# Coaching, Quality, & Child Outcomes

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## INTRODUCTION

*Coaching as a Vehicle for Professional Development*

Teacher professional growth is a complex process that unfolds over time and relies on the interaction between five components:

- *Information*, e.g., training in new content or teaching techniques.
- *Practice*, e.g., trying out the new ideas in the classroom.
- *Outcomes*, e.g., seeing results of the new practices.
- *Cognition,* e.g., teachers' knowledge, beliefs, and attitudes
- *Reflection*, e.g., analysis of the overall learning experience.

Coaching (aka mentoring) involves an ongoing, collaborative, non-supervisory relationship between a teacher and his/her coach. The goal is to expand the teacher's existing conceptual knowledge and practical skills. Elements common across most coaching models include:

- in-class modeling or demonstration lessons presented by the coach;
- observation, and feedback on teaching techniques;
- acquiring conceptual knowledge through study groups or in-service workshops aligned with coaching activities;
- self-reflection and analysis of data pertinent to one's success in the classroom; and
- establishing a trusting and supportive teacher-coach relationship.

*Project Curriculum*

ERF classrooms used the *Learning Connections* (LC) (Gorecki & DeBaryshe, 2004) enrichment curriculum for instruction in language, literacy, and math and the *Creative Curriculum* (Dodge, 2002) for instruction in other developmental domains.

*Project Professional Development Package*

- *Quarterly in-service workshops*: Covering SBRR principles, language; literacy and math development, classroom applications.
- *In-class coaching 3 times/month*: Coaches used a three-step consultation model. Step 1 = teachers select day's focus. Step 2 = the coach (a) models, (b) does side-by-side teaching, or (c) observes teachers. Step 3 = debrief. Every 6-8 weeks, coaches conducted a structured fidelity rating.
- *Technical assistance 2 times/month:* Coaches met with teachers after school or at naptime. One meeting was for workshop follow up, e.g., readings, create action plans based on videos, project data. One meeting was for curriculum, e.g., practice new activities, lesson planning, child progress monitoring.
- *College Courses:* Two courses were attended by teachers, coaches, and supervisors Assignments were integrated with the curriculum and PD package.

## METHOD

*Participants*

The project involved 10 Head Start classrooms(2 cohorts of 5 classrooms) in metropolitan Honolulu. Almost all lead teachers (90%) had a bachelor's degree. Among assistant teachers, 20% had a bachelor's degree, 30% had an associate's degree, 15% had a CDA, and 35% had a high school diploma.

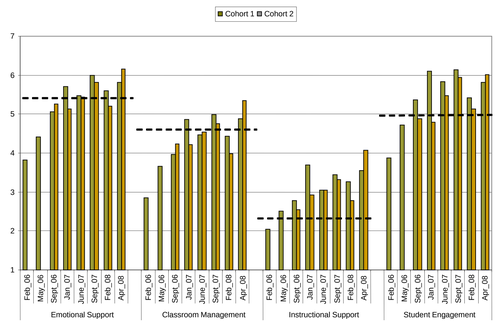
Pre- and posttest data were available for 87, 132, and 143 children in years 1, 2, and 3. Most children were Native Hawaiian/Pacific Islander (66%) or Asian American (22%). 34% were English language learners and 26 different home languages were represented.

*Measures*

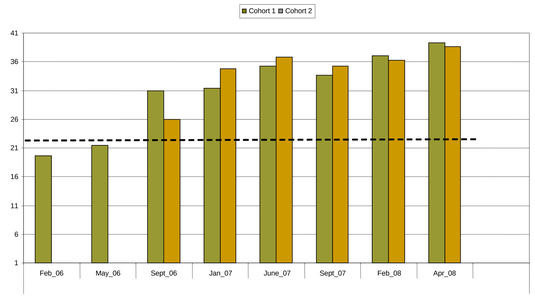
Three times per year, classroom quality was measured on the ELLCO and CLASS PreK. Children were assessed on the:

- PPVT-III (receptive vocabulary)
- TERA 3 (emergent reading)
- PALS PreK (alphabet, print concepts, rhyme, alliteration, name-writing)
- DSC (mathematics and logical operations)

