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ARTICLE



Unpacking productive coaching interactions: identifying coaching approaches that support instructional uptake

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ABSTRACT

This multiple-case study utilised inductive and deductive analyses of interactions of five coach-teacher dyads at two university-based literacy clinics to investigate procedural knowledge – what coaches say and do – to guide teachers toward greater instructional expertise. Using theories of situated cognition and positioning and framed within social constructivism, we examined videos of coaching and tutoring and identified predominant coaching interaction discourse and three facilitative coaching approaches associated with teachers' uptake of instructional ideas: (1) joint problem identification; (2) redirection and reinterpretation; (3) 'flipped' IRE framework. We conclude by arguing how coaches' talk creates agentic space for teachers to initiate intentional instruction.

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KEYWORDS

Coaching discourse; coaching approaches; teacher uptake; responsive coaching; coaching effectiveness; teacher agency

Literacy coaching first appeared in the literature nearly 90 years ago (Sailors and Price 2015), yet its practice was sparse until 1982 when Joyce and Showers described peer coaching as essential to staff development. Since then, studies of coaching have generated positive effects on teacher learning across varied levels of experience and instructional contexts (Walpole *et al.* 2010, Collet 2012, Teemant 2014). Productive collaborations between a coach and teacher facilitate teacher self-reflection (Peterson *et al.* 2009) and impact teachers' beliefs, knowledge, and instruction (Matsumura *et al.* 2013, Sailors and Price 2015). Some studies also document positive effects of literacy coaching on student learning (Matsumura *et al.* 2013, Sailors and Price 2015), at least among particular groups of students, e.g. one grade level but not another (Bean *et al.* 2010, Biancarosa *et al.* 2010, Elish-Piper and L'Allier 2011).

Even so, coaching outcomes are often inconsistent. While some studies show positive effects on teachers' beliefs and knowledge and teachers' uptake of improved instructional practices, others have yielded non-significant or small effects on positive instructional change (e.g. Garet *et al.* 2008, Marsh *et al.* 2015). Further, in a meta-analysis of 32 studies, Kraft *et al.* (2018) found that even with strong effects on teacher learning and instructional change, student effects remained small. Kraft, Blazar, and Hogan also found that effects diminished for both teachers and students in large-scale initiatives, underscoring the complexity of coaching as a viable and sustainable form of professional development.

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With this backdrop, it is important to develop a more nuanced understanding of the procedural knowledge – awareness of *specific* coaching actions – that meaningfully advance teaching expertise (Teemant 2014). That is, what do literacy coaches say and do when engaged in co-planning and lesson debriefing to create opportunities for teachers to consider (and reconsider) their instruction in light of effective practices, and in turn, to facilitate uptake of refined or new teaching practices? While a few studies provide some specification (e.g. Collet 2012, Heineke 2013, Hunt 2016), evidence depicting the nature of effective coach–teacher interaction is limited. The present study, located at two research sites, addressed this need by investigating the discourse between clinic-based literacy coaches and teachers when engaged in the debriefing and instructional co-planning associated with teachers’ uptake of instructional ideas. Two questions framed our examination:

- (1) What is the nature of the discourse (i.e. types of talk and patterns within) that surrounds teachers’ uptake of instructional suggestions following coaching sessions?
- (2) What are the coaching approaches that yield uptake among teachers as evidenced through the coach-teacher discourse?

Literacy coaching for teacher uptake

Studies have documented the positive impact of literacy coaching on teachers’ knowledge and beliefs about literacy (Matsumura *et al.* 2013, Teemant 2014, Sailors and Price 2015) and teachers’ implementation of more effective literacy instruction (Bean *et al.* 2010, Biancarosa *et al.* 2010, Neuman and Wright 2010, Walpole *et al.* 2010, Elish-Piper and L’Allier 2011, Matsumura *et al.* 2013, Teemant 2014, Sailors and Price 2015). Collected findings indicate several important patterns related to coaching that made a difference (or not) in teachers’ uptake of instructional practices.

First, the length of time spent in coaching activities matters. Through descriptive (Bean *et al.* 2010), quasi-experimental (Neuman and Wright 2010, Matsumura *et al.* 2013, Teemant 2014, Sailors and Price 2015) and correlational (Biancarosa *et al.* 2010; Elish-Piper & L’Allier, 2011, Walpole *et al.* 2010) designs, research documents that more coaching yields greater positive outcomes than less coaching. Some studies have found that coaching that occurs over the period of one year (e.g. Neuman and Wright 2010, Matsumura *et al.* 2013, Sailors and Price 2015) or a number of years (e.g. Biancarosa *et al.* 2010) correlates with sustained improvement in teaching practices. But other yearlong studies have shown less significant outcomes. Garet *et al.*’s (2008) study of coaching with 270-second grade teachers in 90 schools documented significant changes only to teachers’ ability to deliver explicit instruction, and this uptake was not maintained after the study ended. Relatedly, Marsh *et al.*’s (2015) case study of coaching with 15 teachers in six middle schools showed that although teachers did take up instructional practices discussed, they only did so in 24% of the instances. Clearly, there is more to effective coaching than duration alone.

Second, the frequency of sustained coaching interactions matters. Several studies demonstrate correlations between higher frequencies of coaching interactions and teaching improvements (Bean *et al.* 2010, Walpole *et al.* 2010, Matsumura *et al.* 2013, Sailors and Price 2015). Absent, however, is clear specification of the frequency of coaching necessary to achieve positive outcomes. For instance, Sailors and Price (2015), in their study of coaching to support elementary and middle-grade teachers’ implementation of cognitive strategy instruction, found that meeting with coaches at least twice per month throughout the year yielded positive results for teachers’ uptake of instructional practices. Yet, Matsumura *et al.* (2013) reported strongly positive outcomes in implementing discussion-based comprehension instruction from individual coaching interactions occurring less than once per month, prompting the researchers to question ‘how much coaching is necessary to achieve desired outcomes’ (p. 45).

Third, the types of coaching activities matter. Spending a substantial proportion of coaching time on co-planning and reflecting on lesson enactment, including in-classroom support (e.g. demonstration, observation), are associated with positive changes in teaching practices. For example, Walpole *et al.* (2010) examined the relationship between coaching and teaching practice with 2018 teachers and 123 coaches in Reading First Schools. Observations revealed positive associations between coaching interactions and teachers' implementation of differentiated instructional practices, but findings were inconsistent across teachers in grades 1–3, with some teachers observed implementing new practices and others not (Walpole *et al.* 2010). Additionally, when coaching activities are combined with collaborative examination of student assessment data, positive outcomes are evident (Bean *et al.* 2010; Elish-Piper & L'Allier, 2010, Teemant 2014, Walpole *et al.* 2010); but again, outcomes are inconsistent across grade levels. For example, Marsh *et al.* (2015) found that teachers coached to analyze student data acquired, at best, an incomplete understanding, most often responding by reviewing or reteaching using the same instructional practice instead of re-thinking the instructional approach.

