Language Minority Children's Growth in Vocabulary Knowledge and Literacy Skills

The purpose of this study was to examine current state and national policies for analyzing and reporting reading achievement data for children who speak a language other than English at home. Although language minority children are diverse in terms of language proficiency, the literature tends to focus on English language learners (ELL) and often overlooks those who have attained fluent English proficiency. Comparing ELL to non-ELL children creates a missed opportunity to examine why some children remain long-term ELL while others are successful at attaining English fluency. Furthermore, how data are aggregated for annual assessment reporting impacts schools and school districts in terms of funding, enrollment, and instructional programs. This study is significant to the field of teacher education in that it informs policies that directly impact teachers, especially those working in schools with high concentrations of language minority children. This proposal contributes to the theme of the conference because language minority children are the recipients of policy decisions in which they have no voice.

Theoretical Framework

Literacy and ELL Children

Research suggests that ELL children develop basic literacy skills similarly to native English-speaking (NS) children. For example, Lesaux, Koda, Siegel, and Shanahan (2006) found that preschool ELL children tended to have similar pre-reading skills in English as NS children. During the "Learning to Read" stage in Kindergarten through third grade (Chall, 1983) ELL children develop word reading, decoding, spelling, fluency, and phonemic awareness in English similarly to NS children (Lesaux & Geva, 2006). However, as texts become more complex in fourth grade and beyond, ELL children's limited vocabulary knowledge often leads to difficulty in comprehension (Chall & Jacobs, 2003). In order for ELL children to be successful in attaining high levels of literacy in English, both word-level and text-level skills must be addressed in school (Burgoyne, Kelly, Whitely, & Spooner, 2009).

Policies in Reporting Language Minority Reading Achievement Data

At the national level, reading achievement data are most often reported that compare students by race/ethnicity, socioeconomic status, and gender rather than by language status. For example, reports from the National Assessment of Educational Progress (NAEP) from 2002, 2004, 2005, and 2007 did not include comparisons of the NS and ELL subgroups (Grigg, Daane, Jin, & Campbell, 2003; Lee, Grigg, & Donahue, 2007; Perie, Grigg, & Donahue, 2005; Perie, Moran, Lutkus, 2005). However, a report published in 2011 on White and Hispanic achievement gaps did include comparisons of NAEP performance of White, Hispanic non-ELL, and Hispanic ELL children (Hemphill & Vanneman). This report suggested that there were persistent reading achievement gaps between NS and ELL children from 1998 to 2009. This, despite an increased focus on classroom instruction in phonemic awareness, phonics, fluency, and comprehension resulting from the National Reading Panel report (National Institute of Child Health and Human Development, 2000). However, Hemphill and Vanneman's (2011) report did not examine fluent English proficient (FEP) children's performance separately from other non-ELL children. Using a dichotomous categorization scheme (ELL and non-ELL) for language status results in reporting of consistently lower academic achievement for language minority children, and indeed masks the achievement of this group (Kieffer, 2008). Specifically, the ELL achievement gap in reading widens between 4th and 8th grades in part because all high achieving ELL children are moved out

of the category through reclassification and at the same time, new immigrants to U.S. schools are added (Fry, 2007).

Comparison of reading achievement of ELL and non-ELL children continues at state and local levels. For example, the California Department of Education reports annual assessment and accountability data at the state, county, district, and school levels as a function of race, socioeconomic status, and ELL/non-ELL status. Furthermore, School Accountability Report Cards (SARC) published annually for each California school does not include data on FEP children's performance.

The current study examined growth in vocabulary knowledge and literacy skills among linguistically diverse children that included examination of FEP children's performance apart from that of NS and ELL children. The following research question guided this study: Do NS, ELL, and FEP children differ in literacy and vocabulary growth?

Methodology

This study included a total of 226 fourth grade children in 14 classrooms at five schools within one school district. The sample included 113 NS, 71 ELL, and 42 FEP children. Most of the children in the study were White or Latino however there were some Asian and Black participants. Three of the school included high proportions of children who were eligible for free or reduced lunch.

Children were given pre-post assessments of vocabulary knowledge and literacy skills in October and March. The Peabody Picture Vocabulary Test - 4 (PPVT-4; Dunn & Dunn, 2007) and the Expressive Vocabulary Test – 2 (EVT-2; Williams, 2007) were used to measure students' receptive and expressive vocabulary knowledge. The Passage Comprehension test of the Woodcock Johnson III (Woodcock, McGrew, & Mather, 2001), the third edition of the Wide Range Achievement Test, Reading (WRAT-3; Wilkinson, 1995), and the Word Attack subtest of the Woodcock Johnson III (Woodcock, et al., 2001) test were used to measure comprehension, word reading, and decoding, respectively.

