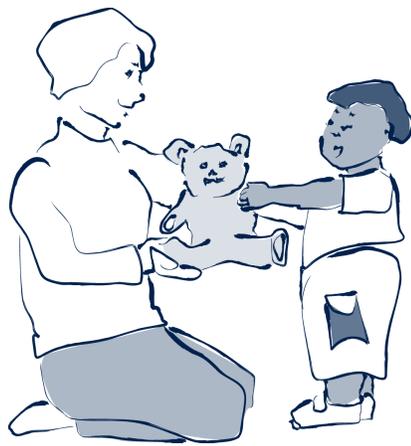


Chapter 08



Facilitating use of evidence-based language teaching practices in preschool classrooms

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Introduction

More than three decades of research and policy activities have shaped knowledge about conditions that promote children's learning, development, and school success. Despite these promising directions, many young children enter kindergarten without the social competence, academic ability, or motivation necessary to perform successfully in America's schools. Among this group of children perceived as 'not ready to learn' upon school entry, teachers consistently identify language deficiencies as a primary problem (Boyer, 1991; Hart & Risley, 1995). Language development is not only one of the most important cognitive achievements during the preschool years, but children's language skills are related to subsequent academic outcomes and are an essential ingredient in early and later school success (e.g., Butler, 1999; Catts, H., Fey, M., Zhang, X., & Tomblin, B, 2000; National Research Council, 1998; Neuman & Dickenson, 2001; Snow, Burns, & Griffen, 1998; Smith & Dixon, 1995; Whitehurst & Lonigan, 1998, 2001).

During the past two decades, researchers have delineated key aspects of the optimal language learning environment, including: (a) responsivity; (b) consistency; and (c) opportunity-rich experiences for talk, stories, verbal problem-solving and reasoning, play-based learning, and interaction with print. (For a review, see Rice & Wilcox, 1995.) Despite an abundance of scientific work that identifies best language facili-

tation practices for young children, there is a demonstrable concern that these practices are not finding their way into typical preschool and child care settings. Clearly, identification of scientifically-based practices is only one part of the equation. These practices also must be integrated within preschool classes and child care settings. Infusing the 'best of science' into everyday teaching practices has gained attention in educational settings due to an increasing awareness of the limited amount of scientifically-gained knowledge and procedures that are used by consumers (e.g., teachers, child care personnel). Teachers are unlikely to adopt practices that they perceive as 'laboratory-based' because they may view these as impractical for their teaching or child care environments, despite the increasing body of positive evidence (e.g., Fey & Johnson, 1998; Powell, 1994; Wilcox, Hadley, & Bacon, 1998).

Action research methods represent an emerging and successful strategy to promote a more continuous flow of scientific information to everyday practice settings (e.g., Bartunek, & Louis, 1996; Turnbull, Frisen, & Ramirez, 1998; Wilcox et al., 2001, 1998). The model selected for this project was based on one described by Wilcox, Hadley, and Bacon (1998). In their discussion of issues as they pertain to promoting best language facilitation practices, they suggested a series of steps by which researchers and practitioners forge increasingly interdependent partnerships. An ongoing dialogue that includes a reciprocal exchange of formal and experiential knowledge between researchers and practitioners is the backbone of the process. A schematic of the action research approach is included in Figure 1. As can be seen, an initial phase focuses on understanding the problem and identifying desired outcomes. Subsequently, classroom-based research action teams are formed to identify strategies for improving classroom practices relative to the outcomes that emerged from the first phase. The third phase includes implementation, with ongoing evaluation and reformulation. When all parties are satisfied, the process culminates with dissemination and outreach to other programs.

In this report, we describe an experimental investigation of practices and procedures that were developed through a series of year-long pilot activities in preschool classes that followed the first three phases of the model depicted in Figure 1. Results of that process included: (a) language teaching goals and strategies implemented and refined by collaborative teams of a researcher and classroom teaching personnel; and (b) delineation of the steps for effective research-teacher collaborations. The practices were then subjected to experimental testing to address the following research questions:

- To what extent do protocols generated through an action research model promote the use of validated language facilitation practices by classroom personnel?
- If changes in language teaching practices are observed, are these changes accompanied by improvements in children's language skills?