Finally, the types of groupings used in coaching interactions matter. Although teachers participated in group activities (e.g. workshops, grade-level planning) during coaching, consistently adding individual (e.g. co-planning, lesson debriefing) coaching interactions was associated with substantial improvements in teacher outcomes (Matsumura *et al.* 2013, Teemant 2014, Sailors and Price 2015). In a longitudinal mixed-methods study, Teemant (2014) investigated the efficacy and sustainability of instructional coaching among 36 urban elementary teachers across seven coaching cycles. Pre-post observations revealed that teachers exhibited transformed practices and high levels of instructional uptake, while also reporting that individual coaching facilitated reflective practices and change. Although positive, Teemant's (2014) findings also highlighted that uptake of more complex teaching actions (e.g. managing rich instructional conversations) was difficult to maintain after the coaching intervention ended. Likewise, Neuman and Wright (2010) found positive associations between individual coaching interactions and uptake of suggestions with early childhood educators. However, the changes most readily adopted, as reported by Neuman and Wright, were structural (e.g. improving the physical context for learning), not process changes (e.g. teacher/student talk or implementing new teaching strategies). These findings again point to the challenge of coaching as a sustainable form of professional development, as well as the complex nature of expert literacy instruction.

Together, these studies show that, overall, coaching positively influences teachers' knowledge about teaching and learning and provides opportunities for sustainable change in teaching expertise; still, the findings of these studies were mixed. Despite positive outcomes associated with broad patterns of coaching actions (i.e. duration, frequency, groupings, and types of coaching activities), simply working with a coach, by itself, for a sustained time period does not assure change in teaching practices, thus leaving questions about the nuances of interactions between coaches and teachers. That is, beyond broad descriptions of coaching practices (e.g. modelling, observing, co-planning, debriefing), the effectiveness of coaching interactions seems to reside in *how* coaches engage teachers. This finding is similar to, for example, understanding what teachers need to know and do to provide effective explanations during reading instruction (e.g. Duffy *et al.* 1987, Paris *et al.* 1994). As Teemant (2014) concluded, 'careful analysis of video and audiotaped coaching conversations would contribute greatly to understanding the phenomenon of instructional coaching as a lived experience, revealing what happens in the instructional space between coach and teacher' (p. 600).

Understanding the procedural knowledge of coaching

Research on understanding more nuanced coaching actions that develop teaching expertise is, at present, only emergent, yet it highlights the importance of interpreting the discourse that comprises coaching interactions. These studies unearth the power relationships and positioning

between coach and teacher and highlight the emotional complexity inherent in social interactions that facilitate or hinder instructional change.

Two studies described coaching interactions in relation to uptake of teaching practices. In a study of coaching discourse among four reading specialists working with elementary teachers, Heineke (2013) found that although coaches consistently affirmed teachers' instruction, they also dominated the discourse by initiating most conversational topics and suggestions for later actions and speaking a majority of the utterances. Even so, teachers consistently extended the talk by replying to coaches' utterances or asking additional questions. In another study of three coaches working with 46 pre-service and in-service teachers in a university-based literacy clinic, Collet (2012) observed that as teachers' instructional competence increased, coaching discourse shifted from an emphasis on direct explanation and modelling to collaborative problem-solving and co-construction. Collet (2012) also observed that coaches created contexts for 'mediated reflection' (p. 30) during which teachers often articulated their developing understandings of the relationships between their new knowledge and the instructional practices they had taken up.

Relatedly, Hunt (2016) used a microethnographic approach to discourse analysis to explore how literacy coaches and teachers 'enact emotions during real-time coaching interactions' (p. 333) and to understand how those positionings impacted coaching outcomes. Examining the interactions among two coaches, nine teachers, two administrators, and two district-based literacy facilitators, Hunt found that coaching routinely occurred within a context where fidelity of implementation of particular 'best practices' (p. 340) trumped consideration of context, teacher-based inquiry, or teacher expertise. According to Hunt, implicit in the coaching discourse was an understanding that their conversations should be centred on the sanctioned model of reading and writing instruction, leaving little space for teachers to share concerns about teaching methods or their own, related expertise.

Looking across this, as yet, very small pool of data, there exists a common thread in the coaching interactions: the fundamental importance of teachers having (or, at least perceiving that they have) agency to shape their understanding of teaching and learning; and then based on these coaching interactions, acting on what they know (Greene 1978, Bandura 2001). For example, in Heineke's work, although the coaches' discourse was often dominant and directive, teachers consistently asserted agency by extending the talk and asking questions, situating the conversation in the context of their own and their students' needs. In Collet's (2012) work, teacher agency shifted over time, and teachers seemed to appreciate the opportunity to grow into agency as they deepened their knowledge of effective practice. In Hunt's (2016) work, agency seemed largely denied, leading some teachers to position themselves as resistant, fearful, and vulnerable in the face of change.

Coaching does have the potential to be a powerful lever of instructional change for teachers, as research identifies broad patterns of coaching associated with teachers' uptake of more effective teaching practices. But although the evidence leads us to an overall structure of coaching initiatives (i.e. sufficient duration and frequency; individual coaching interactions; co-planning, demonstration, and debriefing), we have only limited evidence about the specific behaviours and actions employed by effective coaches. In line with Teemant (2014), more studies adopting an interpretivist perspective are needed to understand the 'lived experiences' (p. 600) of coaching interactions. The present investigation sought to expand this area of knowledge by isolating instances of positive uptake of coaches' instructional suggestions and analyzing the discourse of the coach and teacher that surrounded those instances. In doing so, this study unpacked the lived experiences of successful coaching interactions to understand how knowledge was socially constructed within situated contexts.

Theoretical framework

This study is grounded in theories of social constructivism (e.g. Vygotsky 1978) and situated cognition (e.g. Brown *et al.* 1989), and it draws on 'metaphors of positioning' (McVee, Sylvestri, Barrett, & Haq, 2019, p. 22) to consider the relational nature of the coach and teacher beyond

static roles (Davies and Harré 1990). Social constructivism emphasises the collaborative nature of learning and is based on an understanding that cognitive structures develop and mature in collaboration with others, and in particular, with a more capable other (Vygotsky 1978). This aptly describes the coach/teacher relationship wherein the coach and teacher interact, not hierarchically, but through collegial and reciprocal collaboration, as each draws on the other's knowledge about teaching, learning, and learners.

Situated cognition theory posits that knowing is inseparable from doing; and moreover, that knowledge is bound by different activities situated within particular social contexts (Brown *et al.* 1989). Social interactions create contexts in which knowledge is deepened by its transfer and application to additional or new situations. In this study, the acts of co-viewing and co-analyzing a lesson situated within a teacher's own instruction, using the observations and analyses to co-construct new understandings, and immediately applying these insights to a new lesson, align with situated cognition theory.