Results

Pretest Vocabulary and Literacy

Table 1 presents means and standard deviations for raw and percentile vocabulary and literacy scores. A pair of Multivariate Analyses of Variance (MANOVA) suggested there were significant differences between the language groups on pretest vocabulary, $F_{raw}(4, 360) = 20.77$, $p < .001$, *partial* $\eta_{raw}^2 = .19$, and $F_{percentile}(4, 358) = 17.26$, $p < .001$, *partial* $\eta_{percentile}^2 = .16$. These differences were significant for PPVT, $F_{raw}(2, 181) = 44.18$, $p < .001$, *partial* $\eta_{raw}^2 = .33$, and $F_{percentile}(2, 180) = 35.02$, $p < .001$, *partial* $\eta_{percentile}^2 = .28$, and EVT, $F_{raw}(2, 181) = 37.35$, $p < .001$, *partial* $\eta_{raw}^2 = .29$, and $F_{percentile}(2, 180) = 31.93$, $p < .001$, *partial* $\eta_{percentile}^2 = .26$. Bonferroni adjusted post hoc tests revealed that ELL children had weaker raw and percentile PPVT and EVT scores than NS and FEP children, $p < .001$. However, FEP children showed comparable performance in raw and percentile PPVT and EVT scores as NS children.

A second pair of MANOVAs suggested there were pretest differences between the language groups in literacy skill, $F_{raw}(6, 428) = 19.17$, $p < .001$, *partial* $\eta_{raw}^2 = .21$, and $F_{percentile}(6, 426) = 15.78$, $p < .001$, *partial* $\eta_{percentile}^2 = .18$. These differences were significant for all measures, including WRAT-3, $F_{raw}(2, 216) = 25.42$, $p < .001$, *partial* $\eta_{raw}^2 = .19$, and $F_{percentile}(2, 215) = 37.75$, $p < .001$, *partial* $\eta_{percentile}^2 = .26$; Word Attack $F_{raw}(2, 216) = 37.68$, $p < .001$, *partial* $\eta_{raw}^2 = .26$, and $F_{percentile}(2, 215) = 34.13$, $p < .001$, *partial* $\eta_{percentile}^2 = .24$; and Passage Comprehension, $F_{raw}(2, 216) = 54.65$, $p < .001$, *partial* $\eta_{raw}^2 = .34$, and $F_{percentile}(2, 215) = 38.61$, $p < .001$, *partial* $\eta_{percentile}^2 = .26$. Bonferroni adjusted post hoc tests revealed that NS and

FEP children had stronger word reading, decoding, and reading comprehension skills than ELL children, all cases, $p < .001$. There were no significant differences between NS and FEP children in pretest word reading, decoding, or reading comprehension skills. Despite weak performance in reading comprehension, the ELL students had average decoding and word recognition skills.

Growth in Vocabulary and Literacy

A series of 3 (Language Subgroup) X 2 (Session) repeated measures ANOVAs was calculated to determine if there was differential growth between NS, ELL, and FEP children. Session was the repeated measure and PPVT, EVT, WRAT-3, Word Attack, and Passage Comprehension raw and percentile scores were the dependent variables.

NS, ELL, and FEP children showed significant growth in raw PPVT scores, $F(1, 214) = 69.45$, $p < .001$, *partial* $\eta^2 = .25$. The interaction between language group and session was not significant, $F(2, 214) < 1$, *ns*, indicating that children in all three language groups made similar growth in raw PPVT scores. Growth in percentile PPVT scores was not significant $F(1, 213) = 2.25$, *ns*, suggesting that students made similar growth in receptive vocabulary compared to national norms. Children from all three language groups showed significant growth in raw, $F(1, 168) = 55.54$, $p < .001$, *partial* $\eta^2 = .25$, and percentile, $F(1, 167) = 15.16$, $p < .001$, *partial* $\eta^2 = .08$, EVT scores. The interaction between language group and session was not significant, $F_{raw}(2, 168) = < 1$, *ns*, and $F_{percentile}(2, 167) = < 1$, *ns*, indicating that children in all three language groups made similar growth in raw and percentile EVT scores.

