



Evaluation of the Pacific CHILD Professional Development Program

by Roger Chesswas, PhD*

October 2005

The Pacific Communities with High-performance In Literacy Development (Pacific CHILD) Professional Development Model research project was initiated in response to an overwhelming need in Pacific Resources for Education and Learning's (PREL's) Pacific service region to improve teachers' knowledge and instructional practices in early reading. The design, development, and piloting of the model have been the work of PREL's Regional Educational Laboratory (REL) for the past 5 years. The key components that inform the model are currently studied in seven schools throughout the Pacific region, five of which are designated research sites where intense data collection took place.

In this research brief, we examine the question of the quality of the professional development provided through Pacific CHILD, how we measured the quality of the professional development, and the findings on the quality of professional development. The issue of the quality of professional development is important for the study of teacher outcomes, such as teacher learning and changes in instruction as a result of participating in the Pacific CHILD professional development program.

The Need For a High-Quality Professional Development Model for the Pacific Region

National, state, and local interest in the quality of our teachers and its relationship to student achievement, particularly in reading, is a continuous concern across the Pacific region. With the institutionalization of accountability measures mandated by the *No Child Left Behind Act of 2001* (NCLB), the pressure to provide high-quality education for our students has been made explicit. The Pacific region served by the REL is no different, as the desire for quality teaching resulting in high student performance is echoed throughout Pacific communities.

The primary focus of Pacific CHILD has been on improving teacher practices in early reading, which remains today a critical and enduring issue across the Pacific region. Data from all entities served by PREL show low or declining performance in early reading. Mitigating factors that contribute to the region's literacy dilemma include lack of sufficient pre- and in-service training for teachers, lack of materials in local languages and English, unclear reading content standards, and shifting orthographies in Pacific languages.

In a study of teacher education and reading instruction, the National Reading Panel (NRP) (2000) drew the following conclusions:

Appropriate teacher education does produce higher achievement in students. Much more must be known about the conditions under

which this conclusion holds. Some issues that need to be resolved include determining the optimal combination of pre-service and in-service experience, effects of pre-service experience on in-service performance, appropriate length of interventions for both pre-service and in-service education, and best ways to assess the effectiveness of teacher education and professional development. (p. 5-2)

The results of the NRP study, among others, convinced PREL that an important initiative to improve reading performance among students is to improve the knowledge and skills of teachers who teach reading. The research conducted by the REL over the past 5 years is designed to provide answers to some of the questions left unanswered by the NRP, as well as further substantiate the NRP's conclusion that appropriate teacher education produces higher achievement in students. Over the past 5 years, PREL, through its REL, has been developing a promising model of professional development that focuses on early reading.

We begin this research brief with short descriptions of the research base behind the Pacific CHILD model and the model itself. We then discuss how we evaluated the quality of the professional development provided through Pacific CHILD and discuss the findings from our evaluation.

* Roger Chesswas, PhD is the Director of Research at PREL.

The Research Base for Pacific CHILD Professional Development Model

Very little, if any, research in the field of professional development has focused on diverse populations. However, keeping in mind the limitations of research findings in the area of professional development for diverse teachers, we believe it is important to present the models, practices, and strategies that have been identified as effective by experts in the field. If implemented appropriately, many of the findings can also be applicable to culturally diverse teachers.

Showers, Joyce, and Bennett (1987) suggest that strong implementation is not achieved until a new strategy has been used in approximately 25 teaching episodes. This implies that long-term professional development is a necessary component for changing teaching behaviors. In 1976, Berman and McLaughlin introduced the idea of mutual adaptation—the modification and adaptation of new practices into a teacher’s environment. In some cases, both environment and practice are modified until implementation occurs. Van Broekhuizen and Dougherty (1999) note:

Hall and Loucks (1978) support the long-term view of professional development by looking at stages through which teachers progress as they implement new skills. Their work recommends building methods of dealing with teacher concerns into professional development design. As the program progresses over time, concerns will be dealt with and will not be issues. (p. 10)

Lyons and Pinnell (2001) assert that constructivism has been generally accepted as the best approach for working with adults and has emerged as an important educational paradigm for professional development (Joyce & Showers, 1995; Lambert et al., 1995; Lyons, Pinnell, & DeFord, 1993). Lyons and Pinnell suggest eight principles for organizing and implementing professional development (p. 4):

1. Encourage active participation.
2. Organize small group discussions around common concerns.
3. Introduce new concepts in context.
4. Create a safe environment.
5. Develop teachers’ conceptual knowledge through conversation around shared experiences.
6. Provide opportunities for teachers to use what they know to construct new knowledge.
7. Look for shifts in teachers’ understanding over time.
8. Provide additional experiences for teachers who have yet to develop necessary conceptual understanding.