Yet such a context also creates the possibility of uneven power relationships (Hunt 2016). In considering notions of socially constructed and situated learning, a claim made by Crafton and Kaiser (2011) that 'co-construction of meaning is messy, filled with struggle, participant needs, tension, ambiguity, and shifting power relationships' (p. 109) is particularly apt. This claim points to the potentially powerful role positioning plays in the enactment of coach/teacher interactions. This representation of interactions as collegial, and at times reciprocal, depends on how individuals position themselves or are positioned during their interactions. It is also based on interpretations of what is (or is not) appropriate in a particular context and resides within a larger collection of social contexts and beliefs (Davies and Harré 1990). Such positionings shape our social identities which may vary as we draw on multiple social identities within instructional contexts (Gee 2001). These understandings are fundamentally important in unpacking the interactions observed in the coaching contexts.

The present study

This study used a multiple-case study (Yin 2014) and interpretive (Erickson 1986) approach that drew on discourse and structural analyses (Wells 1999, Gee 2014) to examine the collaborative analytic and reflective work of five coach-teacher dyads within summer clinical experiences. Understanding that individual coaching that occurs frequently stimulates teachers' reflection and facilitates uptake of new or refined instructional approaches, we surmised that the types of discourse used by coaches would influence (a) teachers' talk related to their instruction and (b) coach and teacher positioning in relation to each other and the context. Together, these influences would illuminate the approaches coaches used to foster collaborative problem-solving in situated instructional contexts.

To describe the coaching approaches evidenced through the coach-teacher discourse and associations of teacher uptake, one case each at two university-based clinical research sites was selected. Following collaborative analyses and review of the first two cases, codes were refined. Following an analytic replication process (Yin 2014), a second case at each site was selected. The research team again engaged in a collaborative analyses and review and iteratively refined codes as needed across these first four cases. Next, the analytic replication process was followed with a fifth case. Finally, cross-case conclusions were drawn.

Context

The study was set in two university-based literacy clinics. Site 1 was in the Northeast United States and served as a summer practicum experience for a graduate licensure program in reading education. Site 2 was in the Mountain West United States and served as a summer professional development opportunity for local teachers and graduate students.

Both sites provided one-on-one tutoring to children ages 6 to 14 referred by parents/caregivers or classroom teachers because they struggled in literacy. Clinic teachers administered assessments, delivered research-based instruction responsive to students' needs (Lipson and Wixson 2012), and practised ongoing progress monitoring. The instruction-assessment process included attention to word study, fluency, vocabulary, comprehension, and composition. All lessons incorporated teaching actions focused on three key instructional principles: (a) motivation and engagement, (b) instructional intensity, and (c) cognitive challenge. (See Robertson *et al.* 2014, Ford-Connors *et al.* 2015 for further description.)

At both sites, and throughout each tutoring session, coaches supported teachers through face-to-face meetings and 'on the fly' interactions focused on literacy assessment and instruction practices. During these interactions, coaches assumed many conventional coaching roles, such as modelling, observing, or co-teaching (Bean *et al.* 2015). In addition, a central component was engagement in video-aided coaching (e.g. Wetzel *et al.* 2017). During co-viewing, either the coach or teacher paused the video to write observational notes or comment on and discuss observations of teaching practices and student performance. Finally, they collaboratively planned follow-up instruction.

Participants

Participants included four coaches (one was assigned to two dyads) and five teachers (see Table 1). Among coaches, coaching experience ranged from 1 to 8 years; among teachers, classroom experience ranged from only student-teaching (preservice teacher) to 9 years. Information about each dyad (coach and teacher) and the student tutored by the teacher is provided below. Dyads are numbered and presented in the order in which each was analyzed (all names are pseudonyms).

Dyad 1. Evelyn, the coach, served as literacy faculty and associate director of the Northeast university clinic. Rania, a pre-service teacher, tutored as part of a graduate practicum. She worked with a third-grade girl who was an Emergent Bilingual (EB; García *et al.* 2008). The child spoke English and Spanish at home where she lived with her grandparents, who spoke only Spanish, several siblings, and her mother. At pre-test, on the *Qualitative Reading Inventory-5* (QRI-5; Leslie and Caldwell 2011), she achieved a first-grade reading level.

Dyad 2. Anne, the coach, was a literacy education doctoral student in the Mountain West university clinic. She had been an elementary teacher for two years and had tutored in the clinic for two years. Micaela, an experienced, Waldorf-trained elementary teacher, tutored a boy from Africa who had just completed first grade as his first year in U.S. schools. Although his parents spoke English at home, and he was a fluent English speaker, Luganda was his first language. Initial QRI-5 results indicated that although his decoding and fluency were laboured, he comprehended first-grade text at an instructional level.

Table 1. Demographics of participants.

Site	Dyad	Teacher	Teaching Experience	Certification	Coach	Coaching Experience
Northeast	1	Rania	Pre-service Elementary	Elementary and Special Education	Evelyn	8 years as Clinic Coach
Mountain West	2	Micaela	In-service 9 years	Elementary	Anne	1 year as Clinic Coach
Northeast	3	Carol	In-service 5 years	Elementary	Meredith	2 years as Reading Specialist/Coach
Mountain West	4	Karina	In-service 3 years	Elementary and Special Education	Dana	5 years as Reading Specialist/Coach; 8 years as Clinic Coach
Northeast	5	Lorraine	In-service 4 years	Elementary	Evelyn	8 years as Clinic Coach

Dyad 3. Meredith, the coach, was a reading specialist and school-based literacy coach. Carol, an experienced kindergarten teacher, was tutoring as part of her graduate practicum. She tutored a first-grade girl who was a Spanish-speaking EB. At home, her student's family spoke primarily Spanish, although the child reported sometimes speaking English with siblings. Initial results of the QRI-5 assessment revealed *Frustration* at a pre-primer 1 reading level, primarily due to comprehension difficulties.

Dyad 4. Dana, the coach, served as literacy faculty and was the director of the Mountain West University clinic. Karina, a novice elementary teacher, tutored a fifth-grade girl who was on an IEP, diagnosed with a specific reading disability, whose reading achievement was reported to routinely regress over the summer. Initial QRI-5 results indicated that she achieved a fourth-grade instructional level.

Dyad 5. Evelyn (see description of Dyad 1) was the coach. Lorraine, an experienced elementary teacher, tutored a third-grade boy as part of her practicum. The student spoke English, was on an Individualised Education Plan (IEP) with a diagnosis of dyslexia, and routinely received in-school special services from both a reading specialist and an occupational therapist. At pre-test on the QRI-5, he achieved pre-primer 3 Instructional level.

