

Differentiated Instruction to Support High-Risk Preschool Learners

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Achievement Disparities Within At-Risk Populations

- Does the Matthew effect operate within low SES samples?
 - Molfese et al. (2006) – yes
 - FACES 2000 (ACF, 2003) – no
 - Kaplan & Walpole (2005) – yes



Differentiated Instruction

- Response to differences within a classroom
 - Same curriculum and goals
 - Different materials, activities, teacher scaffolding, ways to show knowledge
- Hallmarks
 - Small group instruction
 - Flexible grouping
 - Continuous performance assessment

Purpose

- Describe a differentiated instruction (DI) model used in Early Reading First (ERF)
- Post-hoc comparison of higher-risk vs. classroom peers
- N.B., not an RTI protocol
- Promises and challenges of DI

Participants—Sites and Teachers

- Hawaii ERF project
- 8 Head Start classrooms
- 5 lead teachers
 - (88% BA, > 16 years)
- 11 assistant teachers
 - (40% HS, 40% CDA, 20% BA, 9 years)



Participants--Children

- 128 children with pre- and posttest data
- Mean age 44 months
- 57% kinderbound
- 56% Hawaiian,
14% Pacific Islander
26% Asian, 4% other
- 35% ELL (19 different home languages)
- 6% had IEP, 19% referred



Curricula

- Creative Curriculum
- Learning Connections
 - Literacy and math enrichment
 - Small group focus
 - Sequenced & differentiated



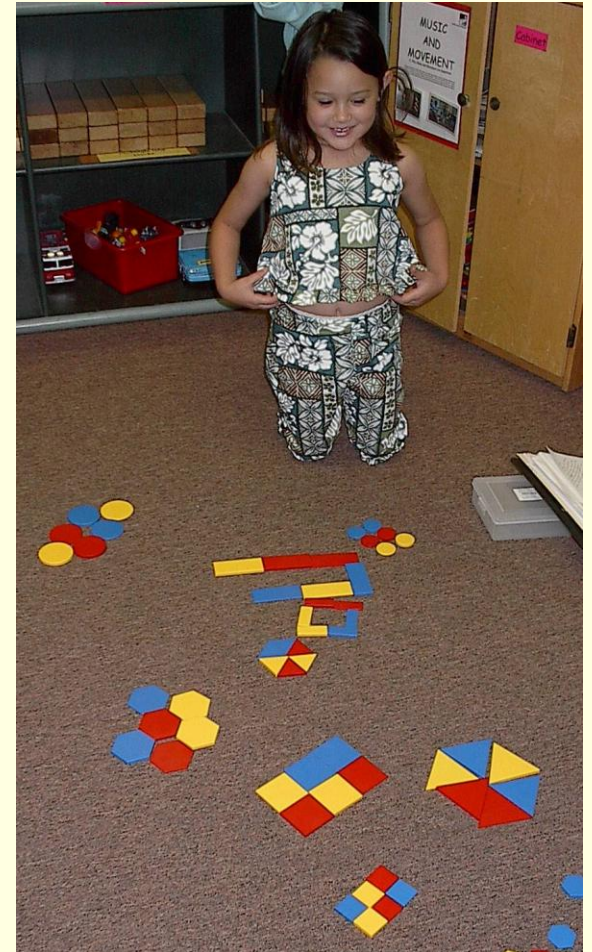
Differentiation Strategies

- Small learning groups
- Bi-level lesson plans
 - Different lessons for Level 1 vs. Level 2 children
- Activity variations



Measures

- LC-COR
- PPVT-III
- TERA-3
- PALS
- DSC mathematics & logical operations



Group Definitions

- Higher-Risk
 - PPVT pretest 75 or below
 - $n = 33$ (26% of children)
- Peers
- Pretest Comparisons
 - Similar age, gender
 - HR > ELL (72% vs. 22%)
 - HR < PPVT (59 vs. 90)
 - HR < other pretest scores



