified as an ELL, and in grades K-3, 85% are Spanish-speaking.
- Roughly 30% of the Head Start population is Latino and for most, Spanish is their dominant language.
- Children whose first language is other than English, face considerable challenges in becoming literate and are at risk for reading difficulties and low academic achievement.

Introduction: Why is this important?

- There is a **serious achievement gap** between Spanish-speaking dual language learners and other students.
- In 2004, **only 15%** of the Latino fourth grade students **read at or above grade level** (National Center for Education Statistics, 2004).
- They have **higher school dropout rates** and lower high school completion rates than do Caucasian or Black students (U.S. Department of Education, 2004).
- Schools face the challenge of successfully educating these children beginning in pre-K to ensure they will not fall behind English-speaking students in their literacy skill development and overall academic achievement.

Introduction: The relation of early literacy skill development to learning to read

- Strong evidence the problems children experience in learning to read during the elementary years and beyond are related to the pre-literacy skills that they bring with them from preschool and kindergarten
- Researchers (e.g., Lonigan et al, 1998) have isolated three key skills in the preschool period that predict reading ability at school-age:
 1. **phonological awareness**
 2. **print knowledge**
 3. **oral language**
- Young children with more of these pre-literacy skills **profit** more from reading instruction, learn to **read sooner**, and **read better** than do children who have fewer of these skills.

Introduction: what works and how do we know?

And...Interventions can make a difference!

- Curricula that target these 3 skills are effective in both *preventing* reading difficulties and *intervening* to fix the problem.
- IES What Works Clearinghouse
U.S. Department of Education
<http://ies.ed.gov/ncee/wwc/>
- Some children who are at particular risk may need a structured intervention!
- Interventions that provide *systematic, explicit, and intense instruction* in *phonological awareness, print knowledge, and vocabulary*, produce the most gains for children who are at high risk of reading difficulties and disabilities (e.g., Hatcher et al, 2004; Mathes et al, 2005; National Reading Panel Report, 2000; Whitehurst et al, 1994).

Introduction: How can we ensure the reading success of dual language learners?

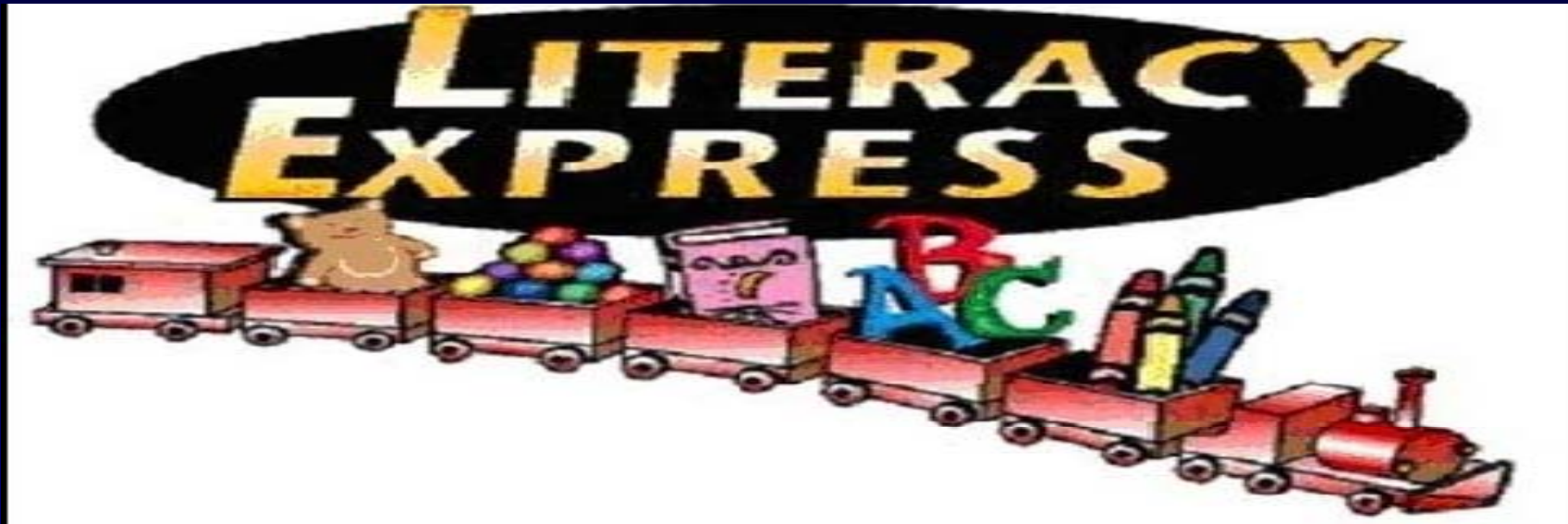
- Considerable controversy about how best to ensure the reading success of dual language learners. Some evidence for the success of:
 - » **Two-way** and **early-exit programs** with school-age ELL children (Slavin & Cheung, 2003 for a review).
 - » **Bilingual** and **dual language programs** for young ELLs' pre-reading skills (Barnett, 2004; Winsler, 1999; Stewart, 2004 review).
- We don't know which instructional approach (or combination) is most effective with **preschool** ELLs
 - few curricula targeting development of emergent literacy skills for both English-speaking and ELL preschoolers.
 - No systematic, empirical studies of ELL preschoolers.

