



## Improving Instructional Coaching to Support Middle School Teachers in the United States

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# 15. Improving instructional coaching to support middle school teachers in the United States

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## Abstract

*This case presents a study that investigated how professional development for instructional coaches in the United States could be delivered more effectively. Further, it investigated how a coaching model could be optimized to support middle school teachers' ability to implement instructional practices. Through an iterative process of development, the coaching model shifted from one of providing teachers with a pre-determined evidence-based instructional practice to a model of helping teachers to identify an instructional practice they wished to address, and then collaborating with a coach to develop a plan for achieving it. Further, through this process, coaches and researchers collaborated to refine how video recordings could be used to help teachers, as well as coaches, engage in self-reflection. Data showed that coaching supports teachers' ability to implement new instructional practices and it revealed the importance of a respectful and trusting relationship between teachers and coaches. Lastly, this case presents lesson learns and directions for future research.*

## 1. Introduction to the problem

In the past decade, teachers in the United States (U.S.) have been expected to change their instructional practices to meet the requirements of the No Child Left Behind mandate (NCLB, 2002) and more recently the Common Core State Standards (CCSS, 2010). In addition to these mandates, the population of students in the U.S. is becoming increasingly diverse culturally and linguistically (U.S. Department of Education & National Center for Education Statistics, 2007). Further, the percent of school-aged students living in poverty 22% (U.S. Bureau of the Census, 2010) and the percent of school-aged students with disabilities is 13% (U.S. DOE & NCES, 2010). Consequently, teachers would benefit from professional development that helps them to implement evidence-based instructional practices that supports the needs of an increasingly diverse student population.

In recent years, school districts have adopted coaching as one approach to professional development for teachers. Despite the numerous models for coaching (e.g., Allen & LeBlanc, 2004; Costa & Garmston, 2002; Duncan, 2006; West & Staub, 2003), there are relatively few empirical studies that demonstrate benefits for teachers and their students (Kamil, 2006). To address this need, we initially attempted to conduct a quasi-experimental study to determine the effectiveness of the Partnership Approach to Instructional Coaching (henceforth, Instructional Coaching; Knight, 2007). However, as coaches and teachers began implementing the Instructional Coaching model, they were becoming frustrated and stressed. Consequently, we began to question the feasibility of the model despite the fact that it had been successfully implemented in the past. As we reflected on the situation, we recognized that changes were needed to the Instructional Coaching model and design research (van den Akker, Gravemeijer, Mckeeney, & Nieveen, 2006) would allow us to revise the model so that it would be more

realistic to implement. Further, the school district and coaches using the Instructional Coaching model in the quasi-experimental study were eager to help us develop the model.

Despite the challenges they were encountering, they did recognize its potential to support teachers. That is, they were invested in the goal of this study, which was to enhance the delivery of professional development to instructional coaches and to increase teachers' ability to evidence-based instructional practices through coaching. They were also invested the outcome, to produce a more refined and feasible model of Instructional Coaching. Thus, the research questions guiding the present investigation were:

1. How can professional development for instructional coaches be implemented to better prepare coaches to support teachers?
2. How can instructional coaching be optimized so that teachers can implement evidence-based instructional practices?

Our study was conducted in three phases. During the first phase, researchers reviewed the literature of coaching and revised the Instructional Coaching model (Knight, 2007) of coaching. During the second phase, the development phase, the revised coaching model was presented to the coaches. Data were collected to understand how the coaches were implementing the model and how teachers were changing their instructional practices. The development phase also consisted of three iterations. During the final phase, retrospective analysis, all data sources were reviewed to gain a deeper understanding of Instructional Coaching model and the outcomes for coaches and teachers

In this chapter we provide the theoretical and empirical basis for the coaching model and we describe the design principles. We discuss the iterative process of data collection and modifications that occurred in the second phase of the study. We also present the outcomes of the study in relation to the design principles. Finally, we reflect on lessons learned and suggest future research.

## **2. Theoretical and empirical basis for the intervention**

In this section, we briefly present the literature related to adult learning and professional development that guided the initial revision of the coaching model. We also present the design principles and conclude with the steps in the Instructional Coaching model.

