Effects of coaching on teacher use of sociocultural instructional practices

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ABSTRACT

This study evaluates a performance-based instructional coaching model intended to improve teacher pedagogy and classroom organization for educating diverse student populations. Elementary teachers ($N = 21$) participated in a 30-h workshop and seven individual coaching sessions across an academic year. The coaching model promoted use of the Standards for Effective Pedagogy, five research-based practices known to increase student achievement. Findings demonstrate performance-based instructional coaching led to statistically significant (a) improvements in teacher pedagogy, (b) patterns of teacher growth, and (c) changes in classroom organization. Implications for improving teachers' ultimate achievement, the coaching protocol, and research are addressed.

1. Introduction

In the United States, and countries such as Australia, Canada, and England, today's teachers are serving an increasingly diverse student population (e.g., Bernhard, Lefebvre, Chud & Lange, 1997; Cobbold, 2007, 2010; Skerrett, 2008; The Sutton Trust, 2010). In the U.S., 45% of students are children of color, 21% speak a language other than English at home, and 17% of all public schools are high-poverty schools (NCES, 2010

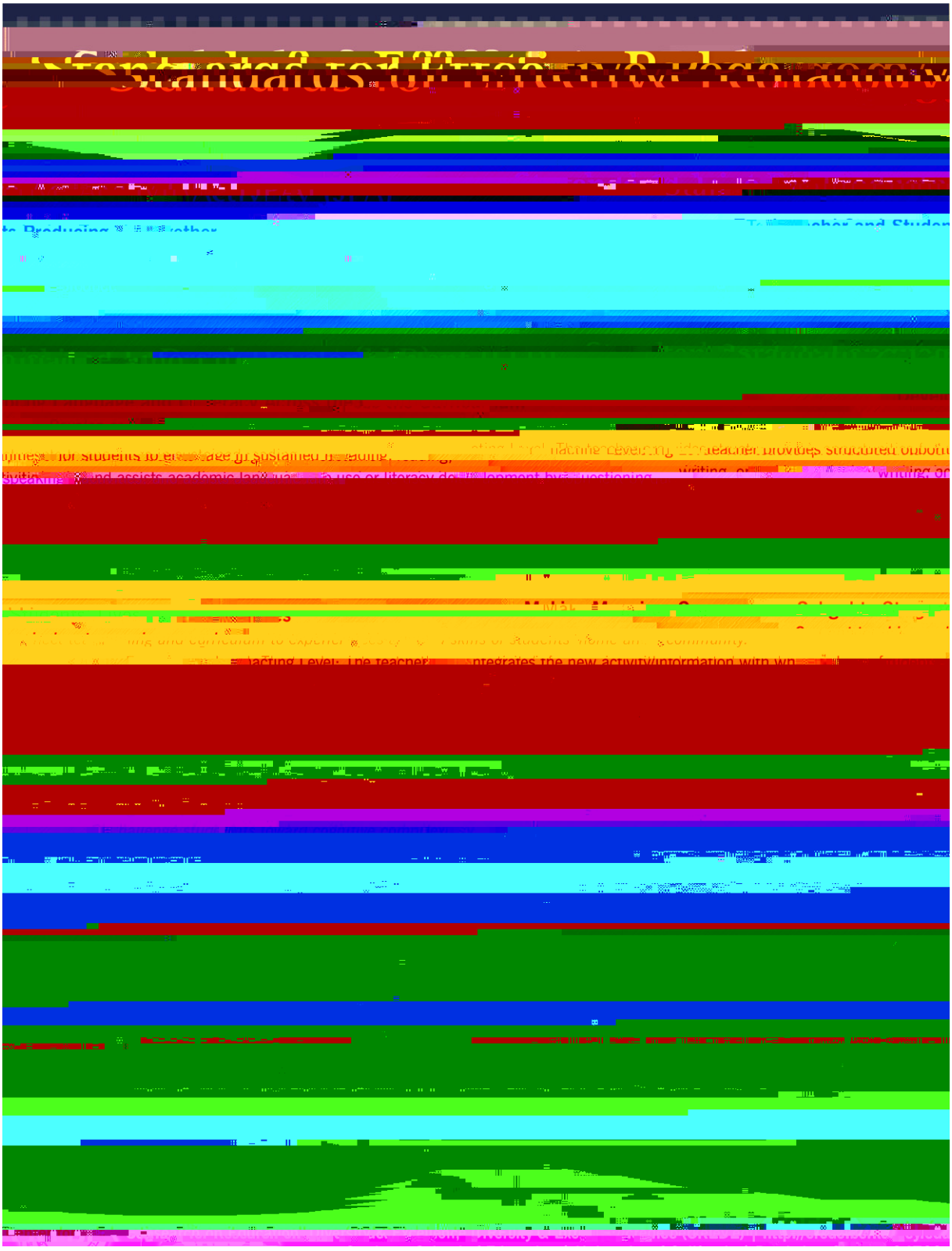

Fig. 1. The standards for effective pedagogy.