Data collection and analysis

In this study, the term *discourse* signified language in use to say and do things (Heineke 2013, Gee 2014). Within these contexts, coaching discourse was defined as the one-on-one conversations that occurred between literacy coaches and teachers (Gibson 2006, Collet 2012, Heineke 2013). To examine coaching discourse, a total of 17 coaching sessions (two or three per dyad) were video recorded (Table 2). Coaching sessions lasted between 14 and 38 min, and each was recorded in its entirety. Each coaching session video was transcribed verbatim. In the week following each coaching session, lessons were video-recorded. The intent was not to quantify how many times uptake occurred; rather, recorded instruction was viewed and time-stamped for instances of uptake of instructional suggestions (Table 3) so that those instances could be associated with the nature of coaching conversations during coaching sessions.

A combination of inductive and deductive analyses (Miles and Huberman 1994) was used across three phases: (a) coding coaching interaction discourse; (b) identifying uptake and rating quality, including maintenance of instructional suggestions in lessons more distal to the initial coaching interaction; and (c) examining within- and cross-case patterns.

Phase one: Coding coaching discourse. Transcripts of coaching session discourse were coded to identify types of coach and teacher talk that occurred in close proximity to instructional

Table 2. Data sources.

Source	Frequency	Purpose
Teaching lesson videos	<ul style="list-style-type: none"> ● 60–90 min each ● 41 videos total 	Document the teaching and learning during teaching sessions
Coaching session videos	<ul style="list-style-type: none"> ● 14–38 min each ● 17 videos total 	Document the coaching interactions about teaching and learning

Table 3. Instances of uptake by Dyad.

Dyad	Suggestions for Instruction	Instances of Uptake	Quality of Uptake		
			Emerging	Developing	Expert
1	11	27	9	15	3
2	10	15	4	10	1
3	5	10	1	4	5
4	9	34	3	25	6
5	9	32	0	8	24

suggestions (see Table 4 for coding scheme). Understanding the overall approaches that coaches used when interacting individually with teachers to facilitate lesson debriefing and co-planning of subsequent instruction was of particular interest. Further, analyses were focused on uncovering how the particular sequences of discourse positioned participants within coaching interactions.

Structural analysis of coaching sessions was adapted from the approach outlined by Wells (1999). Video-recorded coaching sessions were co-viewed (aided by reading of the transcripts) to segment the conversations into catalyst events, instructional events, and maintenance. *Catalyst events* represented conversations that preceded and prompted instructional suggestions (either initiated by the coach (*Intro*) or by the teacher (*Intention*)). Instructional suggestions marked what we considered the beginning of the *instructional events*, which were bounded by a particular focus (e.g. a comprehension lesson) or an attempt to solve a specific and significant problem of practice (e.g. student disengagement). Instructional events were at least three turns in length. *Maintenance* occurred in coaching sessions after the initial instructional event. During maintenance, the coach or teacher referenced, either as an observation or reflection, a previous instructional suggestion.

The turn (Boyd 2012), the back and forth between participants, was used as the unit of analysis. Some turns consisted of a single utterance and others consisted of multiple utterances. Assigned codes designated specific coaching actions – discourse moves (e.g. explanation, justification; Table 4) – within catalyst events, instructional events, and maintenance. When appropriate, multiple codes were assigned to a turn. Segments of transcripts related to viewing video without comment, setting up technology, or discussing logistics were excluded.

Table 4. Discourse coding scheme.

Codes	Definitions
Intro	<ul style="list-style-type: none"> ● Coach suggests an instructional action or plan for the first time during the coaching session.
Intention	<ul style="list-style-type: none"> ● Teacher makes a new statement about an instructional action or plan for the first time
Expand_Declarative	<ul style="list-style-type: none"> ● Coach explains, expands, builds on, or makes a connection related to a suggestion or intention provided earlier in the coaching session.
Expand_Procedural	<ul style="list-style-type: none"> ● Coach provides further information about <i>what</i> the instructional suggestion is
Expand_Conditional (Coach only)	<ul style="list-style-type: none"> ● Coach provides further information about <i>how</i> the teacher can implement the instructional suggestion
Observe_Coach	<ul style="list-style-type: none"> ● Coach provides further information about <i>why</i> or <i>when</i> an instructional suggestion should be used
Observe_Teacher	<ul style="list-style-type: none"> ● Coach/Teacher notices and names the teacher or student action (often not linked back to a previous idea.)
Clarify_Coach OR Clarify_Teacher	<ul style="list-style-type: none"> ● Request for more information relative to what was said in previous turn or turns. Coach may restate or reword teacher's comment.
Affirm	<ul style="list-style-type: none"> ● Coach affirms an action or statement made by the teacher, e.g. 'Keep doing that.' 'So I think you're doing fine.'
Elicit_Coach OR Elicit_Teacher	<ul style="list-style-type: none"> ● Question or statement that requests new information about lesson content, teaching actions, or student behaviours
CSR	<ul style="list-style-type: none"> ● Teacher reflects on teaching actions, e.g. would have done differently, went well
Explain (Teacher only)	<ul style="list-style-type: none"> ● Teacher statement <ul style="list-style-type: none"> ○ Explains what she will do and why. ○ Justifies what she has done. ● May not address SI ● May focus on child's behaviour/response, but not on her own instruction ● (e.g. I don't do that because ... ; I'm already doing that)
Embrace	<ul style="list-style-type: none"> ● Teacher makes proactive statements related to the suggestion for instruction regarding intentions for subsequent instruction <ul style="list-style-type: none"> ○ Sounds like a good idea. I'll try it ... ; ○ May include plan to uptake
Acknowledge	<ul style="list-style-type: none"> ● Coach or Teacher statement that acknowledges what was previously said. (e.g. That makes sense, yeah; That might be really helpful)
Reconstructive Recap	<ul style="list-style-type: none"> ● Coach summarises the conversation – not presenting a new suggestion for instruction – just a recap of what was previously discussed ● (Usually closes out the conversation but not always) ● May not fall into one of the three categories (catalyst, IE, or maintenance)

To establish trustworthiness, the full team (two investigators and one research assistant at Site 1, and one investigator and one research assistant at Site 2) independently coded one transcript to become familiar with the content and then met via video conference to review the original data sources and the codes. The team's goal was to 'reach agreement on each code through collaborative discussion rather than independent corroboration' (Smagorinsky 2008, p. 401). As such, the team discussed coding until reaching 100% consensus. The same steps were followed with a second transcript, which led to refined codes and definitions. Transcripts were re-coded as needed to reflect updated codes. The two research assistants at each site coded the remaining site-based transcripts, consulting the site team to resolve questions and reach 100% consensus.

Descriptive statistics were calculated to determine frequency of discourse codes. For each case, frequencies were calculated within and across each catalyst event, instructional event, and maintenance. This enabled examination of the types of discourse used during each coaching session segment, while also looking across the cases for evidence of patterns.