### **Adult learning and professional development**

To revise the Instructional Coaching model, we reviewed the literature on the adult learning process and professional development. First, research shows that teachers move through stages of change based on their concerns (e.g., Joyce & Showers, 2002; Prochaska, Norcross, & Diclemente, 1994) and coaches can help teachers with their concerns. Second, research suggests that professional learning is more effective if it respects the autonomy of teachers (Davenport, 2005; Knowles, 1973). Finally, research demonstrates that professional learning is more effective when it occurs in the day-to-day context of teachers' work in the classrooms (Sparks, 1994; Wood & Killon, 1998). Consequently, we identified three practices that are important to coaching: differentiated support for teachers, respect for professional autonomy, and job-embedded professional practice.

### **Design principles**

Five design principles were identified based on that literature review and previous research on the coaching model. First, a structured sequence of activities supports a coach's ability to support teachers.

This structure helps to keep coaches and teachers focused and moving toward the goal of improving a teacher's instructional practice. Second, a partnership or collaborative stance between the coach and teachers supports effective coaching. That is, teachers should be actively involved in the decision making process. Third, a coach should provide differentiated support to teachers to meet their diverse needs. Specifically, coaches need to take into consideration issues such as teachers experience, the content to be taught, and the instructional needs of teachers' students. Fourth, a coach should respect the professional autonomy of teachers. Finally, coaching should be job-embedded; that is, occurring in the context of teachers' work in their classroom.

**The partnership approach to instructional coaching**

The Instructional Coaching model under investigation involved a sequence of activities designed to help coaches engage in coherent interactions with teachers (Knight, 2007). Specifically, Instructional Coaching consisted of coaches (a) recruiting teachers, (b) planning coaching sessions, (c) preparing for sessions based on content teachers would be teaching, (d) demonstrating how the content could be taught using an instructional tool, (e) explaining the steps of how the tool could be implemented with students, (f) modeling how to implement the instructional tool in the teacher's class with his/her students, (g) observing the teacher implementing the instructional tool, and (h) exploring how the teacher implemented the tool to identify strengths and weaknesses of implementation.