statistically improve student achievement and English proficiency among both native and non-native speakers of English. What is lacking, to date, is research on an effective professional development strategy promoting teacher use of these research-based practices.

The purpose of this paper is two fold. First, it describes a new instructional coaching model that is sociocultural in its process and performance-based in its use of the Five Standards Instructional Model. Second, this paper describes patterns of change in teacher use the Five Standards Instructional Model across time as a result of

instructional coaching. This study contributes quantitative and longitudinal evidence to the growing body of research on instructional coaching as a value-added professional development strategy.

2. Relevant literature

Literature relevant to coaching, instructional coaching, and sociocultural theory and pedagogy situate the current study. The research questions guiding this study conclude the section.

2.1. Coaching research

Improving teacher quality is pivotal to improving student achievement (e.g., Darling-Hammond, 2000). Coaching has emerged as an effective strategy for ongoing teacher development (e.g., Cornett & Knight, 2009; Joyce & Showers, 1995; Knight, 2009a; Sparks & Hirsh, 1997;.98Chpeck(r)-198(&3-205(Kpe,(&)-293(20)-32))-31(0)]TJ000rg9.48190T[),)T-1822.643-1.316Td3(Coaching)-656(is)54(job-em

diversified independent activity centers, where heterogeneously grouped students work collaboratively to learn (Tharp et al., 2000). Small group instruction dramatically increases the quality and quantity of opportunities for students to receive teacher and peer assistance in the process of learning (Tharp & Gallimore, 1988; Vygotsky, 1978). Tharp et al. (2000) argue that the goal of achieving excellence, fairness, inclusion, and equity in the classroom hinges on concrete teacher actions embodied in the Five Standards Instructional Model.

For professional development and research purposes, CREDE researchers developed the five-point Standards Performance Continuum (SPC) observation rubric. The SPC measures quantitatively the quality of teacher implementation of the Five Standards Instructional Model (Doherty et al., 2002; Hilberg, Doherty, Epaloose et al., 2004). The continuum is anchored on one end by practices that hold little hope for engaging diverse students: typically whole class, teacher-dominated instruction where individualistic, decontextualized, and rote conceptions of learning dominate. At the opposite end, social interaction and negotiation, assistance and feedback, rich contextualization, collaboration, cognitive challenge, and dialogue are valued. Fig. 2 contains the SPC rubric, which defines concrete teacher actions that20tityetthe

reflection and action to support implementation of new practices. Coaching, therefore, is a series of instructional conversations between a coach and teacher (Hilberg, Doherty, & Reveles, 2004), where knowledge of practice is co-constructed through shared

3.3. *The Instructional Coaching Procedures, Intervention, and Targets*

The professional development relied on two phases of activity conducted by the external coaches. In phase one, teachers attended an intensive, five-day, 30-h workshop focused on defining the Five Standards, the activity center classroom organization, a 8–12 week phase-in process, and quality instructional conversations (Hilberg, Chang, & Epaloose, 2003). Teachers learned how to systematically teach norms, expectations, and procedures for successful group collaboration, preparing students to work independent of the teacher. At any given time, curricular content and instructional strategies influence classroom organization; however, instructional coaching in this study purposefully targeted developing teacher expertise in using multiple, simultaneous, and diversified activity centers successfully.

Phase two consisted of individual instructional coaching during language arts across a school year (August to May; approximately 15 contact hours). The seven coaching cycles were ordered (e.g., first, second) rather than equally spaced events. Coaches used

individually and for Total Score by coaching cycle with large effect sizes: (a) Joint Productivity Wilks' Lambda = .13, $F(6, 15) = 17.54$, $p < .001$, partial eta-squared .88; (b) Language/Literacy Wilks' Lambda = .15, $F(6,15) = 14.29$, $p < .001$, partial eta-squared .85; (c) Contextualization Wilks' Lambda = .14, $F(6,15) = 15.15$, $p < .001$, partial eta-squared .86; (d) Challenging Activities Wilks' Lambda = .15, $F(6,15) = 14.76$, $p < .001$, partial eta-squared .86; (e) Instructional Conversation Wilks' Lambda = .21, $F(6,14) = 8.94$, $p < .001$, partial eta-squared .79; (f) Total Score Wilks' Lambda = .11, $F(6,15) = 20.87$, $p < .001$, partial eta-squared .89.