The Current Study

This experimental pilot study contrasted a **transitional/bilingual** mode of instruction with an **English-only** program on the development of children's emergent literacy skills in BOTH Spanish and English, over a preschool year to answer:

1. What is the impact of a targeted literacy intervention on Spanish-speaking ELL children's early literacy skills in Spanish and English?
2. Does the impact of the literacy intervention depend on the language of instruction?

Literacy Express Preschool Curriculum*



- Contains 10 thematic units sequenced in order of complexity and sophistication for 3 to 5 year olds
- Units provide a coherent and integrated environment targeting the **3 key emergent literacy skills** – using small- and large-groups and a balanced mix of teacher-directed and child-initiated activities.
- We created a parallel Spanish language version

* Lonigan, Clancy-Menchetti, Phillips, McDowell, & Farver (2005)

Literacy Express – Safety Unit Example



- Small-group dialogic reading
 - » Books on safety themes
 - » Teach target **oral vocabulary** (helmet, fire engine, ladder, smoke, siren, alarm, seat belt).
- Large-group activities provide opportunities to **use the vocabulary**
 - » dramatic play safety personnel and materials, traffic signs, science “exploration centers” teach safe vs. unsafe things to touch, etc.
- Teacher-directed small-group activities:
 - » word games w/picture-puzzles & manipulatives - words made of smaller sound units, targeting **phonological awareness**
 - » objects and puzzles teach letter-names and letter-sound knowledge **print knowledge**
 - » **911** preschoolers have saved parents’ lives

Research Design

94 children enrolled in a Head Start program randomly assigned to 3 groups:

1. 32 received their existing High/Scope curriculum: **Control group**
2. 31 received *Literacy Express* in **English-only**.
3. 31 received *Literacy Express* in Spanish from October to January, when at week 9 they were transitioned to English instruction: **Transition group**.

Four USC bilingual graduate research assistants delivered a pull-out curriculum in small groups of 4 to 5 children for 20 mins, 4X per week from October to May- for total of 21 weeks.

Participants

- 94 children M age = 54.58 ms; 43 girls from Spanish-speaking families
- 26% parents U.S. born (Mexican or Central American ancestry)
- 74% immigrants
 - » Mexico=42% Central America=32%
 - » Resided U.S. 1-35 yrs; M = 15.49
- Mothers' education: less than 6th to some college training
 - » 59% employed; semi-skilled jobs
 - » Fathers similar education and employment (85%)



Mothers completed questionnaires

- **Family Demography**
 - » Information about their education, family composition, and employment status.
- **Home Literacy Questionnaire** (Lonigan & Farver, 2002)
 - » 13 items rated on a 7-pt scale (1=never; 7= daily)
 - » **Parents' modeling of literacy activities**
 - (e.g., How often does your child see you or your partner/spouse reading for enjoyment?)
 - » **Parents' involvement in literacy related activities**
 - (e.g., How many times per week do you read to your child? How often do you try to teach letters of the alphabet; play rhyming games; point out words to your child and tell him/her what they say?)
 - » **Child interest in literacy activities**
 - » **Number of books in the home**

Children's Literacy Skill Assessments

Preschool Comprehensive Test of Phonological and Print Processing; P-CTOPPP [English—Lonigan et al, 2004; and Spanish-- Lonigan, Farver & Eppe, 2002].
was administered before and after the intervention in Spanish and English.

- **Oral language**

 - Receptive Vocabulary (40 items)

 - Definitional Vocabulary (80 items)

- **Phonological Awareness**

 - Blending words, syllables, phonemes to create words (21 items)

 - Elision removing phonemes, syllables, or half of a compound word, and determining the word that remains (18 items)

- **Print knowledge**

 - Print concepts, alphabet recognition, letter-name and letter-sound knowledge (36 items)

Results

1st Analysis

Were there any pre-existing differences in the children and their families in the control, English-only and transition groups that might have affected children's responses to the intervention?

- Analysis of variance tests (ANOVAs) compared the 3 groups by family characteristics and aspects of their home literacy environments.