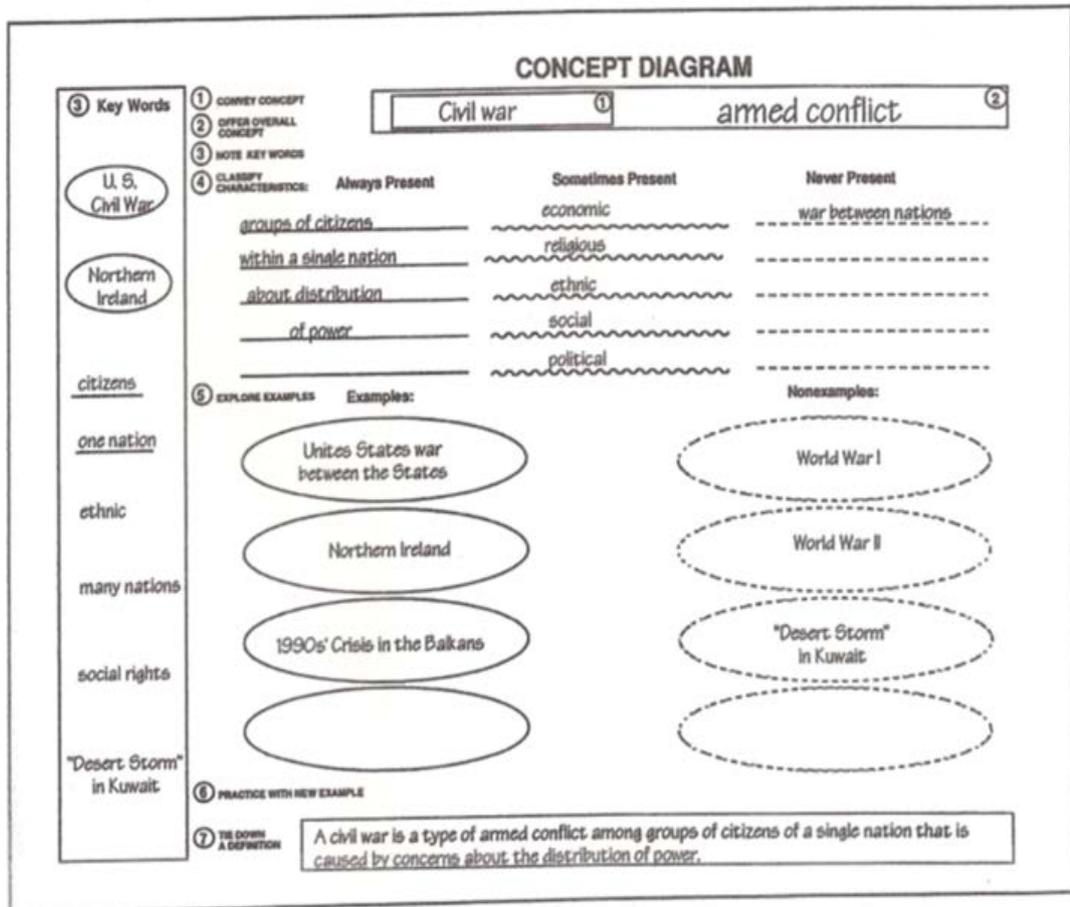


Figure 1: Concept mastery routine

While any evidence-based instructional tool could have been used, we choose Concept Mastery Routine (Bulgren & Scalon, 1997/8; Bulgren, Schumaker, & Deshler, 1988) because coaches were familiar with it and teachers across different content areas (e.g., science, social studies) have found it to be useful. The Concept Mastery Routine (CMR) is a diagram (see Figure 1) that allows a teacher and students to discuss an important concept as they complete the diagram together. Specifically, students develop a better understanding of the concept as they brainstorm characteristics that are always present, sometimes present, or never present in the concept, provide examples and non-examples of the concept, and write a summary statement about the concept.

### **3. The development phase**

In this section we describe the participants, the school setting, and how data were collected and analyzed. We also describe each of the three iterations, the results, the modification made to the coaching model, and new questions or issues that were raised by those results.

#### **Participants and site**

Participants were four instructional coaches and eight middle school teachers working in a small city located in the Northwest region of the U.S. All coaches had been classroom teachers and had from 1 to 6 years of coaching experiences, while teachers ranged from 7 to 16 years of teaching experience. The coaches and six of the teachers are female. Coaches recruited teachers based on their knowledge of the teachers' instructional practices and the teachers' interest in being coached. Teachers included two English/language arts teachers, two social studies teachers, one math teacher, one science teacher, one art teacher, and one teacher of English language learners. Lastly, each coach worked with only two teachers because two coaches were employed part-time, one coach had teaching responsibilities, and last coach had administrative responsibilities with the school district.

In the past 10 years, the school district had an increase in enrollment of minority students from 24% to 43%, an increase in students eligible for free or reduced lunch from 17% to 33%, and an increase in students learning English as a second language from 9% to 15%. The percent of students eligible for special education services remained fairly consistent at 11%. With respect to state assessments, 23% of middle school students did not meet expectations in reading, 19% did not meet expectations in math, 40% did not meet expectations in writing, and 24% did not meet expectations in science. Thus, the school district was interested in helping teachers to improve their instructional practices, as needed, to support student learning.

#### **Data sources and analysis**

Data sources consisted of video recordings and transcripts of (a) the professional development workshops for coaches, (b) coaching sessions, (c) some classroom teaching, (d) semi-structured interviews with coaches, and (e) semi-structured interviews with teachers. Further, data included coaches' journals, documents such as coaching checklists and observations notes of classroom teaching.

Video recordings were transcribed verbatim, then the videos were watched and transcripts were cleaned and edited (Skrtic, 1985). Afterwards, the videos were viewed and transcripts were read several times in order to code and categorize the transcript data. Some categories were based on the coaching process. That is, transcripts were categorized to determine what aspects of the Instructional Coaching model the coaches were implementing, not implementing, or modifying. Other categories emerged as transcripts were read and re-read.

Next, data from categories were reviewed across teacher-coach dyads, discrepancies discussed, and categories refined. Lastly, data were then reviewed once again to identify key themes within categories. Themes also were discussed and refined. However, because of the extensive amount of data collected and the time needed to analyze it, data were fully analyzed for four teacher-coach dyad and decisions to modify professional development and the coaching model were made based those findings. Data from the remaining dyads were analyzed during retrospective analysis. Thus, after data from the four dyads were analyzed, a summary of the findings was shared with coaches during the professional development workshops held after each iteration, and it used as part of the member check process. Modifications for the coaching model were further refined during these workshops based on discussions with the coaches.

### **Iteration 1**

Prior to implementing the Instructional Coaching model, the coaches participated in a 3-day workshop. The purpose of this workshop was to teach coaches about the revised coaching model and how to implement it. Coaches also were given information about their collaborative role in the research process. Following the workshop, each coach recruited two teachers to participate in coaching. This iteration occurred between August and December of Year 1.