- What is the perceived value and feasibility of the action research approach?
 - Does action research facilitate a sense of commitment and ownership?
 - Does the action research process allow for adjustments to accommodate practice needs?
 - Do the results of the process yield data viewed by teachers as interpretable and useful?

Methods

The research included an experimental/contrast, pre-post design conducted across 12 Head Start preschool classes – six randomly designated as experimental and six randomly designated as control. The pre-post measures corresponded to the beginning and end of a school year (e.g., September and May). The experimental classes were distributed across two different sites and the control classes were selected from one larger site. The participating Head Start classrooms were very similar in description in terms of teaching staff, class composition, and environmental resources/conditions. A classroom teaching staff was comprised of a teacher who had earned his or her Child Development Associate (CDA) credentials and an assistant teacher who was typically in the process of obtaining his or her CDA credentials. At least one of the teaching staff was a native speaker of Spanish and was considered a fluent bilingual; the primary teacher was always a native speaker of English but was often considered a fluent bilingual. Approximately 20 children with an average age between four and five years were enrolled in each class. At least 50 percent of the children in each class were monolingual Spanish speakers upon entering the school year; only a few children had limited skills in spoken English. Some of these classes were housed on a public school campus, and others were the sole occupants of a facility or a shared space in a community building that supported others programs for low-income and at-risk families.

Participants

Participants in the research included 23 teachers and 72 preschool children recruited by lottery across the 12 Head Start preschool classes. The teachers' years of experience in preschool teachers ranged from <1 (new staff) to 32 years. Forty of the children (mean age of 54.76 months) were enrolled in experimental classrooms and 32 (mean age of 52.74 months) were enrolled in the contrast classes. Forty children (23 experimental and 17 contrast) were native Spanish speakers and demonstrated limited to no English proficiency upon enrollment in the research. Thirty-two children (17 experimental and 15 contrast) were native English speakers. All children demonstrated typical language development in their native languages.

Procedures: Experimental classes

An action research team was identified for each of the program sites, with the team including the classroom teachers, assistant teachers, a speech-language pathologist, and a university research partner. The teams met on a biweekly basis and continued

meeting throughout the school year. Discussion topics over the school year included: (a) language development and key skills required for subsequent school success; (b) language teaching goals and practices; and (c) sharing of ideas for implementing practices across the preschool curriculum.

Classroom language goals or key skills were based on those identified in the pilot work as most 'do-able' by teachers and essential for children to develop for a successful transition into kindergarten. A total of six language goals served as the focus for the language teaching practices including: (a) increasing the use of decontextualized language; (b) developing personal narrative skills; (c) encouraging complex verbal reasoning; (d) facilitating verbal interactions with peers; (e) teaching new vocabulary words and concepts; and (f) promoting second language acquisition. Specific details regarding the implementation of these strategies can be found at <http://icrp.asu.edu/pub.html>.

The language teaching practices required the teachers to make minimal adjustments in their classroom operations and routines. It was necessary for them to prepare additional materials and identify new resources. The biweekly team meetings served as the primary vehicle for brainstorming about new ways to implement strategies. During these meetings, the teams developed options for modifying various practices consistent with 'best' language facilitation practices, provided 'on-the-job coaching' for each other, and shared success stories when staff turned 'teachable moments' into magical language learning opportunities. In addition, the university researchers or assigned speech-language pathologists conducted monthly classroom observations during child-directed play times, or a minimum period of 50 minutes of free play in the classroom for each teacher and assistant teacher. Feedback was provided to the staff immediately following the class dismissal for each observation. The observer used the *Classroom Observation Tool (COT)* (Wilcox, et al., 2001) developed by the research action team to standardize and compare observations over time. The *COT* provides meaningful feedback on the type and frequency of strategies implemented during a given observation period and includes space to make suggestions and comments. It is organized by teaching strategies that serve to: (a) create opportunities for communication; (b) improve teacher responses to increase children's discourse and promote the use of decontextualized language; (c) facilitate peer verbal interactions; (d) diversify methods to teach new vocabulary; (e) support second language acquisition; and (f) characterize the overall supportive interaction style.

