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Title of Project:
Adolescent Language Minority Students' Vocabulary Growth:
Exploring Heterogeneity with Multilevel Analysis

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Project Summary

Summary of the Findings

There are great numbers of language minority students in the United States (Kena et al., 2014), and it is critical that educators and policymakers are well aware of their English literacy developmental trajectories. My dissertation aimed to carefully examine vocabulary growth trajectories of adolescent language minority students with varying levels of English proficiency and investigate how subgroups of language minority students respond to an academic vocabulary intervention during the instructional and follow-up years. To address these goals, I analyzed information on students' language proficiency status and their scores on vocabulary and reading comprehension measures. Below I summarize the results from three studies in my dissertation.

In Study 1, which was a two-year longitudinal study, I focused on differential vocabulary growth trajectories among adolescent language minority students investigated general vocabulary and academic vocabulary growth trajectories of sixth- to eighth-grade English-only (EO) and language minority students ($N = 3,161$) using an individual growth modeling approach. The language minority student sample in this analysis included initially fluent English proficient, redesignated fluent English proficient, and limited English proficient students from a large urban school district in California. There is no national guideline for identifying and/or classifying LM students. Thus, there is a great variability in the assessments and classification criteria used across states (Abedi, 2008; Bailey & Kelly, 2013; Kim & Herman, 2009; Ragan & Lesaux, 2006). Most schools use a variation of the following process, although the specific assessments, proficiency criteria, survey instruments, and language use criteria that are used differ widely across states and districts. Students enrolling in a school for the first time take a home-language survey. Students who report hearing or speaking a language other than English at home are identified as LM students. These students are then given an English-proficiency screening assessment. If they meet some minimal criteria set by their state or school district, they are classified as initially fluent English proficient (IFEP) students. If they do not meet the criteria,

they are classified as limited English proficient (LEP) students. According to federal mandates, LEPs receive additional support for English language development. LEPs are assessed annually until they meet a minimum proficiency criterion, whereupon they are *redesignated* as fluent English proficient (RFEP) students. RFEP students no longer receive English language development services in their schools.

Students in this study were assessed at four time points on a standardized measure of general vocabulary (MacGinitie, MacGinitie, Maria, & Dreyer, 2000) and a researcher-developed measure of academic vocabulary. In regards to general vocabulary, IFEP students outperformed their peers on average in all time points. The average baseline score of EO students was higher than that of the RFEP students, and LEP students were the lowest-performing group in this sample. EO, IFEP, and RFEP students showed similar rates of growth and amounts of summer setback in general vocabulary. LEPs improved more slowly compared to their EO peers in general vocabulary knowledge during the school year, but continued to learn during the summer. In terms of academic vocabulary growth trajectories, IFEPs were again the highest-performing group in this sample. All subgroups of language minority students had steeper academic vocabulary growth trajectories than their EO peers. In academic vocabulary, only RFEP students experienced loss in their academic vocabulary knowledge during the summer months. Even so, because RFEP students had steeper learning trajectories during the school year, they were predicted to catch up to their EO peers by the end of the second year of this study. The findings of this study suggest subgroups of language minority students experience differential learning trajectories in vocabulary and they may have different mechanisms for word learning in their middle school years.

In Study 2, which was focused on vocabulary and reading performances of redesignated fluent English proficient students, I examined academic vocabulary, general vocabulary, and reading comprehension growth trajectories of sixth- to eighth-grade RFEP students using individual growth modeling analysis. The sample included 1,226 RFEP students from six middle schools in an urban school district in California. RFEP students completed up to four waves of reading-related measures during a two-year period. The results indicate the RFEP students in this study were performing comparably or even better than the students in the national norming sample on average. Additionally, RFEP students' scores on vocabulary and reading assessments were positively correlated with their years since redesignation. Moreover, students on average showed growth over time on all three outcomes of interest, and the rate of growth did not differ by their years since redesignation. In other words, RFEP students who were redesignated early in their schooling career tended to outperform those who were recently redesignated.

