Differentiated Instruction to Support High-Risk Preschool Learners
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Abstract
Differentiated instruction is a strategy for meeting the needs of diverse learners. This paper describes the effects of differentiated instruction on Head Start children with differing degrees of initial educational risk. Eight classrooms serving 126 children participated. Teachers provided developmentally sequenced, differentiated instruction in small group formats. A Higher-Risk group (26% of the sample) was defined as those who scored in the bottom 25% percentile at pretest on the PPVT. Higher-risk children showed much larger gains on vocabulary than their peers and similar or slightly lower rates of change on other skills. Practical issues relating to differentiated instruction are discussed.

Participants & Measures
Eight Head Start classrooms across the island of O‘ahu
126 children: Mean age 44 months, 35% ELL (19 home languages), 0% EIP, 19% referred
56% Native Hawaiian, 26% Asian, 14% Pacific islander, 4% other
Higher-risk: Any child with a pretest PPVT score of 75 or less (26% of sample)
Similar to peers on age, gender
Significantly lower on all pretest measures, more likely to be ELL (72% vs. 22%)
Measures: PPVT-II, TERA-3, PALS-PreK, DSC math, LC-COR (curriculum-based)

Results
Curriculum-Based Assessment
Higher-risk children covered less of the curriculum sequence and had lower posttest scores on the LC-COR.

Pre-Post Change
Test scores were analyzed using a (Group: Higher-Risk vs. Peer) x 2 (Time) repeated measures ANOVA. All G and T main effects were significant. Our interest was in the GT interaction.

Higher-Risk children had significantly greater PPVT gains (15 points vs. 4 points, r² = .13, see Figure 1).

Peers had trends towards greater gains (p < .05) on the TERA, DSC and PALS phoneme sub-tests.

Both groups had similar gains on PALS alphabet and print concepts sub-tests.

Benchmarks
Despite their gains, most Higher-Risk children did not meet spring benchmarks of age-appropriate performance (see Figure 2).

Individual Differences Within the Higher-Risk Group
48% of Higher-Risk children had scores above 75 on the PPVT posttest. These “large gainers” gained 21 points vs. 9 points for those who remained at higher risk.

The “large gainers” had higher pretest scores on the PPVT, PALS print concepts and DSC, were less likely to be ELL, and had higher parent involvement.

Discussion
Differentiated instruction (DI) appeared successful in reducing group disparities on the PPVT. This result does not appear to be an artifact of regression to the mean as it was not found for the other outcome measures. Higher-Risk children showed larger gains that their peers on the PPVT but had similar or slightly smaller gains on other literacy and math skills. Looking at spring benchmark levels, it was clear that achievement disparities were not erased.

A replication analysis conducted in four classrooms in the next year found almost identical results. However, more Higher-Risk children (26%) were large gainers who moved out of the high risk status by posttest.

In the absence of a control group, we cannot infer whether DI was especially helpful for the Higher-Risk children in our sample. Nevertheless, we compare the effectiveness of DI to the RTI approaches presented in the other posters.

Most educators would say that DI is consistent with sound practice. Challenges implementing DI include:
- Requires skilled teachers
- Staffing and classroom management for small group instruction
- Burden of progress monitoring

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