Procedures: Contrast sites

The contrast sites were identical to the experimental sites in terms of staffing, the number of children, and general curricula. It was necessary to control for the presence of additional resource personnel (i.e., the university researchers) and the extra planning time that experimental teachers had as a result of the action research meet-

ings. Accordingly, all contrast class personnel and a university researcher met on a biweekly basis and the researcher observed in each class two times each month.

Measures

Outcomes were determined by changes in teacher behavior and child language abilities in the pilot and experimental studies. Observational measurements regarding the teachers' use of various practices were obtained immediately prior to participation in the research project and toward the end of the school year. Data included individual videotapes of the teaching staff at the pre-participation measurement point and at the post-participation measurement point during the daily opportunity for child-directed play, or 'free play.' The videotapes were analyzed using the *COT*, identifying the frequency of use of teaching practices in each of the broader areas.

Child outcome measures included standardized tests [*Preschool Language Scale – 3 (PLS-3)*; *Peabody Picture Vocabulary Test – III (PPVT)*; *Expressive Vocabulary Test (EVT)* or *Expressive One Word Picture Vocabulary Test – Spanish*; and *Test De Vocabulario En Imagenes Peabody*] and the analysis of semi-structured language samples. The samples were obtained from all children (in their primary language only) using a standard set of toys and books during play with an adult native speaker of the child's first language. Standard testing for children was conducted pre-post in their native language with two exceptions: all children were given the *PPVT* and the *PLS-3* receptive component in English.

Results and discussion

Tables 1 through 3 include the results for participating teachers and children. At pre-testing, as seen in Table 1, experimental and contrast teachers demonstrated a similar use of strategies, although the experimental teachers overall used more enhancing behaviors. However, at post-testing, the experimental teachers demonstrated significantly greater gains in all areas. Standard test data for the native English speakers (Table 2) revealed significantly greater gains for experimental participants on all measures except for the *EVT*. Standard test data for the native Spanish speakers (Table 3) revealed no differences across the experimental and contrast conditions. Pre-post analyses of language samples in terms of the number of different words, type-token ratio, and mean length of utterance in words revealed no effects for condition (experimental vs. contrast) for either language group.

Results suggest that the experimental activities were linked with substantial changes in teacher behaviour and a change in the language abilities for native English speakers. Unfortunately, despite the goal of promoting second language acquisition, the Spanish-speaking children did not make gains beyond maturation in either Spanish or English. A couple of issues might offer insight into this trend. First, all of the experimental teachers believed that the native Spanish-speakers made substantial progress in their use of English for communicating. The language goals and teaching

practices were all focused on those language skills children are believed to require for subsequent learning versus communicating. Children learning English as a second language first master communication strategies, and may take years to use their second language to learn. Neither the standard tests nor the language sampling protocol were designed to measure change with a primary focus on communication. Another possibility is that the language facilitation practices tested in this research are not the most appropriate for culturally and linguistically diverse (CLD) children. While there may be commonalities in how children learn language for the purpose of communication, strategies that will facilitate acquisition of more complex language abilities may be quite different for CLD children.

The teachers' perceptions of the benefits of their participation in this research were also obtained through interviews and written evaluations. The teachers reported increases in knowledge regarding: (a) language development; (b) strategies for infusing language teaching practices across their curriculum; and (c) expectations for language and emergent literacy skills in preschool children. Activities that the teachers viewed as the most beneficial included the biweekly team meetings, feedback during the observation sessions, and ways to increase opportunities for children to use language during small group activities and lunch.

