INTRODUCTION

The demands placed on teachers of every grade level today far exceed instructing students in basic skills and knowledge. From major policy documents in the US, academic publications and popular press, we read that teachers must prepare their students to make well-reasoned judgements about complex, open-ended problems (Goodnough, 2010; Kuhn, 2010; Lipman, 2003; National Governors Association Center for Best Practices and the Council of Chief State School Officers, 2010; Partnership for 21st Century Skills, 2012; Postman, 1995). The latest Common Core State Standards Initiative in the US, for example, places heavy emphasis on the development of students’ argumentation skills, explaining that students must learn to ‘think critically and deeply, assess the validity of their own thinking, and anticipate counterclaims in opposition to their own assertions’ (National Governors Association Centre for Best Practices and the Council of Chief State School Officers, 2010: 24).

These are commendable goals, and they require new approaches to instruction. Fortunately, there is now strong theory, as well as sufficient research, to inform us about pedagogically productive ways to support the development of students’ argumentation (e.g. Alexander, 2006; Lipman, 2003; Reznitskaya et al., 2009; Soter et al., 2008; Wegerif et al., 1999; Wells, 1999). In this chapter, we describe one approach to instruction – dialogic teaching – that capitalizes on the power of talk to further students’ thinking, understanding and problem solving (Alexander, 2006; Burbules, 1993; Mercer and Dawes, 2008). In dialogic teaching, teachers are aware of different patterns of classroom discourse and can strategically choose ways of organizing instruction to meet specific pedagogical goals.

This chapter describes the use of dialogic teaching in upper-elementary language arts classrooms in the US, with the goal of...
advancing teachers’ knowledge, skills, and disposition in argumentation and, ultimately, students’ argument literacy. Following Graff (2003), we define argument literacy as the ability to comprehend and formulate arguments through speaking, listening, reading and writing. When working on the goal of supporting the development of argument literacy, teachers use the discussions of assigned readings to engage students in a special kind of talk, called inquiry dialogue. During inquiry dialogue, students take part in discussions of complex, contestable questions raised by the texts they read. They are expected to take on responsibility for instructional functions traditionally reserved for the teacher, such as managing participation and evaluating answers.

Following Walton (1992), we distinguish inquiry dialogue from other dialogue types, such as negotiation or persuasion. For example, persuasion dialogue is focused on convincing someone to accept a given position, whereas inquiry dialogue is a collaborative attempt to reach a sound conclusion (Walton and Macagno, 2007). This difference in goals is important because it affects normative protocols (i.e. rules of what is considered appropriate in the dialogue), the standards used to evaluate the strength of proposed arguments, and the pedagogical approaches to teaching argumentation (Nussbaum and Ordene, 2011; Walton, 1992).

The use of inquiry dialogue requires practitioners to move away from the centuries-old role of ‘a sage on the stage’ and become skilful facilitators of a collaborative and rigorous intellectual engagement.

To invite students to articulate and explore their ideas ... is to require that teachers hear those ideas, diagnose their virtues and weaknesses, and incorporate them into the substance of instruction ... This is a new role for teachers whose practice has been defined by traditional goals and methods, and it comes with different and strenuous intellectual demands. (Hammer and Schifter, 2001: 442)

In fact, transitioning to this new role presents a serious challenge for new and experienced teachers (Alvermann and Hayes, 1989; Juzwik et al., 2012; Nguyen et al., 2007). For example, in a carefully planned study designed to improve classroom practices, researchers worked with practitioners for the period of six months, during which teachers took part in videotaped observations, reflection and planning conferences (Alvermann and Hayes, 1989). Regrettably, the authors concluded that teacher participants ‘exhibited a marked stability in their patterns of verbal exchanges’ and that the ‘attempts to modify teacher and students’ verbal exchange patterns were largely unsuccessful’ (Alvermann and Hayes, 1989: 331). The difficulties with improving classroom instruction are also evident from numerous studies that show typical teacher practices to be generally unaffected by new educational goals that emphasize students’ independent and critical thinking (Alexander, 2005; Nystrand et al., 2003; Smith et al., 2004). Instead of engaging students in argumentation about complex problems, teachers continue to dominate classroom discussions, avoid contestable issues, and require students ‘to report on someone else’s thinking rather than to think for themselves’ (Alexander, 2008: 93).