Phase two: Identifying uptake and rating quality. Each site team examined its site's lesson videos to identify instances of uptake of each instructional suggestion (SI). To acknowledge teachers' prior knowledge and decision-making capabilities, *uptake* was defined as any instance in which the teacher engaged in practices related to the SI, even when they deviated from the coach's specific suggestion. That is, the teacher acted upon what she knew about the student and about teaching whether that meant implementing the coach's suggestion as described in the coaching interaction, or modifying the suggestion based on teacher knowledge. For example, a coach suggested developing background knowledge by previewing a picture book prior to reading a text; however, during instruction, the teacher developed background knowledge by accessing and discussing the student's personal experience related to the topic. In this case, *uptake* of the SI was coded because it related to supporting background knowledge. Uptake was identified both proximally, in the lesson that most closely followed the relevant coaching session, and distally (i.e. maintenance), in subsequent lessons.

Following identification of uptake events, site teams rated the quality of uptake as emerging, developing, or expert (see Table 5). The designated stages of uptake were derived from the work of advanced knowledge acquisition (Spiro *et al.* 2004) and expertise (Berliner 1994). Quality was rated on two factors: the quality of the teaching action and its appropriateness within the context in which the action occurred (e.g. the match between the instruction provided and the student's instructional need). To provide transparency in our application of each quality code, descriptions were written of specific behaviours and actions as evidence for the quality rating.

To establish trustworthiness in application of these uptake quality codes, the full team viewed three video segments from each site and collaboratively described teaching actions and rated uptake quality. All six segments were collaboratively discussed (Smagorinsky 2008) by the full team until reaching 100% consensus, and memos describing the quality of the teaching actions were composed. Research assistants at each site coded and rated the remaining uptake events, again consulting site teams to resolve questions and reach 100% consensus.

Table 5. Uptake rating scheme.

Uptake Quality	Description
(EM) Emerging Uptake	Attempt to implement SI indicates incomplete understanding e.g. using an appropriate strategy on a text that is too difficult
(D) Developing Uptake	Demonstrates procedural knowledge by implementing some of the recommended teaching actions, or demonstrates full procedural knowledge, but does so within an inappropriate context e.g. explicit instruction of known vocabulary
(EX) Expert Uptake	Clear integration of procedural knowledge and appropriate context including: <ul style="list-style-type: none"> • Integration of teaching action in varied instructional contexts • Sensitivity to the task demands and responsive to student behaviours and performance Innovates on the practice, flexibly applying to meet students' needs

Phase three: Examining within- and cross-case patterns. To examine patterns in the data, discourse-by-turn tables were created for catalyst events, instructional events, and maintenance. These tables sequentially depicted the progression of discourse from catalyst utterances through the end of each instructional event or, if applicable, maintenance segment. Beginning with dyads 1 and 2, tables were vertically aligned by dyad and by literacy domain (e.g. comprehension) to visually inspect patterns and compare patterns and to draw conclusions about associations between discourse and uptake. The same process was completed with Dyads 3, 4, and 5. Finally, all five cases were examined to draw cross-case conclusions about the relationship between coach-teacher talk and teachers' uptake and implementation quality of instructional suggestions, and to triangulate interpretations across multiple data sources (Miles and Huberman 1994).

Findings

This investigation sought to better understand effective coaching interactions by describing the nature of pedagogical conversations that surround instructional suggestions that were taken up by teachers, and by doing so, to specify procedural knowledge on which effective coaches act. First, the frequencies of coach and teacher discourse that occurred across all of the coaching sessions by dyad are presented. Then, three facilitative coaching approaches prominent across the five dyads are described.

RQ 1: What is the nature of the discourse that surrounds teachers' uptake of instructional suggestions following coaching sessions?

Table 6 shows the total frequencies of coach and teacher discourse for all coaching sessions for each dyad. These percentages are based on the total number of turns taken by the coach and by the teacher. In Dyad 1, of the 273 total turns, the coach (C1) spoke 139 turns and the teacher (T1), 134 turns. In Dyad 2, of the 260 turns, C2 spoke 116 turns and T2 spoke 144 turns. In Dyad 3, there were 57 turns total, and C3 took more turns (34) than T3 (23). In Dyad 4, C4 and T4 equally shared 186 turns of the total 372 turns. In Dyad 5, of the 121 turns, C5 spoke 55 turns and T5 spoke 66 turns. While examining turn-taking alone does not account entirely for how much one person speaks in relation to another, in general, there was fairly equitable give and take between the coach and teacher.

As noted in Table 6, the most consistently used talk move by coaches was expansion of instructional suggestions (29%, 55%, 24%, 45%, and 38%, respectively). These expansions offered declarative, procedural, and/or conditional pedagogical content knowledge (refer to Table 4 for further descriptions) to support teachers in understanding how particular instructional strategies might be used and why they would be useful for the student. Beyond acknowledging coaches' talk, the most consistently used teacher talk move was

Table 6. Frequencies of coach-teacher discourse by Dyad.

	Intro (%)	Expand (%)	Affirm (%)	Recon Recap (%)	Intent (%)	Explain (%)	CSR (%)	Emb (%)	Observe (%)	Clarify (%)	Elicit (%)	Ack (%)				
	C	C	C	C	T	T	T	T	C T	C T	C T	C T				
Dyad 1	9	29	28	2	2	63	5	8	14	0	10	2	9	5	0	25
Dyad 2	10	55	9	0	0	17	6	11	10	15	7	6	3	1	5	46
Dyad 3	15	24	44	0	0	74	4	0	38	0	0	4	18	0	0	52
Dyad 4	7	45	1	5	1	31	4	1	10	23	39	0	10	0	6	39
Dyad 5	16	38	29	0	0	42	5	8	9	0	20	2	11	0	0	27

C: Coach; T: Teacher; Recon Recap: Reconstructive Recap; Intent: Intention; Emb: Embrace; Ack: Acknowledge; Percentages represent total frequencies of discourse moves across all coaching sessions for each dyad.

explanation of their own instructional actions or decisions (63%, 17%, 74%, 31%, and 42%, respectively). Outside of these talk moves, coaches and teachers varied. All coaches offered observations and elicitations, and most offered clarifications. Some, but not all, affirmed teachers' thoughts and/or actions. Among teachers, all were critically self-reflective at some points in their coaching sessions, but other talk moves were not consistently used by all teachers.

The frequencies reported in Table 6 describe the overall patterns of discourse by the coach and teacher across combined catalyst events, instructional events, and maintenance in the coaching sessions. The next section provides more fine-grained frequencies of discourse within and across these events while elucidating the general trajectories of talk that surrounded instances of instructional uptake by the teachers.

RQ2: What are the coaching approaches that yield uptake among teachers as evidenced through the coach-teacher discourse?