The work of Guskey (2000) addresses the desired results of professional development—improved student outcomes—and encourages educators to evaluate its effects and the effectiveness of activities. However, researchers have tried unsuccessfully in the past to determine the true impact of professional development in education. Although various forms of in-service education and staff development endeavors continue to be enormously popular and highly valued, relatively little is known about what difference they make.

Recent studies have attempted to isolate particular elements of professional development that can be correlated to improved teacher knowledge and/or student performance. The results from a national sample of mathematics and science teachers provide the first large-scale empirical comparison of effects of characteristics of professional development on teachers’ learning (Garet, Porter, Desimone, Birman, & Yoon, 2001). These researchers found that sustained and intensive professional development is more likely to have an impact than shorter professional development (as reported by teachers). In addition, professional development that focuses on specific content gives teachers opportunities for hands-on activities and is integrated into the daily life of the school is more likely to result in enhanced knowledge and skills. Using the core features that emerged from this study, a subsequent 3-year longitudinal study conducted by Desimone, Porter, Garet, Yoon, and Birman (2002) examined the effects of professional development on teachers’ instruction.

They found that professional development that was focused on specific teaching practices increased teachers’ use of those practices in the classroom. Furthermore, data indicated that the likelihood of changing teachers’ classroom practice was higher when professional development activities included:

- Shared participation of teachers from the same school, department, or grade.
- Contextualized learning opportunities, such as reviewing actual student work or obtaining feedback on teaching practices.
- Coherence (i.e., linking to other activities or building on teachers’ existing knowledge).

Using this research as a foundation for the Pacific CHILD Professional Development Model, the REL tailored the research question to determine specific professional development components that result in changed teaching strategies and increased student performance

The Pacific CHILD Professional Development Model

The Pacific CHILD model developed by PREL assumes that effective professional development is a specialized form of adult learning to which the precepts of effective teaching should apply. Tharp and colleagues (Tharp, 1997; Tharp, Estrada, Dalton, & Yamauchi, 2000) have elaborated upon a set of pedagogical standards intended to inform instruction. There is some evidence that when applied systematically, the Five Standards, as they have come to be known, result in affective, behavioral, and cognitive indicators of improved academic achievement, as measured through self-report, as well as direct observation (Doherty, Hilberg, Pinal, & Tharp, 2003; Hilberg, Tharp, & DeGeest, 2000; Padrón & Waxman, 1999).

In addition to the research on the Five Standards, PREL drew upon research in adult learning and the literature on effective professional development practices in reading (Brookfield, 1986; Center for Research on Education, Diversity & Excellence [CREDE], 2002; Heimlich & Norland, 1994; Learning First Alliance, 2000; Rueda, 1998). From this body of research, PREL developed the Pacific CHILD principles of effective professional development. A sixth standard

was added to address the need to ensure professional development is inclusive of and responsive to the diverse cultural practices of the Pacific region. These six principles are summarized as follows:

1. Facilitate learning and development through joint productive activity among professional development providers and participants.
2. Promote learners' expertise in professionally relevant discourse.
3. Contextualize teaching, learning, and joint productive activity in experiences and skills of participants.
4. Challenge participants toward more complex solutions in addressing problems.
5. Engage participants through dialogue (instructional conversation).
6. Demonstrate techniques and activities that are inclusive of and responsive to diverse cultural practices.

The key components that informed the model were studied in seven schools throughout the Pacific region, five of which were designated research sites where intense data collection took place.