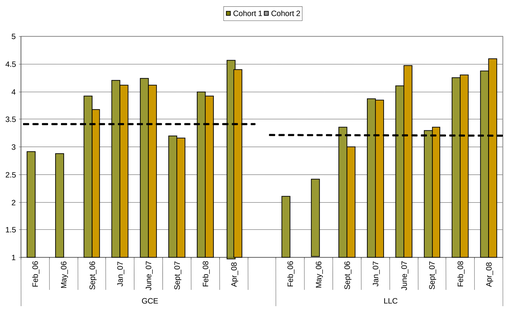
**CLASS PreK Scores Over Time**



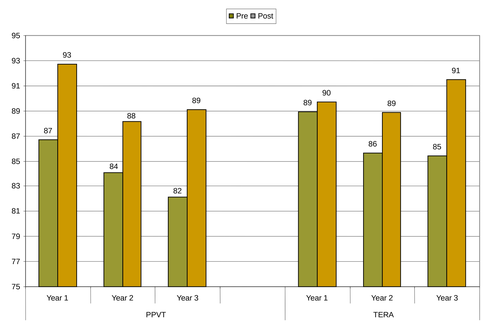

**ELLCO LEC Scores Over Time**




**ELLCO GCE & LLC Scores Over Time**




**PPVT and TERA Scores by Project Year**




**PALS and DSC Scores by Project Year**

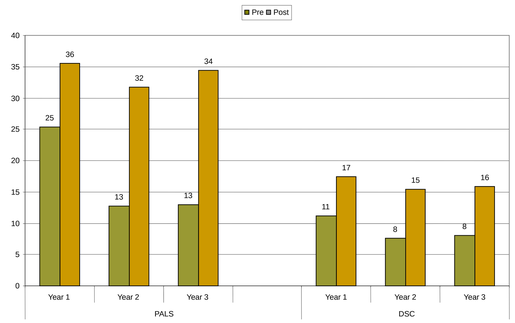



**Table 1**
***Results for multi-level analyses***

| | PPVT | | TERA | | PALS | | DSC | |
|---|---|---|---|---|---|---|---|---|
| Fixed Effect | Coeff (*SD*) | *t* | Coeff (*SD*) | *t* | Coeff (*SD*) | *t* | Coeff (*SD*) | *t* |
| Intercept | .19 (.18) | 1.09 | .02 (.15) | 0.14 | -.02 (.16) | -0.13 | .03 (.16) | 0.18 |
| Level 1 | | | | | | | | |
| Child age | -.02 (.01) | -1.35 | -.07 (.01) | -5.82*** | .02 (.01) | 1.15 | .02 (.01) | 1.78* |
| Child NES | -.29 (.22) | -1.30 | -.02 (.18) | -0.12 | .04 (.21) | 0.18 | -.03 (.01) | -0.17 |
| Level 2 | | | | | | | | |
| Mean age | -.26 (.13) | -2.07* | -.16 (.08) | -1.93 | .00 (.08) | 0.02 | -.10 (.08) | -1.25 |
| % NES | .33 (.47) | 0.70 | .60 (.44) | 1.37 | 1.06 (.42) | 2.54** | .27 (.43) | -0.63 |
| CLASS | .26 (.25) | 1.04 | .17 (.23) | 0.74 | .67 (.20) | 3.37** | .44 (.21) | 2.06* |
| ELLCO | .05 (.13) | 0.34 | -.01 (.13) | -0.12 | -.24 (.12) | -1.95 | -.04 (.12) | -0.33 |
| Variance Components | | | | | | | | |
| Level 1 | .96 | | .75 | | .90 | | .97 | |
| Level 2 | .02 | | .03 | | .00 | | .00 | |

*Note*. NES = native English speaker
*p < .10, **p< .05, ***p < .001

## RESULTS

*Curriculum Fidelity*

Fidelity of Learning Connections lesson was good and improved over time (means on a 5-point scale were 4.0, 4.2, and 4.4 for years 1-3). However, dosages were lower than intended. In year 3, teachers delivered 88% of intended large group activities but only 61% of small group activities per child.

*Classroom Quality*

Classrooms started at or well below national comparative data. Scores increased steadily over time (see Figures 1-3). By the end of year 3, classrooms scored 2 or more *SD* above national means on the ELLCO LEC and LLC and the CLASS instructional support.

*Child Outcomes*

Children made significant gains on all tests in all years, except for the TERA in year 1 (see Figures 4-5).

*Classroom Quality as a Predictor of Child Outcomes*

Multi-level modeling was used to investigate the effects of classroom quality on child outcomes in year 2 (see Table 1). Level one (child) variables were ELL status and age. Level 2 (classroom) variables were percent of native English speakers and mean age. Dependent variables were differences in rate of pre-post change (the standardized residual from a regression of pretest on posttest). Controlling for child- and classroom-level age and language status, CLASS scores were significantly associated with growth on the PALS (coefficient = .67, *SE* = .20, $p < .05$) and marginally associated with growth on the DSC (coefficient = .44, *SE* = .21, $p < .10$).

*Teacher Satisfaction*

Teachers were most satisfied with their coaches, the in-service training, the LC curriculum, and children's progress and motivation. They were least satisfied with the amount of time it took to prepare and deliver the LC curriculum. Teachers felt more confident, intentional, and able to assess children's learning and provide stimulating language interactions. They felt the coaching and professional development trainings were essential to their success. Most intended to continue the LC curriculum on their own, but with less intensity.

## DISCUSSION

Our professional development package was effective in improving classroom instructional quality and children's learning outcomes. Even though our focus was on language, literacy, and math instruction, improvements occurred in all areas of classroom quality, including management and positive affect. This suggests that an academic emphasis was not detrimental to children's socio-emotional functioning.

We found only modest evidence for a link between classroom quality and children's outcomes. However, we had a very small sample of classrooms and project activities artificially reduced classroom differences by holding each to the same standards of quality.

What lessons did we learn that could inform other Head Start programs that wish to emulate ERF? Here is a partial list.

- Change takes time. Plan on more than one year.
- Change can be threatening. Create a safe atmosphere for continual examination, self-reflection, and experimentation.
- Teachers need support to implement an SBRR curriculum, individualize instruction, and make efficient use of the classroom day.
- Teachers may feel that too strong a focus on literacy detracts from other content areas. Find an appropriate balance.
- The teacher-coach relationship is essential and interpersonal skills are at least as important as content knowledge.
- Share data early and often and use as the basis of concrete action plans to which teachers are held accountable.
- Change efforts should be collaborative, empowering, and joyful.
- There must be full administrative support, including resources.
- We know very little about the science of coaching and professional development, e.g., what specific techniques lead to what outcomes, how much intensity is necessary vs. overkill. Look to ERF and ECEPD projects as models of what is possible. Select from these models the strategies that are most suitable for your program.