Future directions

The action research approach was effective in modifying language-teaching behavior under the conditions described. However, university research partners are not readily available in many areas. We need to determine ways in which the model can be replicated within preschool programs that do not have such access. Further, the Head Start programs also had speech-language pathologists available on a regular basis and this, too, is problematic in many areas. We continue to explore ways to train preschool teachers to be 'language experts' through periodic consultation with speech-language pathologists. The challenge in all of this is to provide support and resources for preschool teachers in the most efficient and effective manner. Although speech-language pathologists certainly can be viewed as the language experts, we must explore various ways to effectively transfer key elements of that knowledge to those who see preschool children on a regular basis.

Figure 1. Schematic of the action research process

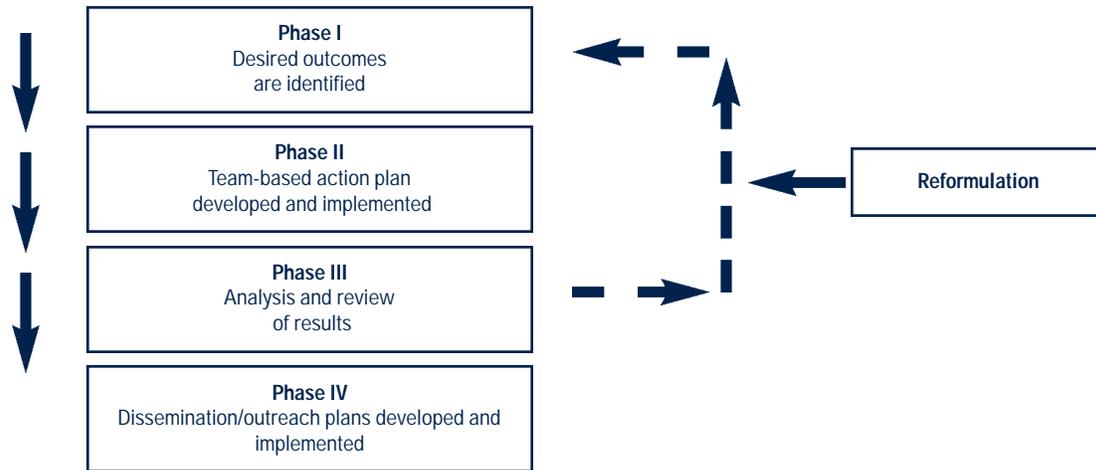


Table 1. Frequency (per 20 min) of teachers' use of language teaching strategies

Behaviour	Pre - Intervention		Post - Intervention	
	Experimental	Contrast	Experimental	Contrast
Creating opportunities	14.16	11.04	28.66*	14.07
Teacher responses	87.08	69.09	108.16*	67.72
Encouraging peer verbal interaction	15.08	8.36	27.25*	11.09
Teaching vocabulary	36.75	28.27	46.33*	23.72
Support 2nd language use	11.41	9.81	16.25*	10.72
Total rate	164.50*	123.18	226.66*	121.54

Note: T-Test indicated $P < .05$

Table 2. Standard test results M(SD) for native English speakers

Test	Pre-Intervention		Post-Intervention	
	Experimental	Contrast	Experimental	Contrast
PLS-3 Receptive	90.41 (13.19)	86.40 (14.17)	106.94 (11.91) ¹	87.53 (12.68) ²
PLS-3 Expressive	97.65 (12.51)	84.20 (10.33)	114.53 (11.11) ²	91.20 (11.63)
PLS-3 Total	93.71 (13.67)	84.13 (11.44)	112.06 (11.66) ³	88.27 (12.08)
PPVT-III	94.12 (13.19)	87.87 (13.48)	108.47 (20.34) ⁴	90.40 (11.10)
EVT	97.18 (7.88)	92.733 (11.49)	111.47 (9.43) ⁵	99.27 (10.43)

Note: PLS = Preschool Language Scale; PPVT = Peabody Picture Vocabulary Test III; EVT = Expressive Vocabulary Test
¹ $F(1,30) = 19.03, p < .0001$; ² $F(1,30) = 7.63, p = .01$; ³ $F(1,30) = 22.21, p < .0001$ ⁴ $F(1,30) = 5.21, p = .03$; ⁵ $F(1,30) = 6.992, p = .013$