An important characteristic of the Pacific CHILD professional development was to first hire site-based reading specialists who could deliver professional development on a regular basis. At each site, people who were from the local community and fluent in the local language were identified. In addition to these initial qualities, people who had some knowledge in early reading and classroom experience were selected. Understanding that the majority of educators in this region possess at most an associate's degree, finding staff with specific content knowledge in early reading proved challenging. Thus, the early reading content knowledge of staff who were hired ranged from none to quite extensive. Initially, there was a small group of three who had come to the first training in Honolulu in October 2001. Over time, more reading specialists were hired and completed the same training.

Also of importance was the necessity to have these specialists skillfully communicate early content reading knowledge to teachers. In other words, our reading specialists also needed to know how to provide professional development in early reading. Therefore, it became necessary to provide professional development to our site-based reading specialist staff in both content and process. Since 2001, eight training events were offered by REL reading specialists to site-based reading specialists. Training covered the reading process and content, as well as delivering standards-based professional development. Events lasted from 2 to 7 days and occurred in Honolulu and throughout the Pacific region.

The observation of professional development through Pacific CHILD's data collection process was designed to assess the quality of the professional development provided by trained staff and to ensure that both content and process in early reading were being addressed.

We now turn to how we evaluated the quality of professional development provided through Pacific CHILD.

Evaluation of the Quality of Pacific CHILD Professional Development

The research on Pacific CHILD began in September 2001 and has continued through June 2005. The findings presented in this research brief are from the 2003–2004 and 2004–2005 school years. The overarching research question for Pacific CHILD is: What are the components of an effective professional development model for early reading improvement? Within this question are a number of important sub-questions that will provide information about the model. One of these questions is: What is the quality of the professional development provided by Pacific CHILD staff?

To evaluate the quality of Pacific CHILD professional development, PREL designed, piloted, and tested the Professional Development in Reading Observation (PDRO) instrument (Pacific Resources for Education and Learning, 2003). The instrument is included in the Appendix. At each of the five research sites, it is estimated that at least three early reading professional development activities take place every week. Therefore, across all five research sites, the following calculations were made to estimate the total number of professional development activities that took place over the 2-year period of study:

1. An average of 12 professional development activities per month at each research site for an average of 7 months of school (discounting holidays, vacations, beginning and end of school year activities, etc.)
2. Professional development activities per year at each research site—84
3. Professional development activities per year across all five sites—420
4. Possible events for the 2 years of study—840

In our study, we collected 100 observations of professional development events for the 2-year research period for the five research sites, or approximately 12% of all professional development events. Of these 100 observations, we used 87 observations of professional development events that lasted over 20 minutes (range was 20 minutes to 3 hours), or a sample of just over 10% of all events.

The PDRO instrument examines the quality of professional development in reading provided by Pacific CHILD staff to teachers at research sites. The intent of the PDRO instrument is to provide an impression or a thin description of professional development events at REL research sites. Included in the instrument are professional development strategies, duration of the observation, content area and instructional goals, and the primary language used by professional development providers and teachers. Professional development strategies range from a single formal group (small or large) structure to one-on-one coaching or mentoring. These events are also characterized by individual delivery as well as team delivery of professional development. The instrument includes the six standards that form the primary means for judging the quality of the professional development (see list discussed earlier).

The PDRO instrument utilizes a 5-point Likert scale with descriptors at the high end, midpoint, and low end of the scale:

- 1 = The standard is not observed.
- 2 = The standard is emerging.

- 3 = The standard is developing.
- 4 = The standard is enacted.
- 5 = The standard is integrated with two or more other standards.

Face Validity

A simple survey was conducted to gauge the PDRO’s face validity. The survey asked 20+ respondents to rate each standard on its ability to measure the intended behavior. The survey utilized a 5-point Likert scale with the descriptors “Strongly Agree” at the high end and “Strongly Disagree” at the low end. Superficially, the test appears at face value to test what it is designed to test. Table 1 illustrates the mean scores of the respondents’ ratings of each standard.

Table 1. Mean Scores of Respondents’ Ratings of Each PDRO Standard

Standard 1	Standard 2	Standard 3	Standard 4	Standard 5	Standard 6
4.4	4.1	4.4	4.0	4.3	4.2

While the mean scores for each standard appear to fall on the higher end of the scale, in-depth discussion of each standard and its measured behavior resulted in further clarification of the rubrics used to describe each standard.