### **Results**

Briefly, Instructional Coaching consisted of coaches (a) recruiting teachers, (b) planning sessions (c) preparing sessions based on the teacher's content, (d) demonstrating the CMR using class content, (e) explaining the steps of how to use the CMR with students, (f) modeling how to implement the CMR in teacher's class, (g) observing/video recording the teacher implementing the CMR with his/her students, and (h) exploring the video recorded session with the teacher to identify strengths and weaknesses of implementation.

First, data analysis from Iteration 1 revealed that with the exception of how coaches modeled implementing the CMR in the teacher's class, they were able to implement the other procedure of the coaching model with fidelity.

Coaches provided several reasons why they did not model the CMR. For example, it was challenging to schedule a time that was both appropriate to introduce the CMR to students given where they were in the course content and that fit the coaches' schedule. Also, coaches indicated that some teachers felt comfortable using with CMR with the coach modeling it. Or, teachers preferred that the coach co-teach with them using the CMR, so that they could troubleshoot problems that might arise together. Second, based on interviews, both coaches and teachers indicated that a strong relationship (e.g., trust and respect) is necessary for effective coaching to take place. This was a theme that emerged during the next two iterations. Coaches told us repeatedly that it was important that they maintain a collegial and supportive role towards teachers. On occasions, coaches indicated that they believed administrators wanted feedback on teachers' progress, to use, in part, to evaluate teachers. Coaches strongly maintained that their role was to support teachers and not to evaluate them. Teachers also expressed this concerned but indicated that they believed coaches were truly there to support their practices and not to evaluate them.. Third, based videos and transcripts, when coaches provided direct and specific feedback (e.g., "I noticed 20 students had their hands up during questioning", rather than "You're really an engaging teacher.") teachers were more likely to engage in self-reflective talk. That is, feedback like this helped teachers to talk more specifically about their instructional practices - those that supported or did not seem to support student learning. Fourth, based on observation of videos of teaching and coach interviews, class management was identified as an important precursor for effective practice to take place.

That is, even though teachers were implementing the CMR with fidelity, there were others issues in the class that hindered student learning. Fifth, even though coaches and teachers liked the CMR, coaches believed that they were being too directive and that teachers didn't have enough input into the instructional practice. Lastly, based on interviews, viewing video recordings, though initially uncomfortable, supported the coaching process. However, based on video recordings, we noticed that teachers and coaches often lacked or lost focus when viewing and discussing the videos and that viewing videos was a time consuming process. See Table 1 for more information about the research questions, data collected, examples of findings and modifications as it pertains to Iteration 1.

### ***Modifications***

On these findings, Iteration 2 was guided by three objectives.

The first objective was to use the video recordings more effectively for professional development of coaches and during coaching sessions. The second objective was to increase teachers' engagement in critical self-reflection. To achieve these objectives, during the next professional development workshop, coaches were asked to view, identify, and share two strengths and two weaknesses related to their video-recorded coaching sessions. Coaches found this activity to be particularly helpful to them. It also provided the framework coaches could use to help teachers engage in self-reflection and to identify practices they wished to change. Further, during the workshop, the coaches and research team discussed verbal interactions that supported teachers' self-reflection and developed a list of open-ended comments and questions to facilitate self-reflection (e.g., "What change would you like to see in your students?" "If things were ideal in your class, what would be different? What would you see and hear?"). Lastly, because data revealed that some teachers struggled with class management (e.g., establishing class rules and routines, responding to inappropriate student behaviors) and there was desire to give teachers more autonomy, the coaching model was changed from providing teachers with a pre-determined instructional practice (i.e., CMR), to helping teachers identify an instructional practice that they wished to improve. That is, in Iteration 1 coaches used a "push" model of coaching, but in Iteration 2, they used a "pull" model of coaching (Hargrove, 2008).