NS, ELL, and FEP children from all three language groups showed small but significant growth in raw WRAT-3 raw scores, $F(1, 215) = 18.45$, $p < .001$, *partial* $\eta^2 = .08$, but not percentile scores, significant $F(1, 215) < 1$, *ns*. The interaction between language group and session was not significant, $F(2, 215) < 1$, *ns*, indicating that children in all three language groups made similar growth in raw WRAT-3 scores. NS, ELL, and FEP children showed significant growth in raw Word Attack scores, $F(1, 215) = 7.19$, $p < .01$, *partial* $\eta^2 = .03$, but not percentile scores, significant $F(1, 215) < 1$, *ns*. Children from all three language groups showed significant growth in raw Passage Comprehension scores, $F(1, 213) = 24.79$, $p < .001$, *partial* $\eta^2 = .10$.

In summary, although children from all both language groups made similar growth in literacy and vocabulary, the ELL children started the school year with weaker skills. These findings are consistent with Alexander, Entwistle, and Olson's (2007) research that suggests that during the school year, low SES children show similar gains in reading as more affluent students. For ELL children, the achievement gap did not narrow. Consistent with PEW (2004) research, these findings suggest that in order for the ELL children to catch up during the school year they would have to make greater gains in vocabulary and literacy than the NS children. However, by fourth grade the FEP children had caught up with the NS children in literacy skills and vocabulary knowledge. Had the FEP data been combined with the ELL data in this study, gaps between non-ELL and ELL would have appeared smaller. Conversely, combining FEP data with NS data would have masked the achievement of the language minority students at these schools.

Conclusion

The findings of the present study suggest that in order to examine ELL children's success in attaining literacy in English, the reading achievement of FEP children must be analyzed and reported separately from both the ELL and NS children's performance. Future research examining factors that lead to FEP children's success may inform research on long-term ELL children.

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Table 1
Pre- and Posttest Performance on Vocabulary and Literacy Measures as a Function of Language Group and Subgroup

		October			March		
Measure		EO	LEP	FEP	EO	LEP	FEP
PPVT-4 raw	*M*	151.25	119.16	146.39	157.97	125.14	150.39
	SD	(17.05)	(22.83)	(16.33)	(18.17)	(22.48)	(18.22)
	n	112	70	41	110	70	38
PPVT-4 percentile	*M*	60.37	21.85	52.65	64.13	22.74	50.87
	SD	(26.88)	(19.61)	(28.84)	(26.82)	(19.00)	(26.43)
	n	112	69	41	110	69	38
EVT-2 raw	*M*	118.23	92.12	112.59	123.83	98.41	114.65
	SD	(15.45)	(21.77)	(17.75)	(15.80)	(17.07)	(14.25)
	n	107	50	27	101	51	23
EVT-2 percentile	*M*	63.97	28.06	52.16	67.48	30.48	53.09
	SD	(27.18)	(21.64)	(28.70)	(26.92)	(22.28)	(25.02)
	n	107	49	27	101	50	23
WRAT-3 raw	*M*	36.82	31.14	36.22	38.48	32.06	37.64
	SD	(6.04)	(3.97)	(5.25)	(5.40)	(3.82)	(5.02)
	n	111	71	41	110	70	39
WRAT-3 percentile	*M*	73.25	43.35	71.78	73.94	43.38	71.85
	SD	(24.19)	(24.15)	(22.51)	(23.11)	(23.28)	(24.96)
	n	111	71	41	110	70	39
Word Attack raw	*M*	24.31	17.46	24.68	25.11	18.93	24.69
	SD	(5.36)	(5.98)	(5.13)	(4.50)	(5.44)	(4.47)
	n	112	70	41	110	70	39
Word Attack percentile	*M*	69.88	45.95	70.98	70.59	47.26	67.05
	SD	(20.31)	(20.89)	(20.98)	(19.13)	(19.69)	(21.82)
	n	112	70	41	110	70	39
Passage Comp raw	*M*	28.08	21.70	26.80	29.45	21.97	28.23
	SD	(4.42)	(3.21)	(4.18)	(4.47)	(3.63)	(4.18)
	n	110	70	41	110	70	39
Passage Comp percentile	*M*	48.75	21.63	42.73	51.55	20.40	46.00
	SD	(23.06)	(12.90)	(21.65)	(23.68)	(14.00)	(22.49)
	n	110	70	41	110	70	39