

Literacy Patterns Across Kentucky

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Overview

In 2009, the Collaborative Center for Literacy Development (CCLD) published a research agenda for Kentucky, asserting that “literacy remains a serious problem for many Kentuckians.” (p. 3). Before policy makers, practitioners, and researchers can begin improving literacy in Kentucky, the nature and extent of the differences in literacy across different subgroups in the state must be examined. Based on sociocultural theory and prior research on subgroup differences, this study was designed to help policy makers and practitioners become more aware of the specific issues related to literacy achievement in the state by answering two general research questions (RQ):

RQ 1: What are the patterns of student literacy achievement in Kentucky?

RQ 2: What is the relationship between literacy and mathematics achievement?

With this understanding, Kentucky policy makers and practitioners can target literacy efforts and research to ensure greater achievement and attainment for *all* students in all schools across all districts.

Methods

This study used Hierarchical Linear Modeling (HLM) and Structural Equation Modeling (SEM) techniques to examine reading achievement on the statewide achievement tests from 2007 to 2010 for all public school students in non-alternative education schools. Sample sizes ranged from 37,503 to 46,297 students, 203 to 660 schools, and 139 to 221 districts.

Findings and Implications

For RQ 1, we found that most of the variability in reading achievement is between students within the same school and district. The results illustrate that a student’s prior reading achievement explains the greatest proportion of variability in a given year’s reading achievement but that other student characteristics do have a statistically significant effect on reading achievement. In particular, students who are Black, are English Language Learners, or who qualify for free or reduced lunch have, on average, lower reading achievement scores. At the school-level, a school’s proportion of students receiving free or reduced lunch also tends to have a negative relationship with students’ reading scores, though this relationship was not consistently statistically significant. Other school and district characteristics were not consistently statistically significantly related to student reading achievement. In general, there was still a statistically significant amount of variation in student, school, and district achievement that could be explained by other variables not included in these models.

For RQ 2, we found that after controlling for student, school, and district characteristics related to mathematics achievement, students’ reading achievement had a positive relationship with their mathematics achievement; students who score highly on one test tended to score highly on the other. This effect appeared to be mitigated somewhat by a student’s sex, as the effect of reading achievement on mathematics achievement was lower for females than for males. The effect of reading achievement on mathematics achievement was also slightly lower for minority students than for White students, but again the magnitude of the effect is small. School and district characteristics added little or nothing to the explanation of variance between schools and districts in the effect of reading achievement on mathematics achievement.

The results presented in this report show that student characteristics, more so than school or district characteristics, have a strong relationship to student literacy, as well as to the relationship between mathematics and reading achievement. In all analyses, the majority of variance to be explained was between students, and student characteristics explained more variability at each level than school and district characteristics. Based on these results, recommendations include a focus for programming and research on students rather than on schools or districts, with particular attention given to students' prior achievement.