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Insert references in appendix A of this document. Insert tables and graphics in appendix B. Do not insert them into the body of the abstract.

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[*] Mosteller, F., Nave, B., & Miech, E. (2004). Why we need a structured abstract in education research. *Educational Researcher, 33(1),* 29–34.

Abstract Title Page
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Title:
Promoting Language and Literacy Development for Early Childhood Educators: A Mixed-Methods Study of Coursework and Coaching

Author(s):
Susan B. Neuman, The University of Michigan
Tanya Wright, The University of Michigan

Abstract Body

Limit 5 pages single spaced.

Background/context:

Given the size of the investment in professional development for early childhood educators and the dependence of educational reform on providing high quality professional development, the knowledge base of effective practices needs to be strengthened (Zaslow & Martinez-Beck, 2006). In this paper, we report on the results of an effort to better understand the independent contribution of coaching as the sole mechanism for improving teacher practice and child outcomes in early language and literacy development. We compare coaching with traditional training through coursework, and a wait-list comparison group. The results we report here build on a previous large-scale analysis of professional development for center- and home based providers. Together, the earlier study and the one reported here help to highlight the strengths and potential weaknesses of different forms of professional development for improving teaching practices in early literacy. In addition, it provided some initial insights on the issue of dosage and intensity of professional development outside of our ability to directly subject it to experimental manipulation.

Purpose / objective / research question / focus of study:

Description of what the research focused on and why.

The goal of the study was to examine the effects of coaching or professional development coursework on teacher knowledge and teacher practice. Center-based child care teachers were randomly assigned to receive either coaching or professional development coursework, with a wait-list comparison group who received no professional development serving as controls (e.g. business as usual).

Setting:

This multi-site study took place in six cities in Michigan: Detroit, Cadillac, Flint, Grand Rapids, Jackson and Lansing.

Population / Participants / Subjects:

Description of participants in the study: who (or what) how many, key features (or characteristics).

Participants included 148 early childhood educators who were housed in 148 community centers or public schools. These teachers were distributed across the sites as follows: Detroit (10%); Cadillac (9%), Flint (24%); Grand Rapids (10%); Jackson (24%); and Lansing (24%)

Intervention / Program / Practice:

Description of the intervention, program or practice, including details of administration and duration.

The professional development intervention constituted a 30-hour program in early language and literacy development. Participants randomly assigned to Group 1 received a professional development course held at one of six locations closest in proximity to the child care site. Participants randomly selected for Group 2 received professional development through on-site individualized coaching. Participants in Group 3, the wait-list comparison, received no professional development.

Research Design:

Description of research design (e.g., qualitative case study, quasi-experimental design, secondary analysis, analytic essay, randomized field trial).

Mix-method study

Data Collection and Analysis:

Description of the methods for collecting and analyzing data.

Prior to the start of the study, we examined teacher knowledge and teacher practice in early language and literacy development using measures from our previous study. Specifically, all teachers were assessed in their knowledge of language and early literacy using a specially-developed measure *Teacher Knowledge Assessment of Early Language and Literacy Development* (Cronbach's alpha =.96) (Neuman & Cunningham, 2009).

Observations of teacher practices in language and literacy occurred simultaneously in early September before the professional development intervention. We used the Early Language and Literacy Classroom Observation (ELLCO) (Smith & Dickinson, 2002) to measure the instructional and environmental supports for language and literacy in the preschool classrooms. Previous studies have indicated that ELLCO was highly predictive of quality teaching practices, and this measure has been widely used in Early Reading First projects (Dickinson & Caswell, 2007). Immediately following the intervention, we conducted posttests and post-observations.

Throughout the study, we used a coaching log, based on research by Rowan and his colleagues (2008) to measure the active ingredients of coaching, and to better understand our coaching model.

In addition, to better understand teachers' response to the professional development, 54 participants were randomly selected from the coursework and coaching groups and interviewed following the intervention. The interview included 12 open-ended questions designed to assess how the professional development coursework or coaching might affect the participant's classroom practices. Specifically, we were interested in learning more about the ways in which the training might help to solve challenges in their work with children and specific techniques or research-based practices that might enhance their classroom practices. Interviews were 45-minutes to 1 hour, tape-recorded, and transcribed verbatim.

Findings / Results:

Description of main findings with specific details.

Analyses of variance and covariance indicated that neither treatment condition significantly outperformed the control group on posttest knowledge scores. Further, scores at posttest were essentially equivalent for participants in both treatment groups, indicating that neither condition appeared to improve teacher knowledge of early language and literacy. However, our analysis revealed significant differences between groups on the structural characteristics of the environment immediately following the intervention. These differences included quality improvements in the Book area, $F(2, 145) = 3.92$, $p < .05$, the Writing area, $F(2, 145) = 10.62$, $p < .001$, and the Literacy Environment overall ($F 2, 145) = 8.97$, $p < .001$. Tukey post-hoc analyses indicated statistically significant differences between those who received coaching compared to the course or control group. The effect size for quality improvements in the book area using Cohen's *d*, was educationally meaningful for coaching (Group 2) compared to the control group (Group 3) at .36 and stronger still for coaching (Group 2) compared to coursework at .45. The results were substantial for improvements in the writing area (coaching compared to control, 1.02; compared to coursework,.77) There were no significant differences between Group 1, the professional development coursework and the control group. Follow-up analyses indicated that these improvements were maintained for the coaching group (ES .45 compared to Group 1; ES .57 compared to control). In fact, there were slight increases in scores compared to those immediately following the intervention. Together, these results indicated that professional

coaching significantly improved the structural features of the early language and literacy environments in centers. Unlike coaching, no significant improvements appeared to result from the professional development course which remained statistically equivalent to the control group.