Construct Validity

Since we do not have a substantial number of PDRO scores, we followed the procedure outlined by Cohen, Mannion, & Morrison (2000). The construct of professional development in reading is rooted in a wide literature search and review that teased out the meaning of professional development delivery. However, the literature does not address the quality of professional development as it is delivered, making it difficult to find examples that confirm the construct. Basing the construct of professional development delivery on CREDE’s Five Standards for Effective Pedagogy (2002) and Rueda’s (1998) concept paper, REL researchers postulate that the PDRO measures the construct of professional development delivery as described.

Reliability

A total of 87 PDRO records were analyzed to assess the quality of the professional development provided through Pacific CHILD. As can be seen in Table 2, the internal consistency of the PDRO resulted in a standardized item alpha of .91. Intra-class correlations were also generated using an “absolute agreement” definition. The coefficients generated were sufficiently large (.57 for single measures; .89 for average measures; both were statistically significant at the .000 level) that we use this as evidence of the PDRO’s internal consistency and hence reliability.

Table 2. Inter-Item Correlation Matrix

	Standard 1	Standard 2	Standard 3	Standard 4	Standard 5	Standard 6
Standard 1	1.00	.62	.64	.57	.55	.42
Standard 2	.62	1.00	.66	.66	.64	.52
Standard 3	.64	.66	1.00	.66	.57	.65
Standard 4	.57	.66	.66	1.00	.64	.63
Standard 5	.55	.64	.57	.64	1.00	.72
Standard 6	.42	.52	.65	.63	.72	1.00

Cronbach’s Alpha = .91

Inter-Rater Reliability

The training for the administration of the PDRO included background information on adult learning and effective pedagogy, explanation of the PDRO, vignettes of professional development in reading, and videotape examples. A major part of the training involved participants scoring five vignettes and three videotape examples. Of the 10 staff members trained, 9 achieved high inter-rater reliability on the use of the instrument based on the scoring of the vignettes and videotape examples. The 10th rater was retrained until yielding a sufficient inter-rater reliability before conducting any PDROs.



Pilot testing of the instrument took place at several Co-Development Partner (CDP) school sites. Honolulu-based staff observed and rated a number of site-based reading specialists as they conducted professional development in reading. Table 3 shows the inter-rater reliability that was achieved on several measures. Based on the data in this table, a high correlation among the raters was demonstrated (Cronbach's Alpha = .98). The following matrix illustrates inter-rater correlations where individual rater scores were correlated with each other and with the whole group.

Table 3. Inter-Rater Correlation Matrix

	All	RT	JB	JJ	ML	LN	SA	RE	DP	PM	OH
All											
RT	.96										
JB	.90	.83									
JJ	.91	.85	.86								
ML	.96	.98	.83	.85							
LN	.92	.84	.87	.74	.84						
SA	.93	.91	.74	.66	.91	.85					
RE	.80	.72	.75	.62	.72	.69	.81				
DP	.94	.93	.81	.90	.95	.73	.83	.69			
PM	.91	.87	.61	.79	.87	.64	.90	.73	.87		
OH	.97	.95	.81	.87	.97	.83	.91	.73	.94	.89	
DU	.98	.93	.82	.86	.93	.87	.92	.79	.90	.90	.96

We now turn to the findings of our observations using the PDRO.

Evaluation Findings on the Quality of Professional Development

Our evaluation of the quality of professional development through observations of a sample of professional development events provided through Pacific CHILD looks at overall ratings of the sampled events using the six standards, and the differences in ratings by the type of professional development strategy and length of professional development provided. In our sample of observations, approximately 4 out of 10 (43%) professional development events observed were coaching, including guided observation; approximately a third (35%) were trainings; and two out of ten (22%) were study groups.