As we examined the frequency data to discern patterns in coaching interactions, we discovered three prominent facilitative coaching approaches associated with changes in teachers' practices. In this section, we describe these approaches and the variation in the ways teachers took up coaches' instructional suggestions.

Approach 1: Joint problem identification. In this approach (evident in three dyads), the coach and teacher first collaboratively identified predominant teaching and learning behaviours that contributed to either successful or unsuccessful reading or writing; and then used their observations as a starting point for collaborative problem-solving. The collaborative problem-solving included suggestions for instruction (SIs) that crossed literacy domains (e.g. word study, comprehension). In all three dyads, teachers took up the coach's SIs, displaying either developing or expert implementation.

For example, in Dyad 3, catalyst events typically began with C3 offering an evaluation or an observation. T3 responded by explaining and clarifying, supporting C3's impressions by specifying examples from the focal lesson or her recollection of previous lessons. Although C3 took more, and notably longer, turns (often taking successive turns that moved from one idea to another) than T3, the overall content of turns was collaborative and co-constructive. As in this example, their conversation often unfolded as they viewed (rather than pausing) the video:

C3: She's sounds so fluent!

T3: She really does, [inaudible, paper cutter noise in background].

C3: Yeah, yeah!

C3: It seems like she's able to hold a lot more in her head. I'm thinking back to when we did the, when we watched ... And what was she reading about penguins, or ... I forget what she was reading about, but after each page she was even still struggling a little bit to remember, but now it seems like she's holding in more.

T3: Right, she's definitely improved a lot. Within all the different domains, comprehension, writing especially.

C3: Yeah, and you had been working on that with the pattern books too, but this one doesn't follow a pattern, and she picked up a lot of it. Minus ice cream at the beginning, she got a lot of the words without having you to tell her, which is great.

T3: And with the ice cream, we haven't really done with the [soft] c, usually it's the harder c, so ...

C3: Which is great, and she may have picked it up from the title too, but that's good that she's recognising that. She's using what she knows, you gave her the word at the beginning, and now she's applying that to the rest, which is great.

Then, consistent with this facilitative approach to joint problem identification, the coach used the teaching actions she has observed as a foundation for next steps:

C3: Maybe even pointing out your expression too, so not only am I reading accurately, but I'm starting to use expression, which she's starting to do a little bit more. Even saying like, 'Notice how I'm going to make my voice sound excited,' or, 'Notice how I'm going to make my voice sound like elephant,' so that she's kind of getting not only should I read the words correctly, but I also want to read them with excitement too, which is good. Okay.

A substantial number of the turns taken by C3 (38%, first coaching session; 63%, second coaching session) expanded her SIs, and included declarative, procedural, or conditional knowledge.

In Dyad 4, in the discourse segments labelled as catalysts, C4 consistently elicited information (10% of turns across coaching sessions; *'What are your impressions? How is it going today?'*). In response, T4 observed (23%) or explained (31%). At times, C4 followed with a clarification (39%) or observation (10%) and these prompted T4 to offer further explanation. For example,

T4: And so we had her set the book down, and we got the bookmark to underline as she read, and then she also started going back and like finger tracking the words that she was reading to make sure that she was slowing down, and then right after you left, we kind of –

C4: And slowing down to make sure she was staying in the right spot?

T4: Staying in the right spot

C4: Because when I actually watched that today, I noticed the blocker and the finger pointing and was wondering what kind of support she – whether she was choosing to do that, whether that's what was helpful to her.

T4: She said that she uses a bookmark at home when she reads, but she doesn't follow along with her finger normally, and she said that she normally will just read it in her head, and so that would make sense to me that she wouldn't finger follow it just to make sure – because when reading it in your head, if you don't pronounce it right, there's nobody there to correct you.

That led to the co-construction process, with the teacher describing an instructional practice, and the coach suggesting an extension of the practice already in place:

T4: And so we talked about looking for chunks in the word that she knows and starting there. So like if there's two vowels like an [ea] or an [aw] – what that says and then going back.

C4: And then that can be like you've done this chart for questions to ask when you're reading – I mean, when you're developing your writing – there can be another reference sheet of what are the things you've talked with her about for when she comes to a word she doesn't know?

As did C3, C4 routinely used these turns to provide procedural or conditional knowledge related to the practice, essentially noticing and naming the teacher's behaviours and supporting ongoing strategic teaching.

In Dyad 5, the approach of joint problem identification was also evident, with one notable difference. Unlike the discourse observed in Dyads 3 and 4, there was relatively even distribution in the length of turns, as T5 and C5 shared observations of teaching and learning behaviours and co-constructed understanding. During the catalyst segments, T5 used 80% to 100% of turns to explain her own and her student's actions, and C5 used turns to share observations (40%) or elicit information (40%) apparently to better understand the actions. Throughout the conversations, a substantial percentage of C5's turns (between 25% and 40%) affirmed the teacher's actions and ideas, and approximately half of C5's utterances introduced and expanded on instructional ideas, supporting the teacher's instructional decision-making while also incorporating new ideas. C5's suggestions often incorporated declarative and procedural knowledge relative to the SI, but in only two instances included conditional knowledge. In her utterances, T5 demonstrated a stance as both a receptive and confident collaborator, using some turns to acknowledge and embrace C5's instructional suggestions and other turns to clarify or extend C5's ideas.

Notably, teacher *critical self-reflection* (CSR) – known to be related to teacher growth – was not a prerequisite for teacher uptake and not consistently observed within or across these dyads. In Dyad 3, we found one instance of CSR during the two coaching sessions, and 10 instances of uptake, proximally and distally, of instructional suggestions. In Dyad 4, we found seven instances of CSR occurring during two of the four coaching sessions; in nine lesson videos, we identified 36 instances of proximal and/or distal uptake. In Dyad 5, we found three instances of CSR; and uptake of all nine instructional suggestions, with ongoing implementation and refinement of these suggestions in subsequent lessons.

Approach 2: Redirection and reinterpretation. This approach was predominant in Dyad 1. Despite substantial time spent noting and discussing observations, eventually, each incident ended in the same place: with the coach respectfully but persistently guiding the teacher toward redirection and reinterpretation of her teaching. During catalyst segments, C1 typically first elicited T1's point of view (about 25% of turns); and then observed or affirmed T1's teaching behaviours (nearly 60% of turns). In response, T1's turns were often lengthy, as C1 allowed ample time for her to explain and justify (nearly 70% of T1's turns). But then, C1 gently but deliberately turned the conversation to a new SI, almost always situating it within a larger framework of effective practice. The research team interpreted this as an attempt to guide the teacher to view the SI and the quality of her own instruction in a different light.