In Study 3, which was directed towards investigating the effects of Word Generation on adolescent language minority students and was a longitudinal follow-up study, I examined longitudinal treatment effects of an academic language intervention, Word Generation, on 5,052 adolescent EO and language minority students' academic vocabulary knowledge. Thirteen middle schools in an urban district in California were randomized to treatment and control conditions. Using individual growth modeling across four waves of data, I tested if EO and language minority students learned the target vocabulary words during the instructional year and maintained that vocabulary knowledge one year after during the follow-up year. The results indicate that there was a main effect of treatment on students' academic vocabulary knowledge. EO and language minority students in the treatment condition showed more growth in their

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academic vocabulary knowledge than those in the control condition. In addition, students in the treatment condition were able to maintain this improvement in their academic vocabulary knowledge in the follow-up year.

Each study in this dissertation answered specific research questions regarding adolescent language minority students' vocabulary growth trajectories. Taken together, there are overarching themes that emerged.

Heterogeneity of Language Minority Students

The results from the three studies confirm that language minority students indeed are a diverse group of students with different levels of vocabulary and reading skills. Results from Study 1 and Study 3 indicate that IFEP students are the highest-performing group on average in regards to their vocabulary knowledge. EO and RFEP students tended to show a relatively similar performance on vocabulary outcomes. Unsurprisingly, LEP students were the lowest-performing group. With the limited data that I used, it was not possible to further examine why IFEPs were at this advantage at baseline and throughout the study. One possible explanation could be due to how the state of California identifies and classifies its language minority students. All language minority students are required to take the English proficiency test (i.e., California English Language Development Test [CELDT]) when they first enter school. If the test were rigorous and difficult to pass, only those who have excellent mastery of English language skills would then be classified as IFEP. IFEP students who enter school with English proficiency to pass the test are more likely to gain more vocabulary knowledge and reading skills in their school years (i.e., Matthew Effect; Stanovich, 1986). This phenomenon is also shown in Study 2 where early-redesignated students consistently outperformed the recently-redesignated students during their middle school years. These results suggest that students who obtained sufficient English proficiency in order to reclassify in primary grades (e.g., third grade) may have had more opportunities and skills to learn new words and master reading comprehension strategies in- and out-of-school settings compared to students who were redesignated in the later grades (e.g., sixth grade). The results from these studies highlight that it could be difficult to close the achievement gap within the language minority student population despite their general developmental growth and common response to education. Thus, one take-away from these findings is that educators and policymakers need to invest in earlier supports to language minority students so that they may be redesignated as early as possible to better enjoy the reading-related outcomes.

Instructional Practices That Support Language Minority Students' Vocabulary Development

Results from Study 3 underscore that vocabulary knowledge is amenable to targeted instruction for both EO and language minority students. Both EO and language minority students in the treatment condition showed growth in their academic vocabulary knowledge and they were able to maintain that growth in the follow-up year. This is consistent with the research literature where researchers found well-designed interventions are beneficial for enhancing both EO and language minority students' general and content-specific vocabulary knowledge (August, Branum-Martin, Cardenas-Hagan, & Francis, 2009; Carlo et al., 2004; Lawrence, Capotosto, Branum-Martin, White, & Snow, 2012; Lesaux, Kieffer, Faller, & Kelley, 2010;

Lesaux, Kieffer, Kelley, & Harris, 2014; Proctor et al., 2011; Snow, Lawrence, & White, 2009; Townsend & Collins, 2009; Vaughn et al., 2009). Researchers contend that academic vocabulary knowledge is essential for students' reading comprehension across different subject areas, especially in post-primary grades (Nagy & Townsend, 2012; Scarcella, 2003; Uccelli et al., 2015). However, it is often difficult to teach general academic vocabulary words during regular instruction hours because they are not tied specifically to any academic concepts or ideas. Thus, interventions, such as the Word Generation program that facilitate word learning across different content areas may be beneficial for both the content-area teachers who may struggle with incorporating vocabulary lessons during class and students who need to gain academic vocabulary knowledge for improved reading comprehension. Given that Word Generation is a program that requires only about 15 minutes per day, the fact that both EO and language minority students were able to learn and maintain academic vocabulary knowledge is encouraging.

Conclusion

Adolescent language minority students are still an under-studied student population in the research literature. The overarching goal of my dissertation was to better understand their language development in their middle school years. The findings of the three studies within this dissertation underscore that adolescent language minority students are heterogeneous in terms of their English language abilities and both EO and language minority students can benefit from an academic language intervention.

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