On Average, Professional Development Events Were Rated as “Developing”

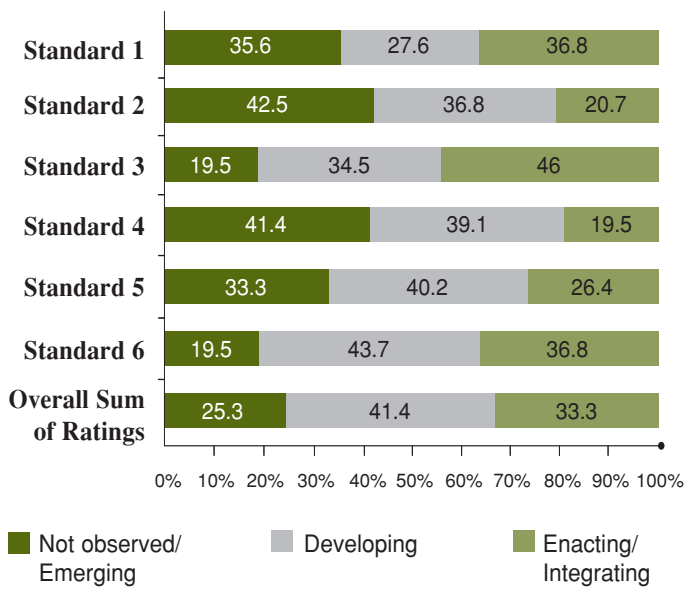
As can be seen in Table 4, the overall mean of ratings across all six standards was 3.02. On the PDRO, this is the midpoint on the 5-point scale described as “developing.”

Table 4. Rank of Mean Ratings by Standard Ranked (N = 87)

Rank	Standard	Mean	s.d.
1	Contextualizes teaching, learning, and joint productive activity in the experiences and skills of participants. (Standard 3)	3.39	1.05
2	Demonstrates techniques and activities that are inclusive of and responsive to diverse cultural practices. (Standard 6)	3.18	.84
3	Facilitates learning and development through joint productive activity among PD providers and participants. (Standard 1)	2.98	1.27
4	Engages participants through dialogue (instructional conversation). (Standard 5)	2.95	.98
5	Promotes learners’ expertise in professionally relevant discourse. (Standard 2)	2.86	1.04
6	Challenges participants toward more complex solutions in addressing problems. (Standard 4)	2.75	.97
	Overall Mean	3.02	.84

Combining the two descriptors at each end of the PDRO 5-point scale (“not observed” + “emerging;” “enacting” + “integrating”) provides some insight into where standards are more developed. As can be seen in Figure 1, almost half of the observation ratings (46%) describe contextualizing teaching and learning (Standard 3) as “enacting” or “integrating.”

Figure 1. Percentage Distribution of Scores by Standard



By contrast, in approximately 4 out of 10 ratings promoting learner expertise in professionally relevant discourse (Standard 2) and challenging participants toward more complex solutions in addressing problems (Standard 4) are described as not observed or emerging.

The mean ratings of the six standards found in Table 4 range from 3.39 (contextualizing teaching, learning, and joint productive activities in the experiences and skills of participants), the highest, to 2.75 (challenging participants toward more complex solutions in addressing problems), the lowest. Given the relative size of the standard deviations—the measures of different observation ratings across all events for each standard—the question arises as to whether or not there are real differences between the mean ratings of each standard, or if they are all about the same in terms of average ratings. As can be seen in Table 5, of the 15 possible comparisons of mean ratings of the six standards, in 10, or two-thirds, of these cases, the differences between means are statistically significant ($p = .05$).

Table 5. Results of Paired Samples Test of Significance—Mean Differences and Standard Deviations

	Standard 1	Standard 2	Standard 3	Standard 4	Standard 5	Standard 6
Standard 1	-					
Standard 2	.12 (1.03)	-				
Standard 3	-.41 (1.01)*	-.539 (.86)*	-			
Standard 4	.23 (1.06)*	.12 (.83)	.64 (.84)*	-		
Standard 5	.02 (1.10)	-.09 (.86)	.44 (.94)*	-.21 (.82)*	-	
Standard 6	-.21 (1.19)	-.32 (.93)*	.21 (.81)*	-.44 (.79)*	-.23 (.69)*	-

* $p \leq .05$

These differences between mean ratings suggest that, across all professional development events, the relative ratings indeed do measure the differences in standards observed as being used in Pacific CHILD professional development. This is to say that in the professional development provided through Pacific CHILD, you are more likely to find contextualized teaching and learning (Standard 3) and demonstrations of techniques and activities that are inclusive of and responsive to diverse cultural practices (Standard 6), than promoting learners' expertise in professionally relevant discourse (Standard 2) and challenging participants toward more complex solutions in addressing problems (Standard 4).