No Demographic Differences X Intervention Group

	Intervention Group				
		<i>Control</i>	<i>English</i>	<i>Transitional</i>	
Variable	<i>Range</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>F (p)</i>
Child age in months	45-62	54.41 (5.56)	54.00 (4.19)	55.26 (3.78)	.60 <i>ns</i>
Mothers' education level	1 = 6th grade or less	3.87 (1.54)	3.80 (1.32)	3.71 (1.53)	.09 <i>ns</i>
Fathers' education level	2 = middle school 3 = high school 4 = 1–2 year college 5 = 4 year college/ professional training	3.41(1.47)	3.32 (1.46)	3.75 (1.32)	.70 <i>ns</i>
Parents' literacy habits	3-18	11.38 (4.79)	11.46 (3.96)	11.67 (4.39)	1.25 <i>ns</i>
Parents' involvement in home literacy activities	6-29	16.35 (6.75)	18.53 (5.73)	18.41 (5.23)	1.31 <i>ns</i>
Child interest	7-30	21.77 (7.35)	24.23 (5.67)	22.54 (5.93)	1.18 <i>ns</i>
# Child books in the home	0-40	12.42 (12.03)	15.27 (17.17)	17.87 (17.83)	.94 <i>ns</i>
Mothers' years of U.S. residence	3-41	15.19 (7.22)	16.86 (8.47)	17.09 (9.39)	.32 <i>ns</i>
Fathers' years of U.S. residence	4-44	16.21 (7.99)	16.90 (5.73)	20.41 (9.89)	1.72 <i>ns</i>

No Demographic Differences X Intervention Group

	Intervention Group				
		<i>Control</i>	<i>English</i>	<i>Transitional</i>	
Variable	<i>Range</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>F (p)</i>
Home language					<i>Chi Square</i>
	English only	5	6	10	$\chi^2 (4) = 6.24; p = .18 \text{ ns}$
	Spanish only	18	21	16	
	Both	9	4	5	
Martial status					
	Single mother	6	6	8	$\chi^2 (2) = 1.51 p = .47 \text{ ns}$
	Married/partner	25	26	23	
Fathers' Employment (n= 74)					
	Employed	25	23	20	$\chi^2 (2) = 3.51 p = .17 \text{ ns}$
	Not employed	1	1	4	

Results

2nd Analysis

Were there any differences in children's skill levels before the intervention in the control, English-only and transition groups?

- Compared the 5 pre-literacy skills in English and Spanish for the 3 groups in at **Time 1- BEFORE the intervention.**
- Analysis of covariance tests (w/ age as covariate)

No significant differences in children's scores in English or Spanish before the intervention at Time 1

	Intervention Group			
Outcome Variable	Control Adj. M (SD)	English Adj. M (SD)	Transitional Adj. M (SD)	F for Group Contrast

English Language Outcomes

Receptive Vocabulary	22.63 (6.26)	23.41 (7.33)	24.32 (5.45)	.54 ^{ns}
Definitional Vocabulary	26.78 (17.28)	30.08 (18.00)	35.69 (13.22)	2.38 ^{ns}
Blending	9.62 (3.36)	9.71 (4.34)	10.10 (4.22)	.12 ^{ns}
Elision	4.23 (1.91)	5.29 (2.72)	5.36 (2.89)	1.98 ^{ns}
Print Knowledge	10.29 (6.84)	11.52 (6.99)	13.68 (6.02)	2.18 ^{ns}

Spanish Language Outcomes

Receptive Vocabulary	21.80 (5.34)	20.26 (4.47)	19.53 (6.67)	1.35 ^{ns}
Definitional Vocabulary	17.91 (14.61)	22.87 (17.34)	17.76 (15.99)	1.01 ^{ns}
Blending	8.26 (3.09)	8.22 (2.98)	8.40 (4.19)	.02 ^{ns}
Elision	3.66 (1.73)	4.27 (2.14)	3.38 (1.77)	1.79 ^{ns}
Print Knowledge	7.99 (5.50)	9.99 (5.80)	10.55 (7.86)	1.46

Results

3rd Analysis

What is the impact of the literacy intervention on Spanish-speaking ELL children's early literacy skills in Spanish and English?

Does the impact of the literacy intervention depend on the language of instruction?

- Compared the 5 pre-literacy skills in English and Spanish for the 3 groups at **Time 2 AFTER the intervention**
- Analysis of covariance tests (w/ age and pre- intervention Time 1 scores as covariates).