The LSD comparisons revealed significantly greater mean use of each standard at coaching cycle seven than at coaching cycle one: Joint Productivity from 1.81 to 3.38; Language/Literacy from 2.05 to 3.48; Contextualization from 1.43 to 2.76; Challenging Activities from 1.62 to 3.29; Instructional Conversation from 1.05 to 2.90; and Total Score from 8.00 to 15.81. In terms of overall fidelity to the model, the Total Score means indicate that performance-based instructional coaching accomplished teacher use of three standards simultaneously but not more. Each anvera16TD[stt9ob)-2b5 enacting level of fidelity (i.e., $M = 12.50 < 17.49$) by coaching cycle

Table 2 presents the means and standard deviations for the Five Standards and coaching cycle by teachers in the high and low groups. Four patterns stand out: (a) The low group consistently enacted the Five Standards Instructional Model at a lower level than the high group across all coaching cycles as measured by Total Score; (b) only for Contextualization in cycles 4 and 6 does the lower group mean rise above the high group for any standard; (c) the low group teachers consistently enact the Instructional Conversation least; and (d) the low group most consistently struggled to enact Instructional Conversation, Contextualization, and Challenging Activities to a high level. These patterns demonstrate that teachers in the high and low groups required ongoing assistance unique to their development.

Fig. 4 presents a graph comparing high and low groups by Total Score across coaching cycles. One-way ANOVAs revealed significant high and low group differences at the time of baseline observations for each standard and Total Score: Joint Productivity $F(1, 20) = 5.71$, $p = .03$; Language/Literacy $F(1, 20) = 7.43$, $p = .01$; Contextualization $F(1, 20) = 12.07$, $p = .002$; Challenging Activities $F(1, 20) = 18.41$, $p < .001$; Instructional Conversation $F(1, 20) = 8.99$, $p = .007$; Total Score: $F(1, 20) = 33.94$, $p < .001$. Group differences were not significant ($p < .05$) for the seventh coaching cycle for Total Score or individual standards: Joint Productivity $F(1, 20) = 3.61$, $p = .07$; Language/Literacy $F(1, 20) = 2.72$, $p = .12$; Contextualization $F(1, 20) = .38$, $p = .54$; Challenging Activities $F(1, 20) = 2.01$, $p = .17$; Instructional Conversation $F(1, 20) = 3.82$, $p = .07$; and (c) Total Score $F(1, 20) = 3.58$, $p = .07$. These findings demonstrate that target-based instructional coaching effectively closes the gap between high and low group implementers through tailored coaching assistance within a teacher's zone of proximal development.

4.3. Teacher use of small group classroom organization

RQ3 asked whether coached teachers increased use of small group activity centers. The mean number of activity centers significantly increased from coaching cycle one ($M = 3.05$; $SD = 2.25$) to cycle seven ($M = 4.95$; $SD = 1.56$), with a small effect size (partial eta-squared = .21) for coaching cycle: Lower-bound $F(1, 20) = 5.15$, $p = .03$. No high/low group differences were detected: $F(1, 20) = .03$, $p = .88$.

During coaching cycle one, 35% of teachers used a whole class organization, 42.5% used small group activity centers, but only 22.5% included a teacher's instructional conversation as one of their small

struggled to enact the Instructional Conversation, Contextualization, and Challenging Activities to a high level in those small groups.

These patterns and differences between high and low group implementers demonstrate that teachers benefit from ongoing assistance unique to their needs. Most importantly, these findings demonstrated that target-based instructional coaching, when tailored to teachers' needs, is able to statistically close the pedagogical gap between teachers in the high and low groups over time.

5.2. Theoretical implications

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standard. Yet, research suggests strong benefits for diverse learners when knowledge from home, school, and community is the basis and connection for new learning (e.g., González, Moll, & Amanti, 2005). Further investigation is needed to understand if the quadratic trend for Contextualization is an artifact of the professional development, systemic to development, a by-product of high stakes testing pressures, district pacing guides, or teacher's unexamined beliefs.

5.4. Research implications

This study contributes to the coaching research base in several ways. It confirms performance-based instructional coaching as

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