The Quality of Pacific CHILD Professional Development Is Best When Events Are Between 30 and 90 Minutes in Duration

We analyzed the ratings for each standard across four time spans: events that lasted from 20–30 minutes, 31–60 minutes, 61–90 minutes, and 91–180 minutes. The mean ratings by standard by length of professional development event can be seen in Table 6.

Table 6. Mean Scores and Standard Deviations of Standards by Duration

	Standard 1	Standard 2	Standard 3	Standard 4	Standard 5	Standard 6	Overall Mean
20–30 minutes	2.29 (1.05)	2.47 (.87)	3.00 (1.00)	2.35 (.86)	2.53 (.94)	2.82 (.95)	2.58 (.79)
31–60 minutes	2.96 (1.17)	2.71 (.94)	3.46 (1.00)	2.82 (.98)	2.96 (1.04)	3.32 (.77)	3.04 (.82)
61–90 minutes	3.46 (1.38)	3.17 (1.20)	3.58 (1.14)	2.96 (.86)	3.25 (.85)	3.38 (.71)	3.30 (.81)
91–180 minutes	3.00 (1.24)	3.06 (1.00)	3.39 (1.04)	2.72 (1.13)	2.94 (1.00)	3.06 (.94)	3.03 (.85)

The overall ratings show that professional development events lasting between 61 and 90 minutes have overall ratings across the six standards of 3.3, compared with overall ratings of 2.58 for events lasting 30 minutes or less. When we examine the mean ratings of standards for events lasting 61–90 minutes, we find that these are more likely to be characterized by contextualizing teaching and learning (Standard 3; mean = 3.58), facilitating learning and development through joint productive activity among professional development providers and participants (standard 1; mean = 3.46), and demonstrating techniques and activities that are inclusive of and responsive to diverse cultural practices (standard 6; mean = 3.38). These are activities that are more likely to be observed when professional developers have more time with participants.

Examining the rankings of mean ratings of each standard within the four time spans, we find, as shown in Table 7, that in all cases, events lasting 61–90 minutes have the highest rating for each standard.

Table 7. Mean Scores of Standards Ranked by Duration

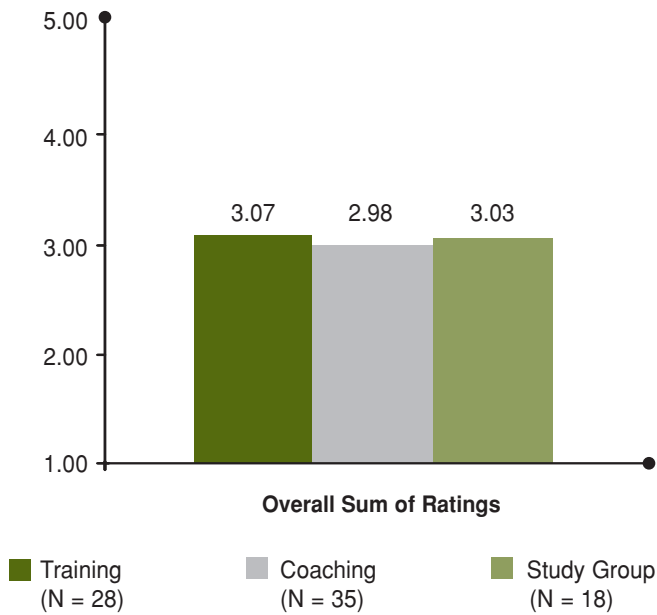
	Standard 1	Standard 2	Standard 3	Standard 4	Standard 5	Standard 6	Overall Mean
20–30 minutes	4	4	4	4	4	4	4
31–60 minutes	3	3	2	2	2	2	2
61–90 minutes	1	1	1	1	1	1	1
91–180 minutes	2	2	3	3	3	3	3

By contrast, events lasting 20–30 minutes receive the lowest mean ratings on each standard. These data suggest that the use of professional development standards is more common in events lasting from 31–90 minutes and less common in short-duration events. These findings suggest that more time in and for professional development is correlated with higher ratings on standards of professional development.