Comparison of Children's English Skill Scores After the Intervention by Group

Outcome Variable	Intervention Group			F for Group Contrast	Effect Sizes ¹		
	Control Adj. M (SD)	English Adj. M (SD)	Transitional Adj. M (SD)		E vs C	T vs C	T vs E
Receptive Vocabulary	28.33 (5.63)	30.62 (5.85)	31.79 (3.95)	7.21**	.40*	.71***	.23
Definitional Vocabulary	41.23 (16.85)	47.45 (12.96)	52.28 (12.07)	13.95***	.41**	.75***	.39*
Blending	12.69 (3.51)	14.31 (3.33)	14.43 (3.04)	4.87**	.47**	.53**	.04
Elision	6.37 (1.51)	7.96 (3.24)	8.04 (3.51)	6.25**	.63**	.62**	.02
Print Knowledge	16.61 (7.96)	20.11 (9.01)	23.90 (7.56)	18.36***	.41**	.94***	.46**

1. Children who received either the **Transitional** or the **English-only** instruction had significantly higher scores for all 5 of the pre-literacy skills **in English** than did the children who did not receive the intervention (i.e., the **Control** group).
2. Children who received the **Transitional** instruction had significantly higher **Definitional Vocabulary** and **Print Knowledge** scores than did children who received the instruction in **English-only**.

Comparison of Children's **Spanish** Skill Scores After the Intervention by Group

Outcome Variable	Intervention Group			F for Group Contrast	Effect Sizes ¹		
	Control Adj. M (SD)	English Adj. M (SD)	Transitional Adj. M (SD)		E vs C	T vs C	T vs E
Receptive Vocabulary	23.79 (4.03)	24.58 (4.07)	27.03 (5.74)	9.15***	.20	.66***	.49**
Definitional Vocabulary	25.74 (15.97)	25.90 (19.30)	32.66 (18.30)	9.64***	.01	.40***	.36***
Blending	10.59 (3.02)	11.13 (2.49)	12.71 (4.06)	7.12**	.19	.59***	.47**
Elision	5.52 (1.32)	5.94 (1.75)	7.40 (2.95)	6.75**	.27	.83***	.60**
Print Knowledge	12.83 (6.28)	13.14 (6.62)	16.54 (8.90)	8.09***	.05	.48***	.43**

1. Children who received the **Transitional** instruction had higher scores for all 5 of the pre-literacy skills in **Spanish** than children who received the instruction in **English-only** or were in the control group.
2. There were no differences between the **control** and **English-only** group

Discussion- what does this mean?

1. Children who received the English-only or Transitional Spanish-to-English instruction made significant gains in their oral language, phonological awareness, and print knowledge in their **English** language skills compared to the control group.

Suggests the curriculum works!- and it only takes a few minutes a day....

2. The impact of the intervention depended, to some extent, on the language of instruction.

While both the English-only and transitional Spanish-to-English models were equally effective for children's English-language outcomes,

For children's Spanish-language outcomes, only the Transitional model was effective.

Discussion- what does this mean?

3. There was no negative effect on children's skills in Spanish for English-only instruction.
4. Transitional model did not impede children's acquisition of skills in English

Suggests it is possible to enhance children's Spanish language skill development at NO cost to (or loss of) their English language skills.

So.....

If the goal is to help children develop **English** language pre-literacy skills, the language of instruction may not be important --as long as it includes a substantial component of English language instruction and specifically targets the pre-literacy skills.

But, if the goal is to develop and maintain children's **bilingualism**, then they may need to be given direct instruction to develop their pre-literacy skills in Spanish AND English.

Where do we go from here?

- This study was a pilot project with small number of children.
- Recently, we fully developed the curriculum in Spanish.
- Now replicating this pilot project with federal funding from the National Institute of Mental Health in large scale study in LA, Florida, and Kansas.
- Pilot study was delivered by a research team, now we are training preschool teachers to deliver the curriculum to further examine:
 1. the impact of literacy instruction on Spanish speaking children's early literacy skills in Spanish and English
 2. whether the impact of the intervention depends on language of instruction.
 3. Longitudinal effects by following the children to 1st grade.

Other key, unresolved issues...

1. Should children be taught to read in the language they know best?
 - » Do skills developed in first language (L1) *transfer* to second language (L2)?
 - » But, will children with weak L1 skills acquire L2 skills as quickly as those with strong L1 skills?
2. Do children lose L1 skills when trying to acquire L2 skills?
3. Do children need to be taught to transfer L1 skills to L2?
4. Can a bilingual preschool program promote parallel development in **BOTH** L1 and L2?

Thank you!

For more information and/or if you are interested in participating in our large scale project please contact:

Jo Ann M. Farver, Ph.D.

University of Southern California

Department of Psychology

farver@usc.edu 213-740-3965

Introduction: How can we ensure the reading success of dual language learners?

- Considerable controversy about how best to ensure the reading success of dual language learners, particularly with regard to the language of instruction.
- Typically, school districts have emphasized children's English-language ability while neglecting their home language; to the extent that in California today, bilingual education has been relatively eliminated.
- In the past, and in other states, there have been efforts to address ELL children's school achievement
 - » English immersion
 - » ESL pull-out
 - » early-exit and late-exit transitional
 - » two-way or dual language programs