
Relationship of Classroom Quality and Type of Curriculum to Children's Progress in Head Start

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Introduction

- The 2000 cohort of the Head Start Family and Child Experiences Survey (FACES) found gains by children in vocabulary and early writing, and increased learning of letter recognition compared to 1997.
- This presentation addresses whether the achievement gains were larger in some types of programs and classes than others.



Research Questions

- How much variation is there between programs and classes in children's achievement gains in Head Start?
- How do program characteristics and classroom quality measures relate to achievement gains?
- How does the use of specific curricula relate to achievement gains?

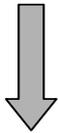


Overall Model of Program, Classroom and Child-Level Factors Predicting to Classroom Quality and Children's Gains

Head Start Program

Program-Level Factors

- Characteristics of Families served by Program
- Primary Curriculum used in majority of classrooms
- Teacher Salaries



Classroom

Teacher Factors

- Experience and Training (education, years teaching)
- Beliefs around Developmentally Appropriate Practices (DAP)
- Demographics (age, ethnicity)



Classroom Quality

- ECERS Mean
- ECERS Language
- Child-Adult Ratio
- Teacher Individualizing
- Teacher Sensitivity



Fall-Spring Gains

- Receptive Vocabulary
- Letter-Word Identification
- Early Writing
- Early Math

Child

Family Backgrounds

- Education, Income, Welfare Status
- Family Structure
- Child Characteristics
- Parent Cognitive Abilities
- Home Educational Activities



Analysis Method

- Three-level Linear Regression Models using SAS PROC MIXED to predict achievement gains (or achievement levels) from program-, classroom-, and child-level factors.



Child Achievement Measures

- Word Knowledge (PPVT-III)
- Letter Recognition (WJ-R Letter-Word ID)
- Early Writing (WJ-R Dictation)
- Early Math (WJ-R Applied Problems)



Program-Level Predictors

- Characteristics of Families Served by Program
 - Mean parent education level
 - Mean family income level
 - Percent non-minority students in program
 - Percent language minority students in program
- Primary Curriculum Used in Majority of Classrooms
 - High Scope Curriculum
 - Creative Curriculum
- Program Resources
 - Average Annual Teacher Salary



Classroom-Level Predictors

- Teacher Background and Experience
 - Years of teaching experience (total years)
 - Teacher holding a BA or AA
 - Teacher ethnicity (African-American, Hispanic)
 - Teacher salary (as deviation from program avg.)
- Teacher Beliefs
 - Developmentally Appropriate Attitudes Scale (high score = positive attitudes and knowledge of DAP)



Classroom Quality Measures

- ECERS Language Scale
- Assessment Profile Individualizing Score
- Child/Adult Ratio
- Caregiver Interaction Scale (Arnett) Score



Findings

- As in FACES 1997, FACES 2000 found considerable diversity in the achievement of Head Start children, both across programs and classes and within classes.
- Achievement differences across programs seem to have more to do with socio-economic characteristics of population served than with quality differences.



Findings (continued)

- Differences between programs were greater with respect to achievement *levels* than with respect to achievement *gains*.
- Achievement differences covaried with compositional variables such as average parent education and percent minority.
- Program differences greater for measures that correlated with SES and ethnicity.



Vocabulary, Writing, & Math Gains

- There were only small differences across programs and classes with respect to children's gains in vocabulary, early writing, and early math.
 - 1% to 6% of variance between programs and classes
- Multilevel regression models did a poor job of accounting for variations in children's gains in vocabulary, early writing, or early math skills.
 - 3% to 7% of variance accounted for ($R = .27$ or less)
- Programs with differing average quality levels showed equivalent gains from fall to spring.



Letter Recognition Gains

- There were greater differences between Head Start programs and classes with respect to children's gains in letter recognition between fall and spring of Head Start year.
 - 12% of variance between programs and classes
- Multilevel regression models did a moderate job in accounting for variations in children's gains in letter recognition between fall and spring of Head Start year.
 - 12% of variance accounted for ($R = .34$)



Factors Associated with Fall-Spring Gains in Letter Recognition

- Majority of classes in program use High Scope curriculum ($B = 3.70$, $p = .014$)
- Higher average teacher salary ($B = 1.59$ per additional \$10K in annual wages, $p = .029$)
- *Higher* Child/Adult Ratio ($B = 0.68$, $p = .002$)
- Parent reads to child once or twice a week ($B = -2.33$, $p = .03$) or not at all ($B = -3.24$, $p = .07$)



Conclusions

- Within generally good quality range of Head Start classrooms, variation in quality as measured by ECERS was not associated with achievement gains in Head Start.
- Within narrow range of class size in Head Start, child/adult ratios were not associated or were negatively associated with achievement gains.



Conclusions (continued)

- Use of specific curriculum (High Scope) was associated with modestly larger gains in letter recognition.
- Use of specific curriculum was not associated with greater gains in vocabulary, early writing, or early math skills.



Conclusions (continued)

- Higher teacher salaries were associated with modestly larger gains in letter recognition.
- Teacher having BA or AA was not linked with greater achievement gains.
- Teacher attitudes were not linked with greater achievement gains.



Analyses in Progress

- Letter recognition findings suggest that activities aimed at bolstering skills (or lack of such activities) are associated with differential gains. Associations between gains and teacher-reported and observational activity measures are being explored with FACES 2000 data.