Table 1: Research questions, data collected, and some finding and modifications from Iteration 1

Research question	Focus questions Iteration 1	Data collected	Example of findings	Modification based on Iteration 1
How can professional development for instructional coaches be implemented to better prepare coaches to support teachers?	<ul style="list-style-type: none"> <li>• Can coaches implement the coaching model?</li> <li>• What supports do they need to coach more effectively?</li> </ul>	<ul style="list-style-type: none"> <li>• Video recordings and transcripts of the coaching sessions</li> <li>• Interviews with coaches and teachers</li> </ul>	<ul style="list-style-type: none"> <li>• With the exception of modeling, coaches could implement the model with fidelity</li> <li>• Coaches and teachers sometimes lacked/lost focus when viewing the videos effectively with teachers</li> <li>• Coaches need support to help teachers engage in self-reflection</li> </ul>	<ul style="list-style-type: none"> <li>• During professional development, coaches independently viewed videos of their coaching sessions, then shared and discussed strengths and weaknesses. Coaches developed a plan to improve their coaching skills. This approach was then used with teachers.</li> <li>• Coaches and researchers collaborated to develop a list of questions and comments to engage teachers in self-reflection</li> </ul>
How can instructional coaching be optimized so that teachers can implement evidence-based instructional practices?	<ul style="list-style-type: none"> <li>• Can teachers implement the instructional tool? What challenges do teachers encounter and can coaches help teachers to identify those challenges?</li> <li>• What works and what challenges do coaches' encounter when interacting with teachers?</li> <li>• What aspects of the coaching model are helpful to teachers and what kind of support do teachers think they need?</li> </ul>	<ul style="list-style-type: none"> <li>• Video recordings of some classroom teaching</li> <li>• Video recordings and transcripts of the coaching sessions</li> <li>• Interviews with coaches and teacher</li> <li>• Coaches' journals</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher could implement the instructional tool</li> <li>• Coaches concerned that they may be too directive during coaching and not helping teachers to have ownership of the process</li> <li>• Coaches and teachers thought viewing videos of teaching was helpful but time consuming</li> <li>• Teacher found coaching helpful; some teachers requested more support related to formative assessments</li> </ul>	<ul style="list-style-type: none"> <li>• Coaches and researchers collaborated to develop a procedure for teachers and coaches to view videos.</li> <li>• The coaching model was changed from a "push" model where coaches gave an instructional tool to teacher, to a "pull" model where coaches helped teachers to identify an instructional problem and to develop a goal and plan.</li> <li>• Coaches were provided more training and resources related to formative assessment to help teachers.</li> </ul>

## **Iteration 2**

During Iteration 2, the four coaches continued to work with the same two teachers. The revised Instructional Coaching model consisted of coaches (a) viewing videos with a teacher of his/her teaching and identifying an instructional goal, (b) developing a plan to address that goal and determining how to measure progress toward that it, (c) modeling the identified practice in the teacher's class, (d) observing and video recording the teacher, and (e) viewing the video with the teacher and discussing his/her progress toward the goal. This iteration occurred between January and May of Year 1.

## **Results**

There were four primary findings after analyzing the data. First, when the teacher and coach watched the video recording of the teacher's class instruction separately and then met to discuss the videos, the coaching sessions were more productive. That is, both the teacher and coach came prepared with what they thought were key issues. Second, teachers were able to identify their own strengths and weaknesses after viewing the video recording, but they needed guided support to identify a specific instructional goal to address. That is, some teachers had difficulty choosing one issue to address or recognizing that addressing one issue (e.g., setting clear expectations) might help them to address another issues (e.g., behavior management). Third, while the coaches and teachers all agreed that asking teachers identify an instructional goal and then collaboratively develop a plan was a worthwhile endeavor, they all indicated that it was time consuming process. Specifically, coaches told us that it took time to identify a specific goal, to find appropriate strategies and/or to determine a simple means of collecting data to determine progress toward the goal. Lastly, as previously indicated, each coach had identified a coaching practice she wished to change during the professional development workshop, and data indicated that coaches' were engaging in more effective practices (e.g., providing direct and specific feedback, engaging in active listening).

## **Modifications**

On these findings, Iteration 3 was guided by one objective; specifically, to increase the efficiency of identifying an instructional goal, developing a plan to achieve that goal, and identifying a means to gather data that measures progress toward the goal. To address this objective, the Instructional Coaching was again modified so that coaches would help teachers identify an area of need based on the three broad areas of instruction: class management, content planning, and formative assessment of student learning. During their professional development workshop prior to Iteration 3, coaches received training on these three topics. Also, to help teachers to develop an achievable instructional goal, coaches were provided training and guidelines for developing a SMART goal. The SMART acronym for this project was defined as creating a goal that was specific, measurable, attainable, realistic, and timely. Lastly, coaches were given materials that would help them to identify methods for collecting data to determine if progress was made toward a goal.

## **Iteration 3**

During Iteration 3, each of the four coaches continued to work with two teachers. However, in this final iteration, coaches continued working with one teacher from the previous iterations and they recruited one new teacher. This iteration occurred between February and June of Year 2.

