## The Influence of Teacher Characteristics on Child Growth in Early Literacy

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www.criteic.org (R324C08001)

### Abstract

Emergent literacy skills developed during preschool are a recognized predictor of reading success in elementary years. These literacy skills develop at varying rates due to child characteristics and ecological factors. Teacher characteristics such as education and experience may play a role in this variability. The influence of teacher education and experience on children’s growth rates on emergent literacy measures across the prekindergarten school year. Results indicate that preschool teachers’ education in ECE and related fields can influence children’s rate of growth on Picture Naming and Sound Identification skills.

### Introduction

It is a well-known fact that emergent literacy skills developed during preschool are indicative of future reading success. Furthermore, quality of teacher implementation has been determined to be a factor further affecting school readiness (NELS: 2008). Although some research supports the notion that higher levels of formal teacher education, education in early childhood, and/or experience of positively influence teacher and classroom quality (Darling-Hammond, 2000; National Institute of Child Health and Human Development Early Care and Education Research Network; & Duncan, 2003; Mims, S.; Scott-Little, C. Lower, J., Cassidy, D., & Hestenes, L., 2008), others study these results inconclusive (Early, et al., 2007). Further complicating these findings, considerable variability exists regarding these factors across types of preschool settings (Cunningham, & Callahan, 2005). The current study, a subset of a large, one-year study that investigated early literacy outcomes of children in a variety of preschool programs across four geographic areas, assesses the extent to which teachers’ education and years of experience influence prekindergarten children’s growth in measures of emergent literacy.

### Research Questions

1. Does teacher education level influence children’s growth rate on Picture Naming (PN) or Sound Identification (SID) Individual Growth and Development Indicators (IGDI) scores?
2. When comparing teachers with 10 or more years of experience, does teacher education specific to Early Childhood Education or a related field influence children’s growth rate on PN or SID IGDI scores?
3. What is the difference in rate of child growth on PN or SID IGDI scores when comparing students with teachers at the two ends of the education spectrum, those who have graduate degrees and those whose teachers have a 2-year degree or less?
4. Does number of years experience teaching in a preschool setting influence children’s growth rate on PN or SID IGDI scores?

### Methods

#### Participants

Participants were recruited at the beginning of the 2009-2010 school year from across four geographic areas: KS/MO, MN, OH, OR. In all, 85 classrooms met inclusion criteria admitted to this study consisting of (1) use of a published curriculum with a documented scope and sequence to teach early literacy skills and (2) children were in attendance no fewer than 12 hours weekly. The classrooms represented four program types: state-funded Pre-K (33%); Title I (30%); Head Start (24%); Tuition-funded (14%). For the purpose of the current study, instructional quality included teachers who fully completed the required teacher demographic information survey and students with at least one wave of IGDI scores completed.

#### Assessments

Of teachers in the 65 classrooms recruited for the larger study, 54 were identified as eligible for inclusion in this study. The highest education level among teachers varied widely and included the following: Child’s Development Associates, 19%; 2-year degree in ECE, 11%; 4-year degree in ECE, 48.1%; graduate degree in related field, 16.7%; graduate degree in ECE, 14.8%; no ECE related education 7.4%. Teachers working in these classrooms had an average of 10.4 years of experience that ranged from 1 to 32 years.

#### Design

After recruiting participating classrooms, a Teacher Survey was completed by all consenting teachers. All children with parent consent were assessed using a battery of experimental Individual Growth and Development Indicators (IGDI) at three occasions, fall, spring, and fall spring; (Hierarchical linear modeling (HLM: Singer & Willet, 2003) was used to estimate growth parameters. Month of administration (Level 1) was nested within Classroom (Level 2). To look at differences regarding initial scores, Fall IGGD scores were controlled for.

#### Results

**RQ1:** Teacher education, specifically teachers who completed a Bachelor’s or graduate degree in ECE in a related field, or those who had not made a significant difference at the student level to take a growth for Sound ID (t (595) = 2.254, p = .011) but not for Picture Naming (t (592) = 1.43, p < .196).

**RQ2:** Children in classrooms where teachers had at least 10 years experience and a Bachelor’s degree grew at a faster rate than those whose teachers had less or no years of experience, but not for Sound ID. Growth rates were statistically significant both for SID and PN (Sound ID (t(10) = 5.46, p < .001); Picture Naming (t(2) = 2.245, p < .05).

**RQ3:** Children in classrooms where teachers had at least 10 years experience and a Bachelor’s degree grew at a faster rate than those whose teachers had less or no years of experience, but not for Sound ID. Growth rates were statistically significant both for SID and PN (Sound ID (t(10) = 5.46, p < .001); Picture Naming (t(2) = 2.245, p < .05).

**RQ4:** Children in classrooms where teachers had at least 10 years experience and a Bachelor’s degree grew at a faster rate than those whose teachers had less or no years of experience, but not for Sound ID. Growth rates were statistically significant both for SID and PN (Sound ID (t(10) = 5.46, p < .001); Picture Naming (t(2) = 2.245, p < .05).

#### Discussion

The effect of teachers’ characteristics, education and years of experience, on children’s growth in the Picture Naming and Sound Identification IGDIS throughout three different occasions were examined.

RQ1: Based on results from this study, it appears that the amount of teacher education may influence children’s emergent literacy skills. At the end of the prekindergarten school year, Sound ID scores for children with teachers having graduate degrees were an average of 4.3 points higher than scores for children with teachers having Bachelor’s degrees or less. When comparing children’s growth rates in Picture Naming, those with teachers who had earned graduate degrees had scores an average of 10.4 points higher than those with teachers who had an Associate’s degree, a CDA, or no CDA. These results clearly indicate that teacher education plays a role in children’s growth rate in literacy. However, factors influencing children’s growth rates encompass a complex set of variables and further research is needed to determine how, why, and where specific differences occur across children’s literacy levels.

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We would be worthwhile to collaborate with teachers with education plus experience to learn from them, and allow them to share their knowledge with the teachers with less experience/education.

### References