We also examined interviews with teachers to learn more about each intervention from the participants' point of view. This analysis revealed patterns that appeared to further explain our quantitative findings. Briefly ,we found that the course presented several challenges to these nontraditional students. The literacy demands were high, and concepts were relatively abstract, requiring a strong translation to classroom practice. Although teachers believed they learned about many new activities, they were not consistently translated into literacy practices that they felt they could use. In contrast, coaching appeared to support individualized, context-specific practices along with an accountability mechanism that provided real-time feedback to teachers. As a model of professional development, it seemed to support a practice-based approach (Neuman & Cunningham, 2009), one that provided a more immediate translation of ideas to classroom practice than the traditional workshop or course. It also provided an informal monitoring devise, designed not to evaluate but to improve quality practices.

Conclusions:

Description of conclusions and recommendations based on findings and overall study.

This study is among the first randomized controlled trials to examine different forms of professional development in early childhood and their impact on quality language and literacy practices. Results indicated that coaching was a more effective professional development form than coursework for improving the structural characteristics in classrooms. Differences among groups were educationally meaningful, with effect sizes moderate to large in these areas of change. These improvements were maintained, and to some degree, enhanced five months after the intervention was over. Given that these structural variables have been strongly linked to quality practices and child outcomes in previous research (Dickinson & Caswell, 2007; Smith & Dickinson, 2002), it suggests that coaching is an effective form of professional development. It also shows that coaching can be scaled up in typical early childhood education settings.

Appendices

Not included in page count.

Appendix A. References

References are to be in APA version 6 format.

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Appendix B. Tables and Figures
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TABLE 1
Demographic Characteristics of Teacher Sample by Treatment Group (N=148)

	Group 1 Course (%) (N=58)	Group 2 Coaching (%) (N=58)	Group 3 Control (%) (n=32)
Race			
Asian	2.3%	3.8%	0.0%
Black	9.3%	15.4%	12.0%
Hispanic	0.0%	1.9%	0.0%
White	83.7%	78.8%	88.0%
Other	4.7%	0.0%	0.0%
Level of Education			
High School Degree or Less	11.6%	15.4%	34.0%
Some Coursework	20.9%	17.3%	12.0%
CDA	30.2%	15.4%	0.0%
2-year college or higher*	37.2%	41.9%	54.0%
Years of Work Experience			
0-5 years	27.9%	26.9%	38.0%
6-20 years	62.8%	57.7%	50.0%
More than 20 years	9.3%	15.4%	12.0%
Job Title			
Lead Teacher	69.8%	80.8%	80.4%
Assistant/Aide	30.2%	19.2%	19.6%
Setting			
Center	79.1%	63.5%	58.8%
Family	20.9%	36.5%	41.2%
Age (years)	40.8	38.9	36.1

Chi-square significance *p<.01 between control and treatments groups

Table 2. Descriptive Statistics on Teacher Knowledge Assessment of Early Language and Literacy:
Pre- and Posttest Scores by Treatment Group

Group	Pretest	Posttest
Group 1: PD Course	59.87 (7.70)	63.36 (7.51)
Group 2: PD Coaching	58.79 (7.98)	61.36 (7.51)
Group 3: Control	60.40 (9.20)	61.03 (9.61)

Table 3: Means and Standard Deviations on the Early Language and Literacy Classroom Observation

Measures	Pre-test						Post-test							
	Course		Coaching		Control		Course		Coaching		Control		Course	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Books (range: 0-20)	9.19	3.06	8.97	3.40	8.89	3.68	10.26_a	3.59	11.87_b	3.64	10.56_a	3.71	11.09_a	3.4
Writing Materials (range: 0-20)	8.31	2.70	8.38	3.63	6.46	3.98	9.61_a	3.27	12.16_b	3.39	8.58_a	3.61	10.09_a	3.1
Literacy Environment Checklist Total Score (range: 0-40)	17.50	2.96	17.35	3.50	15.35	3.78	19.87_a	3.35	23.03_b	3.56	19.14_a	3.32	21.18_a	3.2
Physical Environment (range: 0-20)	9.41	2.00	10.58	2.12	9.77	2.72	10.24	2.20	10.67	1.90	10.11	2.77	9.85	2.5
Support for Learning (range: 0-20)	10.39	2.42	11.15	2.33	10.67	2.25	11.44	1.92	11.20	1.53	10.67	2.45	11.24	1.9
Teaching Strategies (range: 0-40)	21.92	5.85	23.36	5.46	22.54	6.41	25.79	5.11	27.34	5.05	25.33	7.28	26.81	5.7

Note. Differences between post-test and follow-up groups measured by ANCOVA controlling for pretest scores. Post-test and follow-up means with significantly different at $p<.05$ in a Tukey comparison. Post-test means with different subscripts (a,b) are significantly different from one another.