### **Results**

Results from this final iteration showed that coaches and teachers were able to identify a goal, a plan, and an assessment to measure progress toward the goal more quickly. Further, teachers indicated that collaborating with a coach to write a SMART goal was helpful and they believed they had “ownership” in the process. Data also reconfirmed many of the findings established from the previous iterations. For example, data revealed that the use of videos continued to be a valuable tool for helping both coaches and teachers identify strengths and weaknesses. Also, direct and specific feedback continued to help teachers to engage in self-reflection and to make changes to their instructional practices. Finally, teachers and coaches continued to indicate that a strong relationship was important to their collaboration and success.

### **Retrospective Analysis**

At the conclusion of the Iteration 3, we conducted a retrospective analysis (Cobb, McClain, & Gravemeijer 2003) based on all teacher-coach dyads. This included the video of each coaching session, the coaches modeling the instructional practice, and the professional development workshops for the coaches. This helped to ensure a thorough and rigorous analysis of data that results in empirically based instructional recommendations (Cobb, Confrey, DdiSessa, Lehrer, & Schauble, 2003). In the following section we present conclusions based on the retrospective analysis.

## **4. Conclusions**

Four key findings emerged from the data and shaped how the Instructional Coaching model will be implemented in the future. First, we present how the Instructional Coaching model changed from push coaching to pull coaching and, second, how we broaden our conceptualization of coaches modeling for teachers. Next, we discuss the role of self-reflection and how video recordings can be used to support it. Lastly, we discuss the importance of a trusting and respectful relationship between the coach and teacher. Further, we address these themes as they pertain to the design principles (i.e., structured sequence of coaching activities, partnership between the coach and teachers, differentiated support, professional autonomy, job-embedded coaching) that guided the coaching model.

### **Partnership approach to instructional coaching**

Two primary issues emerged related to Instructional Coaching model: “push” versus “pull” coaching and coaches modeling instructional practices for teachers. First, push coaching involves the coach presenting a pre-determined instructional tool to teachers and helping them implement it with fidelity, while pull coaching involves a coach helping teachers to identify their own instructional needs and then identifying an instructional practice to address that need. Based on the interviews, teachers and coaches did find value with the CMR presented in Iteration 1, and teachers discussed plans to continue using the tool. Despite this, coaches were concerned about long-term teacher “buy in” because, in part, coaches believe they were being too directive and doing most of the talking during coaching sessions. That is, coaches believed that push coaching did not allow them to fully enact several design principles. Specifically, developing a partnership with teachers, differentiating support, and allowing teachers professional autonomy. Based on videos of push coaching, coaches did do most of the talking. However, during videos of pulling coaching, teachers did talk more during those sessions, and they demonstrated greater enthusiasm about the goal. Further, teachers indicated they appreciated the pull model because of their “control” and “ownership” in identifying a weakness and that they felt more invested when developing a plan of instruction. Lastly, the boundaries (e.g., identifying a need related to class management, content planning, or formative

assessment student learning) and structure (e.g., developing a SMART goal) introduced to the model in the third iteration, resulted in a more expedient process.

Second, modeling or demonstrating how to implement an instruction practice with students is an important component of coaching (Kretlow & Bartholomew, 2010), and both coaches and teachers talked about its value. Yet several factors prevented coaches from modeling instructional practices in teachers' classroom. For example, it was difficult for the coaches and teachers to find a time that fit both their schedules for the coach to model or demonstrate the instructional practice with a teacher's class. Further, coaches indicated that at times, modeling certain instructional practice seemed illogical. That is, coaches did not think that they should model practices such as setting class expectations and "wait time," or that they could model practices such as managing behavior because students behaved differently with them as compared to the teacher. Based on observations of the coaching sessions and interviews, the five modeling routines were identified. They include a coach demonstrating the instructional practice (a) by thinking aloud how she would present the strategy to students, (b) in the targeted class, and (c) in a non-targeted class. The fourth approach was that the coach and teacher would co-teach the instructional practice and, finally, the teacher might observe another teacher implementing the instructional practice. In sum, modeling or demonstrating the instructional practice is an important component to coaching but there are several alternative methods that may be equally effective for helping teachers to understand how to implement the instructional practices. Thus, regarding the design principle related to a sequence of coaching activities, we recognized that least modeling needed to be conceptualized more broadly to address contextual constraints such as scheduling and the nature of the instructional activity.