Table 3. Standard test results M(SD) for native Spanish speakers

Test	Pre-Intervention		Post-Intervention	
	Experimental	Contrast	Experimental	Contrast
PLS-3 Receptive (English)	55.22 (7.69)	53.00 (5.69)	64.09 (15.78)	59.41 (8.86)
PLS-3 Receptive (Spanish)	81.87 (9.12)	81.18 (7.95)	88.57 (8.12)	89.88 (12.06)
PLS-3 Expressive (Spanish)	87.30 (16.51)	94.88 (13.46)	98.35 (13.33)	99.82 (13.18)
PLS-3 Total (Spanish)	82.87 (11.80)	86.65 (9.03)	92.83 (9.36)	94.35 (12.39)
TVIP (Spanish)	91.53 (15.40)	85.71 (16.65)	100.04 (13.31)	96.35 (14.04)
EOWPVT (Spanish)	88.39 (10.29)	84.88 (10.75)	94.17 (7.82)	89.12 (9.63)
PPVT-III	52.43 (13.73)	51.00 (11.93)	57.57 (12.78)	56.24 (14.48)
EVT English	N/A	N/A	50.96 (15.23)	53.47 (15.54)

Note: PLS = Preschool Language Scale; PPVT = Peabody Picture Vocabulary Test III; EVT = Expressive Vocabulary Test; TVIP = Test de Vocabulario en Imagenes Peabody; EOWPVT = Expressive One Word Picture Vocabulary Test

References

- Bartunek, J., & Louis, M. (1996). *Insider/outsider team research*. Thousand Oaks, CA: Sage Publications.
- Boyer, E. (1991). *Ready to learn: A mandate for the nation*. Princeton, NJ: The Carnegie Foundation for the Advancement of Teaching
- Burns, P., Griffin, P., & Snow, C. (Eds.) (1999). *Starting out right: A guide to promoting children's reading success*. Washington, DC: National Academy Press.
- Butler, K. (1999). From oracy to literacy: Changing clinical perspectives. *Topics in Language Disorders*, 20, 14-31.
- Catts, H., Fey, M., Zhang, X., & Tomblin, B. (2000). Language basis of reading and reading disabilities: Evidence from a longitudinal investigation. *Scientific Studies of Reading*, 3, 331-361.
- Fey, M., & Johnson, B. (1998). Research to practice (and back again) in speech-language intervention. *Topics in Language Disorders*, 18, 23-24.
- Hart, B., & Risley, T. (1995). *Meaningful differences in the everyday experience of young American children*. Baltimore, MD: Paul H. Brookes.
- National Research Council. (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- Powell, D. (1994). A differentiated analysis of research-practice linkages in early childhood programs. *Journal of Applied Developmental Psychology*, 15, 641-656.
- Rice, M., & Wilcox, K. (Eds.), (1995). *Building a language-focused curriculum for the preschool classroom: Vol. 1: A foundation for lifelong communication*. Baltimore, MD: Brookes.
- Smith, S. & Dixon, R. (1995). Literacy concepts of low- and middle-class four-year-olds entering preschool. *Journal of Educational Research*, 88, 243-253.
- Turnbull, A., Frisen, B., & Ramirez, C. (1998). Participatory action research as a model of conducting family research. *Journal of the Association for Persons with Severe Handicaps*, 23, 178-188.
- Whitehurst, G & Lonigan, C. (1998). Child development and emergent literacy. *Child Development*, 68, 848-872.
- Whithurst, G., & Lonigan, C. (2001). Emergent literacy: Development from pre-readers to readers. In S. Neuman & D. Dickinson (Eds.), *Handbook of early literacy development*. New York, NY: Guilford Press.

Wilcox, M., Bacon, C., Murphy, K., Thomas, S. (April 2001). *Using action research methods to infuse evidence-based language facilitation practices in Head Start preschool classrooms*. Paper presented at the biannual meeting of the Society for Research in Child Development.

Wilcox, M., Hadley, P., & Bacon, C. (1998). Linking science and practice in management of childhood language disorders: Models and problem-solving strategies. *Topics in Language Disorders, 18*, 10-22.