In Pacific CHILD, There Are No Differences in Ratings Between Professional Development Strategies

In our Pacific CHILD professional development observations, we find no differences in overall ratings across all standards for different kinds of professional development events. As can be seen in Figure 2, overall mean ratings range from 2.98 for coaching to 3.07 for training. All three kinds of strategies receive an average rating of “developing.”

Figure 2. Mean Scores by Professional Development Strategy (N = 81)



When we look across the various mean ratings for each standard by professional development strategy, we find, as shown in Table 8, that the highest rated standards are contextualizing teaching and learning (Standard 3) in all three professional development strategies of training (mean = 3.29), coaching (mean = 3.46), and study group (mean = 3.33).

Table 8. Mean Scores and Standard Deviations of Standards by Professional Development Strategy

	Standard 1	Standard 2	Standard 3	Standard 4	Standard 5	Standard 6	Overall Mean
Training (N = 28)	3.14 (1.33)	3.11 (1.20)	3.29 (1.18)	2.93 (1.09)	2.86 (1.04)	3.11 (.92)	3.07 (.98)
Coaching (N = 35)	2.69 (1.23)	2.69 (.93)	3.46 (.82)	2.77 (.91)	3.00 (.91)	3.26 (.82)	2.98 (.73)
Study Group (N = 18)	3.22 (1.22)	2.89 (1.08)	3.33 (1.29)	2.56 (.92)	2.94 (1.11)	3.22 (.88)	3.03 (.93)

Conclusions about the Quality of Pacific CHILD Professional Development

- The professional development provided through Pacific CHILD is still, on average, in the stage of “developing.” Sample observations of professional development events show providers more likely to contextualize teaching and learning and demonstrate techniques and activities that are inclusive of and responsive to diverse cultural practices. Providers are less likely to promote learners’ expertise in professionally relevant discourse and challenge participants toward more complex solutions in addressing problems.
- The best professional development provided is of a duration lasting from about an hour to an hour and a half. The professional development provided of this duration is more likely to be characterized by contextualizing teaching and learning, facilitating learning and development through joint productive activity among professional development providers and participants, and demonstrating techniques and activities that are inclusive of and responsive to diverse cultural practices.

The quality of professional development provided through training, coaching, and study groups is, on average, in the “developing” stage. There are no differences in ratings between the strategies, with all three being rated highest in contextualizing teaching and learning.

Implications of the Evaluation of Pacific CHILD Professional Development

These findings from our evaluation of the professional development provided through Pacific CHILD at the five research sites suggest that PREL needs to continue to build the capacity of local staff to further improve professional development to move from “developing” to being “enacted” and eventually “integrated fully” into professional development practice. This is especially true of the areas of “finding the opportunities to promote learners’ expertise in professionally relevant discourse” and “challenging participants toward more complex solutions in addressing problems.”

These findings also suggest that those training local staff in the research sites and in subsequent capacity building efforts need to strengthen the training-of-trainers curriculum to build more deeply and quickly the core skills and knowledge of local staff to provide high-quality professional development. This could include more frequent and systematic monitoring of the professional development provided using the PDRO and using findings to target follow-up support to local professional development providers.

As subsequent stages of research on the Pacific CHILD professional development model unfold, specifically in the areas of teacher learning and changes in practice, it will be important to examine these outcomes in the light of the findings of the quality of professional development provided to teachers and how the standards of quality may impact teacher outcomes.

Finally, at this stage, it will be important to take stock of and carefully evaluate the PDRO instrument and the observation processes. Questions that are important to address might include:

- What is a sufficient sample of professional development events to be observed to ensure the generalizability of the results?
- What are the implications of having one observer?
- How can the additional data that we have gathered through the Pacific CHILD project complement and supplement the PDRO to deepen the understanding of and better evaluate the quality of professional development?
- What are further uses of the PDRO beyond evaluating the quality of professional development?