### **Self-reflection**

Self-reflection is important for effective teaching (Schön, 1987) and, not surprisingly, when coaches and teachers engaged in self-reflective talk they were more likely to change their coaching and instructional practices, respectively. To further support self-reflection by coaches and teachers, two elements of coaching model were modified.

First, videos were a powerful tool supporting self-reflection because it allowed coaches and teachers to discuss events they could view together, rather than to rely retrospectively on what they remembered or thought happened. Further, they indicated that this allowed them to discuss events objectively and reduced the feeling of being evaluated because they could easily rewind the videos and review event in which they interpreted differently. However, just watching a video was not enough. Guided viewing was necessary for teachers and coaches to engage in critical self-reflection. Specifically, coaches and teachers were asked to view videos and identify two clips in which they were pleased with their actions and two clips that they believed their actions could or should be changed. This minor change provided the focus that coaches and teachers needed to engage in self-reflective talk. Further, a set of open-ended questions developed by the coaches and researchers also supported purposeful and collaborative viewing of videos. For example, questions such as "This is what I wrote down, how do you see it?" or "Did I get this right, or did I miss something?" helped teachers and it created a more open and positive environment. Overall, coaches deemed effective questioning strategies as another critical aspect of coaching. Finally, both modifications better support the design principles of developing a partnership, differentiated support through self-reflection, and respecting professional autonomy.

## **Relationships**

When coaches and teachers were asked about what components of coaching were essential, they all indicated that a trusting and respectful relationship is critical for effective coaching to take place. Because coaches and teachers knew each other well and/or had previously worked with each other in some capacity, they may already have had a good relationship prior to the present study. However, based on teacher interviews, recommendations from other teachers appears to influence as to whether or not a teacher will work with a coach. In fact, during the Iteration 3, one of the new teachers reported that based upon the advice of fellow teachers, who were familiar with the coach, she decided to accept the coach's offer of coaching despite not having a previous relationship with that coach. Lastly, the design principle of developing a partnership between coaches and teachers, as well as respecting teachers' professional autonomy, may have helped teachers and coaches to develop a trusting and respectful relationship.

Trust and respect is important to coaching but is it also important to have a relationship based similar discipline knowledge? That is, is it essential for coaches to have knowledge or expertise in the discipline in which they are helping a teacher to make instructional change? Although not discussed earlier in this case, this is a question we raised with teachers and coaches. Based on interviews, coaches indicated that when they had taught the content, they believed that, at times, they were dominating the conversation. However, when coaches were less familiar with a teacher's disciplinary content, coaches believed they asked "real" questions that helped teachers to clarify their thought processes and stimulated critical dialogue. While teachers indicated that it would be helpful to work with a coach who had taught in their discipline, they also reported that coaches' limited content knowledge didn't hinder coaching. For example, when it came to helping teachers with issues such as behavior management or working with struggling students, coaches often provided useful strategies, tools, and ideas to assist them, and content knowledge wasn't necessary. Further, all coaches reported that they would not hesitate to bring a content expert in to help if it was necessary to the coaching process. Ultimately, both coaches and teachers said that trust and respect was more important than content knowledge. Thus, this finding further supports the design principle of developing a partnership and respecting teachers' professional autonomy.

## **5. Lessons learned**

Although the Instructional Coaching model under investigation was a well-established model that we had used in the past, we remained open to the possibilities of change. This allowed us to move from the push approach to the pull approach to coaching, which allowed teachers to identify their own instructional goal. Also, by recognizing the contextual constraints with in the education environment, we re-conceptualized of how modeling of instructional practices to teachers might be implemented. Lastly, videos proved to be invaluable for helping coaches and teachers to engage in critical self-reflection and for allowing them to improve their practices. However, simply viewing a video was not enough and we now have in place a procedure that allows for focused and guided viewing. In short, we learned that even a well-establish program could be improved.

From a research standpoint, a major lesson learned was how to manage the massive amount of data obtained from the video-recordings and subsequent transcripts. One of the most challenging obstacles was the time needed to transcribe the recordings, clean and edit the transcriptions, and then systematically analyze the data within and across each coach-teacher dyad. In short, the time it would have taken to transcribe and analyze all the data from iteration

would not have allowed us the time needed to make modifications to the intervention based on those findings. Consequently, we made modifications based on each coach's interaction with one teacher rather than with both teachers they worked with during iteration. How to reasonably resolve the problem created by a large amount of qualitative data is an issue we are still contending with. While hiring additional staff to transcribe the video recordings may be one solution, this requires added expense and training. Working with fewer participants is another option, but that reduces the variability and richness that is so important when designing an intervention. Thus, we recognize that we need to more carefully consider the data to be collected and how it addresses the research questions.