Following the SI, more than half of C1's turns centred on introducing and explaining the suggestion, even as she continued to affirm and acknowledge the quality of T1's instruction. Often, T1 responded by explaining her decision-making process; and C1 used the information as a context—at times it seemed a launching pad – to suggest 'tweaks' or refinements. In this example, C1 suggested a read aloud as a way to mediate difficult text. T1 explained the ways she previously had used the practice and shared her concern that her student over-relies on picture clues, revealing at least part of her decision-making process. The coach responded by first reinforcing and then redirecting:

C1: Maybe do a read aloud. So that you're kind of getting her all primed. Because some of those Helen Keller books that she has are going to be too hard. They're above her assessed level ...

T1: If she can, yeah. Because I thought *Brave Irene* might be too hard, but we did it, one page she would read in her head, and she would read out loud. Another page, I would read out loud, she would read out loud after me. We'd vary, kind of mix it up a little bit, but even when she read it in her head, she would get to a word and say, 'What's this word?', and we'd kind of talk it through together. She'd keep reading in her head, and when we got to reading out loud, she wasn't making the same miscues. So I think the reading it in her head first helped, but it also benefits hearing me read it out loud ... she also relies very heavily on the pictures ... pictures help her comprehension hugely, it's a huge support for her. So I don't know what would be a good suggestion of a book

that's at her level that has maybe less pictures, or even like the pictures and the text don't really match, so she has to ...

C1: Well, you can even practice that with picture books, too. You can say, 'well let's go and see what the text says and compare that with what the picture is.' So you're kind of getting her, putting her back to the text all the time, that's part of that close reading that Common Core wants us to do anyway. So, just kind of taking her and pointing back to the text and reminding her to go back and re-read I think is going to be an important skill for her to really develop, and so that she becomes less reliant on the pictures and they become more of a secondary source than a primary source of information.

In further analyses, the research team noticed that predominant types of talk moves—elicitation and affirmation – were associated with this teacher's uptake of instructional suggestions. But, in addition, the team found the particular content of the question or comment noteworthy. C1's elicitation consistently positioned the teacher as the expert (*'So what do you attribute that to? Does she have more background knowledge about this topic? Why do you think she read that, which is a real high level for her?'*); by doing so, C1 acted not as a director but, instead, as a guide who tapped into the teacher's knowledge. In the end, one might view the teacher's knowledge – not the coach's – as the source of the solution.

This discourse approach correlated with incremental refinements of teaching expertise. Over the three coaching sessions, there were seven instances of critical self-reflection. In subsequent lessons, there were 27 instances of uptake and maintenance of instructional suggestions, with implementation rated mostly as emerging (33%) or developing (56%).

Approach 3: A 'flipped' IRE framework. This discourse structure has clear similarities to the familiar Initiation-Response-Evaluation (IRE) classroom discourse pattern (Cazden 2002), in which teachers consistently assume control by asking questions; students respond; and teachers evaluate responses. In analyzing the coaching session discourse of Dyad 2, the IRE approach endured, but roles flipped. That is, the teacher (as learner) initiated questions or identified problems; the coach (as instructional leader) responded, and then the teacher (as learner) evaluated responses.

In discourse segments associated with subsequent uptake of instructional suggestions, T2 routinely took the lead by identifying an instructional problem (67% of turns); C2 responded with a solution, and T2 evaluated the idea with a simple embrace (15% to 25% of turns in three instructional events) or acknowledgement (42% to 75% of all four instructional events) of C2's idea.

T2 often opened episodes with questions or reflections on her teaching, suggesting a disposition toward collaborative problem-solving. In response, although C2 offered quite explicit instructional suggestions, they were framed as suggestions T2 might consider. As T2 acknowledged or embraced these ideas, C2 expanded on them, usually adding procedural knowledge. In one illustrative instance, T2 noted her student's reluctance to write, eliciting C2's advice:

T2: He's also reluctant to write ... Should I – what do you think?

C2: I would – so what I would do with him and what I've done with my reluctant writers – the computer sometimes can be really fun for them and add that extra aspect of being willing ...

Following a brief discussion, C2 further specified her idea, and T2 committed to trying it, but also expanded on it:

C2: So what I would – so what I would consider doing, then, is having him type it.

T2: We'll try that.

T2: And maybe that increased amount of kind of writing on the computer will increase his like interest in actually doing it.

T2: Yeah, I'll try that. I may like – I'll write this one, but you write the next one ...

As the conversation continued, C2 affirmed T2's responses (*'That's good, and I would – I like – it's good that you're figuring out that ... long chunks are better for him than bringing it back.'*); and added procedural knowledge about computers as composition tools.

T2 responded positively. There were eight instances of critical self-reflection, distributed across three of the four coaching sessions; 16 instances of uptake distributed across nine lessons; with varying levels of implementation expertise (25% *emerging*, 67% *developing*, 6% *expert*). In a departure from other cases, T2 routinely modified the coach's instructional suggestion to fit her perceived needs. For example, to suggest monitoring while reading after the first coaching session, C2 suggested T2 provide a tracker for the student to assist with fluency; in the following tutoring session, T2 modified the suggestion using prompting questions to monitor fluency.

Discussion

The purpose of this investigation was to describe precisely what coaches say and do (i.e. procedural knowledge) as they guide teachers toward higher levels of teaching expertise. The research team examined the coaching interactions of five coach-teacher dyads and explored the relationship between those interactions and teachers' subsequent uptake of instructional suggestions. The intent was not to determine *if* coaching made a difference; but rather, to identify instances of successful uptake and to determine if common discourse practices could be associated with those outcomes. While existing research (e.g. Bean *et al.* 2010, Matsumura *et al.* 2013, Teemant 2014) provides evidence for broad coaching actions associated with instructional uptake, outcomes are inconsistent and questions remain about how one might, for example, effectively facilitate or debrief instruction with individual teachers. There is an emerging research base (e.g. Collet 2012, Heineke 2013, Hunt 2016), however, examining the nuances of coach-teacher discourse, uncovering the authority, positioning, and emotional aspects of social interactions that foster or hinder positive changes to instruction. The present study adds to this emerging research by unpacking several discourse-based approaches in which coaches facilitated collaborative problems-solving within situated instructional contexts to prompt uptake of new or refined literacy instruction.

Across the five cases, the discourse during coaching episodes that culminated in teachers' uptake of instructional suggestions conformed to three facilitative coaching approaches. In the first approach, Joint Problem Identification, the coach and teacher worked together to analyze a lesson, exemplifying the cognitive apprenticeship model (Collins *et al.* 1987) of teaching and learning as they reached an agreement of next steps. Interactions seemed to be comfortable and easy, with the coaches and teachers working in partnership. Agency appeared to be entirely equitable, as coaches and teachers exchanged ideas and seamlessly slipped in and out of the 'leadership' role. Three dyads fit this approach.