Results—Curriculum Progress

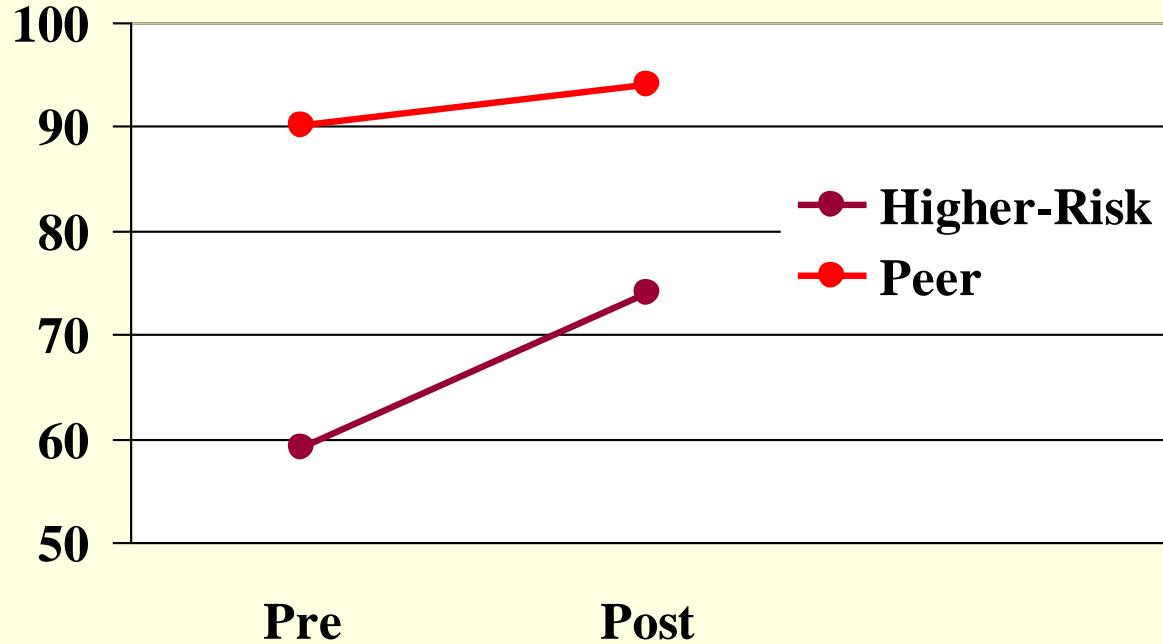
- Higher-risk moved through less of the curriculum sequence
- Higher-risk lower level of mastery
- $\eta^2 = .03 - .19$

Results—PPVT

- 2 (group) x 2 (time) ANOVA
- GT interaction for PPVT
 - Steeper change for higher-risk
 - 15 vs. 4 for mean gain
 - $\eta^2 = .15$