References

- Berman, P., & McLaughlin, M. W. (1976). *Federal programs supporting educational change, volume VIII: Implementing and sustaining innovations*. Santa Monica, CA: Rand Corp.
- Brookfield, S. D. (1986). *Understanding and facilitating adult learning*. San Francisco: Jossey-Bass.
- Center for Research on Education, Diversity, and Excellence (CREDE). (2002). *The five standards for effective pedagogy*. Retrieved March 18, 2003, from www.crede.ucsc.edu/standards/standards.html
- Cohen, L., Manion, L., & Morrison, K. (2000). *Research methods on education* (5th ed.). New York: Routledge Farmer.
- Desimone, L., Porter, A. C., Garet, M. S., Yoon, K. S., & Birman, B. F. (2002). Effects of professional development on teachers' instruction: Results from a three-year longitudinal study. *Educational Evaluation and Policy Analysis, 24*(2), 81–112.
- Doherty, R. W., Hilberg, R. S., Pinal, A., & Tharp, R. G. (2003). Five standards and student achievement. *NABE Journal of Research and Practice, 1*, 1–24.
- Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal, 38*(4), 915–945.
- Guskey, T. R. (2000). *Evaluating professional development*. Thousand Oaks, CA: Corwin.
- Heimlich, J. E., & Norland, E. (1994). *Developing teaching style in adult education*. San Francisco: Jossey-Bass.
- Hilberg, R. S., Tharp, R. G., & DeGeest, L. (2000). The efficacy of CREDE's standards-based instruction in American Indian mathematics classes. *Equity and Excellence in Education, 33*, 32–40.
- Joyce, B., & Showers, B. (1995). *Student achievement through staff development*. White Plains, NY: Longman.
- Lambert, L., Walker, D., Zimmerman, D. P., Cooper, J. E., Lambert, M. D., Gardner, M. E., & Ford-Slack, P. J. (1995). *The constructivist leader*. New York: Teachers College.
- Learning First Alliance. (2000). *Every child reading: A professional development guide*. Washington, DC: Author.
- Lyons, C. A., & Pinnell, G. S. (2001). *Systems for change in literacy education: A guide to professional development*. Portsmouth, NH: Heinemann.
- Lyons, C. A., Pinnell, G. S., & DeFord, D. E. (1993). *Partners in learning: Teachers and children in reading recovery*. New York: Teachers College.
- National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*. Bethesda, MD: National Institute of Child Health and Human Development.
- Padrón, Y., & Waxman, H. C. (1999). Classroom observations of the five standards of effective teaching in urban classrooms with English language learners. *Teaching and Change, 7*, 79–100.
- Pacific Resources for Education and Learning (PREL). (2003). *The Professional Development in Reading Observation (PDRO) instrument*. Honolulu, HI: Author.
- Rueda, R. (1998). *Standards for professional development: A socio-cultural perspective* (Research Brief #2). Santa Cruz, CA: National Center for Research on Excellence, Diversity, and Education (CREDE).
- Showers, B., Joyce, B., & Bennett, B. (1987). Synthesis of research on staff development: A framework for future study and a state-of-the-art analysis. *Educational Leadership, 45*, 120–129.
- Tharp, R. G. (1997). *From at-risk to excellence: Research, theory, and principles for practice*. Washington, DC: Office of Educational Research and Improvement.
- Tharp, R. G., Estrada, P., Dalton, S. S., & Yamauchi, L. A. (2000). *Teaching transformed: Achieving excellence, fairness, inclusion and harmony*. Boulder, CO: Westview.
- Van Broekhuizen, L. D., & Dougherty, B. (1999). *Teacher diversity: Implications for professional development*. Honolulu, HI: Pacific Resources for Education and Learning.

Pacific Resources for Education and Learning (PREL) is an independent, nonprofit 501(c)(3) corporation that serves the education community in the U.S.-affiliated Pacific islands, the continental United States, and countries throughout the world. PREL bridges the gap between research, theory, and practice in education and works collaboratively with schools and school systems to provide services that range from curriculum development to assessment and evaluation.

Reprints available while supplies last. Please contact:



Pacific Resources for Education and Learning

900 Fort Street Mall ■ Suite 1300 ■ Honolulu, Hawai'i 96813

Phone: (808) 441-1300 ■ Fax: (808) 441-1385

U.S. Toll-free Phone: (800) 377-4773

U.S. Toll-free Fax: (888) 512-7599

Email: askprel@prel.org ■ Website: www.prel.org

Copies also available for download at <http://ppo.prel.org>.