### **Future research**

Although we learned much about the instructional coaching model and how to make it more effective for coaches and teachers, several questions were raised that we would like to explore. First, with respect to the pull model of coaching, providing teachers with the opportunity to identify their own instructional goal and to help in the planning process to achieve that goal is important. Teachers had immediate buy-in and were eager to try the new instructional practice. Also, because the goal was focused and measurable, the teachers saw evidence of progress fairly quickly, which further motivated them to address other class issues. For example, one teacher was concerned by her students lack of engagement, so she developed a plan to provide more explicit instructional about class expectations, to provide more attention and praise to students who were on task and she learned to ignore inappropriate behavior. Based on class observations by the coach, as well as video data, the teacher did change her behavior and almost all students were observed to be on task and engage with the first few minutes of class. However, the question that still remains - is there value in the push model of coaching? As discussed in one workshop with coaches, the push model may be helpful when first working with a teacher to help establish a relationship. Although rather than presenting one strategy, as in our first iteration, it might be better to present several evidence-based instructional practices from which the teacher may choose.

This leads to a second question, how does a coach develop a collaborative working-relationship or partnership with a teacher? Because our coaches' primarily recruited teachers they knew, relationships were already established.

Although Instructional Coaching is based on the premise that teachers volunteer to be coached, we know that this isn't true of all situations. For example, in some instances administrators request that a teacher receive coaching. Consequently, understanding how and effective teacher-coach relationships develops is important. To achieve a trusting relationship, all our coaches strongly stated that they, or any coach, must not be involved in teacher evaluation. Once a coach is expected to take on that role, all coaches agreed that teachers would become more cautious, take fewer risks, and, in some instance, lose trust in the coach.

The literature states that teachers must have strong content knowledge to be effective teachers (International Reading Association, 2006), but what role does content knowledge play in coaching? Thus, a third area of future research might address the following question: For coaches to be effective, how much content knowledge must coaches possess to support teachers in a particular discipline? That is, both teachers and coaches indicated that a trusting relationship was more important than content knowledge.

However, teachers did appreciate when coaches knew the content because it was easier for them to "talk the talk" and they could discuss concepts related to content in greater detail.

Coaches also recognized that they could provide insight and clarification about concepts when they knew the content; however, coaches worried that they were “taking over” coaching sessions when they had previously taught the content. In short, further research related to the role content knowledge plays in coaching.

Lastly, videos were an effective tool for both enhancing coaching and professional development of coaches. Using mini-camcorders are convenient because they are compact, easy to use, and videos can be downloaded quickly for immediate viewing. Asking teachers and coaches to identify strengths and weaknesses in their teaching or coaching provided the guidance needed to make the video both effective and manageable with respect to time. Nonetheless, more could be learned about the role video might play in coaching and professional development. For example, participants quickly grew accustomed to being videotaped, but it took longer to get used to seeing themselves on the videos. The emotional complexity of watching yourself on video and its discomfort may be important as real growth might involve some level of discomfort. On the other hand, the use of video reduced the feelings of being evaluated and helped both teachers and coaches focus on instructional practices, student participation, and learning. Also, based on the data collected, it appeared that teachers, and to some extent coaches, viewed the video less frequently over time. This may have occurred because viewing videos is still a time consuming process, even with guidance. However, because it is relatively easy to record, share, and archive recordings, it may be valuable to view several short clips collected over a period of time to look for patterns in instruction and student behavior and/or to determine how well a new instructional practice is sustained. Or, it might be beneficial to watch the same lesson multiple times. In short, further research is needed to understand how videos might be used to support more effectively to support teaching and learning.

Like teaching, coaching is a complex and dynamic process that takes hard work and is sometimes uncomfortable, but with self-reflection and persistence it is rewarding and important for improving teachers’ instructional practices and students’ learning opportunities in schools.

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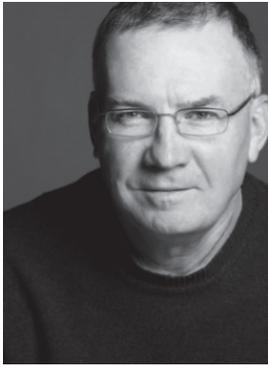
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