In the second approach, Redirection and Reinterpretation, a casual eavesdropper might come away with the impression that the context was strained and relatively unproductive in guiding a teacher toward change. In a typical conversation, the coach would be heard asking the teacher to share her impression of a lesson, acknowledging, affirming, and then, gently redirecting. In turn, the teacher would be heard justifying, explaining, seemingly resisting, likely leaving the eavesdropper with the impression that uptake would be unlikely. (Indeed, this was our first impression.) Yet that impression would be incorrect. On closer inspection, it became clear that the coach leveraged her own discourse in such a way that the teacher, in

time, appropriated and 'owned' the instructional suggestions. The coach routinely asked the teacher to describe and explain what she did and what she would do next. Then, she slowly and skillfully crafted an instructional suggestion building on the teacher's own words and ideas, embedding within them a meaningful and purposeful redirection. In the end, the coach guided the teacher toward an important teaching refinement but did so in a way that left the teacher perceiving that she (not the coach) was the source of the solution to a problem of practice – the agent of change. Consistently and with reasonable incremental progress toward increasing levels of expertise, this teacher acted on instructional suggestions. The interactions observed in this particular dyad served as a reminder that 'co-construction of meaning is messy, filled with struggle, participant needs, tension, ambiguity, and shifting power relationships' (Crafton and Kaiser 2011, p. 109). This description provides a near-perfect representation of this coach/teacher relationship as it unfolded.

In the third approach, a 'flipped' Initiation, Response, Evaluation (IRE), the teacher was again agentive, but in an entirely different way: she identified a problem of practice, explicitly sought instructional support, and then shaped the support in ways that she could own it. Again, we found our first impression of a largely compliant teacher seeking to have others 'do the work' for her to be inaccurate. On closer inspection, we think this teacher's actions and interactions with the coach were quite similar to those Collet (2012) described as assuming a 'gradual increase of responsibility.' Here, though, the gradual increase played out in a substantially compressed fashion, with the teacher identifying the problem of practice, requesting support, and then moulding the instructional suggestion to meet her student's needs based on the discourse of the coach, all within a single coaching session.

Teachers' actions in each of these dyads were clearly aligned with existing evidence of the relationship between teacher agency and teacher change (e.g. Greene 1978, Bandura 2001, Paris and Lung 2008). Further, the present analyses extend understanding by enabling specification of varied representations of agency. These coaches, intentionally or not, shaped their discourse so that teachers with different needs and dispositions toward *being* coached were positioned to be agentive. Coaches did not 'give' or 'force' agentive behaviour; rather, through skilful use of their talk, they created space for teachers to take it.

So what does this mean in the context of our stated purpose – how do these analyses help us build an understanding of the *procedural knowledge* that could help inform coaches-in-training? First, coaches 'opened the floor' for teachers through *elicitations* and *affirmations*. In response to these open-ended questions and positive recognition, teachers offered explanations and observations of their own actions or the students' actions. Second, coaches, through *elicitations* and *clarifications*, asked or prompted teachers to say more about their actions – a practice that could be considered akin to member checking in qualitative research. Doing so seemed to promote more equitable interactions between the coach and teacher since the coach was not asserting a particular point of view or assuming teacher intent. Moreover, the request for clarification, itself, seemed to prompt additional introspection and critical self-reflection as the teachers described their intentions and explored their actions more deeply in relation to students' performance. While this idea of the coach positioning herself as a facilitator is not new (e.g. Vanderburg and Stephens 2010, Heineke 2013), the present study provides further specification as to *how* coaches engage teachers in these more equitable, joint experimentation conversations aimed at advancing teaching practices. Finally, coaches noticed and named (Johnston 2004) what teachers were doing, and then situated new instructional suggestions within these existing practices. As they did so, they provided substantial *expansions* of strategic pedagogical knowledge (what, why, how) and provided a foundation for new or refined teaching actions.

In summary, four discourse actions – opening the floor through elicitations and affirmations, seeking further clarification, noticing and naming existing teaching behaviors as the foundation for new or refined behaviors, and providing expansions of strategic pedagogical knowledge – seemed to create a foundation for an equitable coach/teacher relationship and

may be a good start toward explicating the procedural knowledge that undergirds productive coaching.

Limitations and implications

Several limitations and implications should be noted in relation to the present study. First, this study presents findings of a small set of coaches and teachers over a 4-week period. Examining coaching interactions of a larger sampling of coaches and teachers may provide a more definitive set of approaches observed in coach–teacher interactions that surround uptake of instructional suggestions. Further, with an understanding that effective professional development is sustained over time (e.g. Darling-Hammond and Richardson 2009), further analysis might examine coaching interactions across longer periods of time (e.g. 16 weeks, 32 weeks, one year).

Second, the qualitative analyses provide descriptive analyses only of these data. The data do not support generalisations about the types of interactions that will lead to uptake of instructional suggestions by teachers more broadly. Further research with a larger sample might explore, for example, whether increased *clarifications*, *elicitations*, or *expansions* from the coach are more likely to prompt more instances of higher quality teacher uptake. Still, as a cautionary note, the intent would not be to script interactions, as that would take away from the responsive nature of coaching interactions.

Third, these five cases were in university-based clinical settings. The coach-teacher dyads were situated in learning environments focused on developing literacy instruction and learning through collaborative interactions, while also supporting the needs of school-aged students who find reading and writing difficult. In these contexts, they were able to focus their attention on literacy teaching and in relation to only one student. As such, further research should explore whether the practices teachers take up in clinical contexts are sustained when they move into other educational contexts (e.g. classrooms), and what other factors might inhibit teachers taking up suggested practices (e.g. required curricula, high-stakes accountability pressures, planning and teaching multiple subjects or classes).

Fourth, some might argue that teachers enrolled for course credit, as was the case for Dyads 1, 3, and 5, would be more inclined toward uptake since not doing so could have grade implications. While there may be some merit to this possibility, Dyads 2 and 4 also took up a considerable number of instructional suggestions with no grades attached. Though not conclusive given the small participant sample, the ways coaches bolstered teachers' agency in planning subsequent instruction was viewed as influential. Further, the intent was not to understand *if* teachers took up suggestions for instruction, but rather to examine the nature of coaching interactions when they did take up the practices.

Finally, the review of the literature found the amount and intensity of training to become a coach as an important factor, yet experience may be equally important. Studies that disaggregate experience as a coach (or as a teacher) from training for coaches may help understand how coaches develop requisite levels of expertise.

Given the prominence of coaching as a pathway for enacting change in teachers' practices and how coaching is increasingly important in different contexts (e.g. to gain professional accreditation, to renew teaching credentials), these findings contribute important new evidence related to the nuances of *how* coaches stimulate and support those changes. Nonetheless, the research describing the procedural knowledge of coaching is still slim, and given this study's small sample size, it is unclear whether the findings will hold up across more cases or in other coaching contexts (e.g. schools vs. clinics). Studies of the variations of productive coaching interactions, particularly with a more detailed focus on coach and teacher positioning, will help clarify the coaching actions through which coaching expertise can be further developed and refined.

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