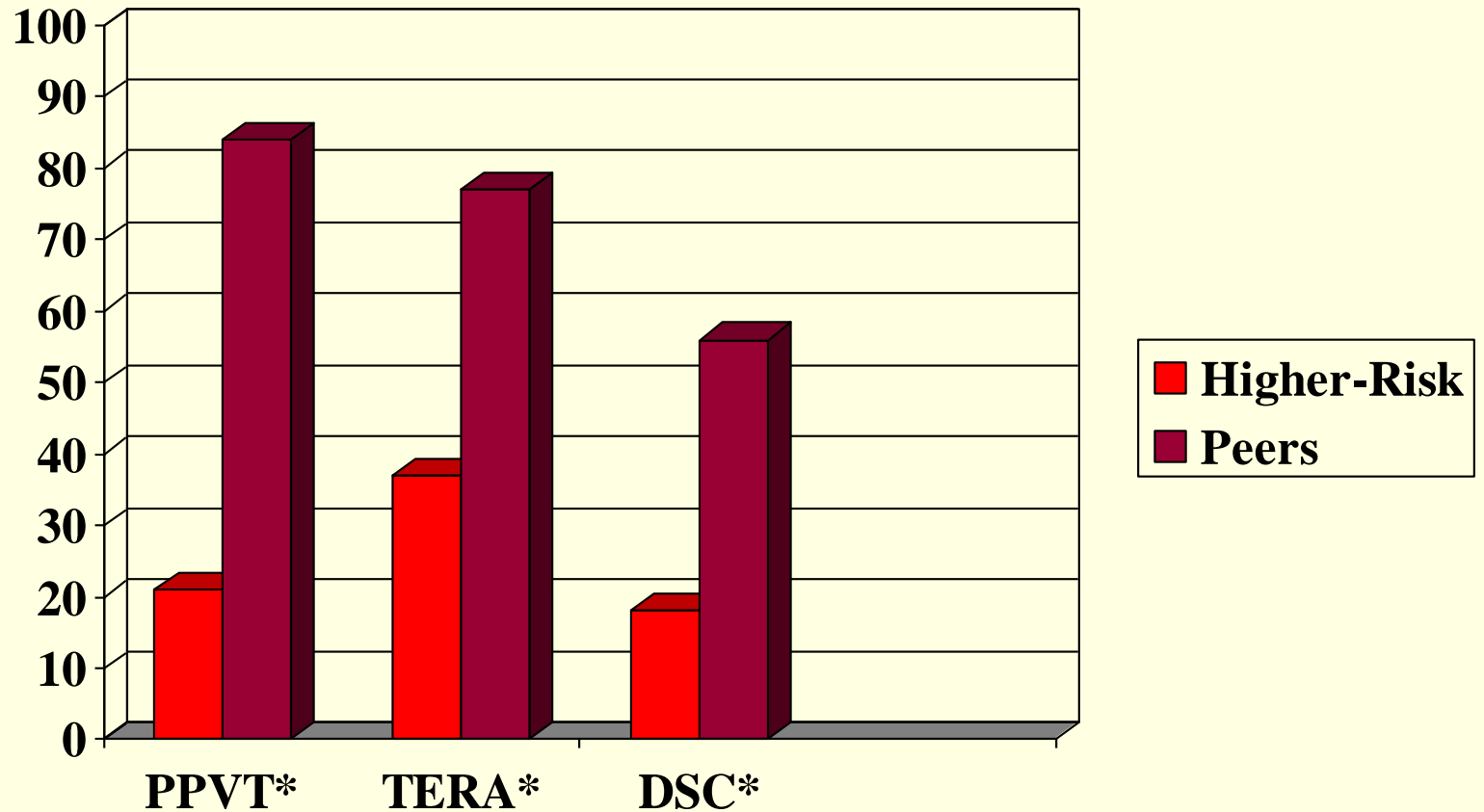
PPVT Gains Over Time



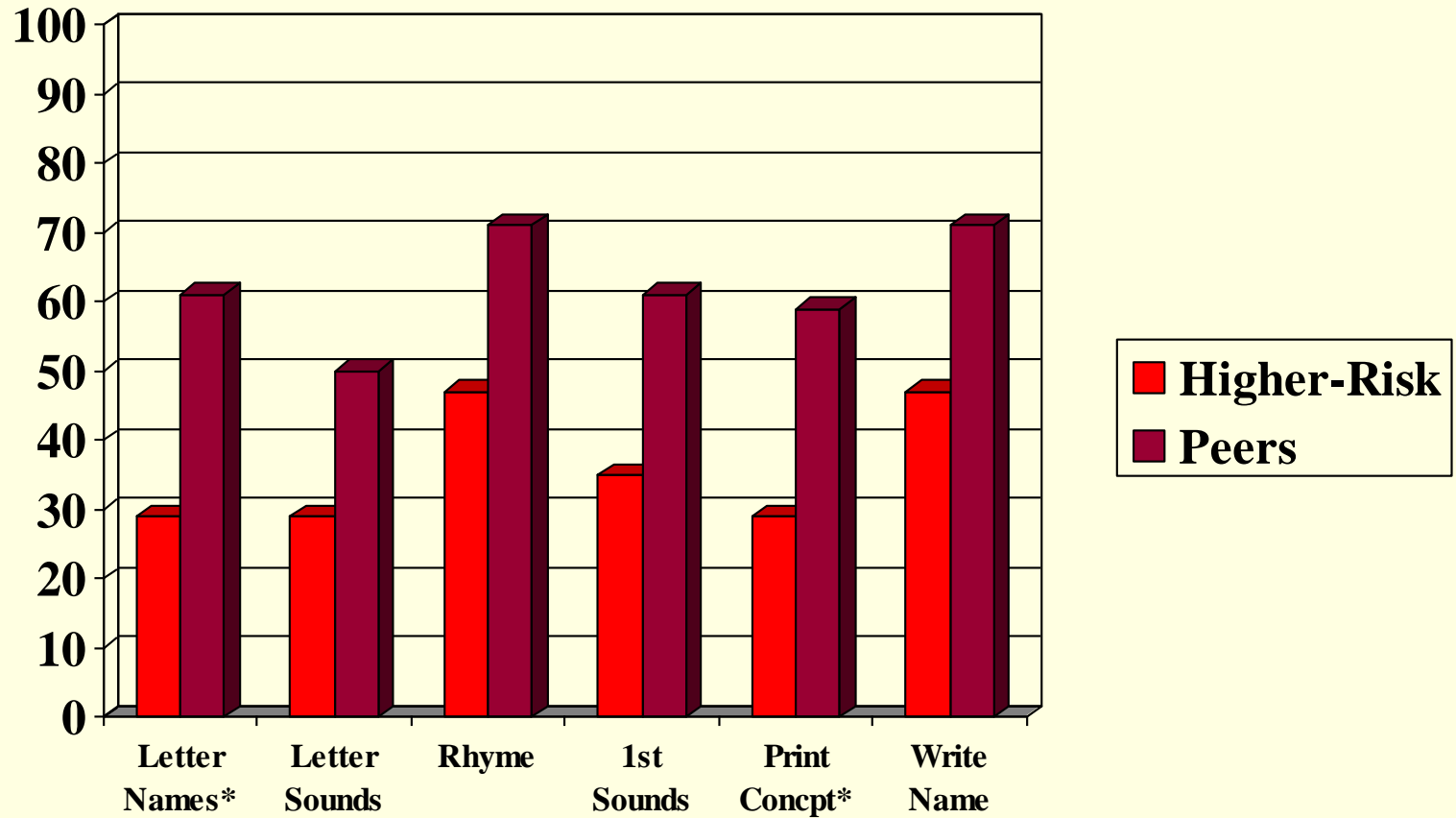
Results—Other Tests

- GT trend for TERA, phonological awareness, math
 - Trend towards steeper change for peers
- *ns* for alphabet, print concepts
 - Both groups showed similar change scores
- Results across all tests inconsistent with regression to the mean

Did Children Attain Benchmarks?



Benchmarks, Cont'd.



Within the Higher-Risk Group

- 16 (48%) of higher-risk peers moved out of initial risk status (i.e., posttest PPVT > 75)
 - Gained 21 points vs. 9 points
- These large gainers:
 - Started w higher PPVT (64 vs. 55)
 - < likely to be ELL (37% vs. 89%)
 - > parent involvement

Discussion

- Matthew effect was not found
 - Higher risk > PPVT gains
 - Not simply regression to mean
 - Similar or slightly smaller gains on other outcomes
- But performance differences not erased
 - Higher-risk still well below age-level
- No non-DI control group

Practical Issues

- Naïve to expect to erase performance gap in one year, especially for ELL
- Effectiveness of DI vs. RTI
- Challenges of DI
 - Requires skilled teachers
 - Small group instruction
 - Progress monitoring burden

Research Questions

- Little experimental research on DI
- Define & measures differentiation strategies
- Feasibility trials—enabling conditions for DI components
- Efficacy and effectiveness field trials

Mahalo

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