In this chapter, we discuss our recent efforts to address the disparity between the advocated pedagogical approaches and the reality of typical classroom practices. First, we explain key principles of dialogic teaching, relating them to the goals of our professional development programme. Second, we discuss previous attempts to change teachers’ discourse practices, situating our current project within the relevant literature on teacher learning and reviewing work on effective practices in professional development. Third, we describe a research programme designed to identify and evaluate instructional activities and materials that support teachers’ knowledge and use of dialogic teaching to promote argumentation. We conclude with a description of general principles for professional development in dialogic teaching.
DIALOGIC TEACHING

Dialogic teaching is a general approach to instruction that centres around strategic use of classroom talk to support student learning (Alexander, 2008). It is consistent with social-constructivist theory that views language as fundamental to thinking and learning (Mercer and Littleton, 2007; Vygotsky, 1968; Wells, 1999). According to this theory, talk helps us to develop and organize our thoughts, to reason, to plan and to reflect on our actions. Vygotsky (1968), who emphasized the primacy of language in thinking, wrote that ‘thought is not merely expressed in words; it comes into existence through them’ (Vygotsky, 1968: 218).

In addition, learning is seen as a process of internalization of cultural tools, or ways of acting and thinking (Mercer and Littleton, 2007; Vygotsky, 1968; Wells, 1999). Students need to encounter or use these tools to develop their mental capacities. Language is the ‘tool of tools’ that not only helps us formulate our thoughts, but also fundamentally transforms individual cognition (Cole and Wertsch, 1996). During productive class discussions, students develop their cognitive capacities, as they internalize language practices from a social, external, plane to an individual, internal plane (Vygotsky, 1978). For instance, a student who says something vague during a dialogue with peers will at first only recognize that vagueness when someone else in the classroom community pushes her for clarification. Eventually, the student anticipates this reaction from her peers and self-edits her ideas before communicating them to the group. What began as interpersonal interaction becomes an intrapersonal cognitive habit.

Using language to interact with others also offers unique opportunities for a ‘social mode of thinking’ or ‘interthinking’ (Mercer and Littleton, 2007). That is, exchanging ideas in a public forum gives students a means for combining their intellectual resources to collectively make sense of their experiences and to solve problems. In a dialogic setting, participants will spontaneously react to each other’s ideas, adding detail to given reasons, qualifying general statements, or finding flaws in each other’s arguments (Kennedy, 2013; Lipman et al., 1980). Thus, the multiplicity of voices in a dialogic discussion provides for a self-correcting mechanism that helps to improve the quality of argumentation.

It is important to note that, despite its name, dialogic teaching does not imply exclusive use of a dialogue in a classroom. Instead, it entails having a broad pedagogical repertoire of language patterns (Alexander, 2008; O’Connor and Michaels, 2007). Depending on specific instructional goals, teachers should be able to flexibly use different kinds of talk including recitation, exposition or discussion. At the same time, theory and research suggest that dialogic inquiry into complex questions is a type of classroom interaction that is well suited to support the development of higher-order thinking skills, such as argument literacy (Nystrand et al., 2003; Reznitskaya et al., 2009; Soter et al., 2008; Wegerif et al., 1999; Wells, 1999). Furthermore, it is now well-documented that discussions about contestable questions rarely happen in today’s classrooms across school subjects, age levels, and national borders (Alexander, 2008; Applebee et al., 2003; Nystrand et al., 2003; Smith et al., 2004). Thus, while recognizing the importance of flexible language use in a classroom, our professional development programme largely focuses on helping teachers learn how to make their interactions with students more dialogic.

The use of inquiry dialogue requires teachers, and eventually their students, to develop views of knowledge and knowing that are congruent with this type of classroom practice (Kuhn and Udell, 2003; Windschitl, 2002). Specifically, participation in inquiry dialogue relies on an underlying commitment to rational thinking as a mechanism for formulating better judgements. Models of epistemological development suggest that people progress from a simple view of knowledge as static and known by authorities to a more nuanced understanding of knowledge as socially
constructed through the use of reasoning (for review, see Hofer, 2001). Kuhn (1991) offers a useful classification of individual theories of knowledge, proposing three stages of development: absolutist, multiplist and evaluatist. Absolutists view knowledge as fixed, certain and existing independently of human cognition. Multiplists see knowledge as entirely subjective, denying the role of reason and expertise and considering all opinions to be equally valid. At the most advanced stage, evaluatists accept the subjective nature of knowledge, while also recognizing that we can engage in a rational evaluation of different viewpoints and, as a result, consider some judgments to be more reasonable than others.

Teachers who subscribe to an evaluatist epistemology are more likely to successfully use inquiry dialogue because they view knowledge as ‘the product of a continuing process of examination, comparison, evaluation, and judgment of different, sometimes competing, explanations and perspectives’ (Kuhn, 1991: 202). Supporting the important role of epistemology in teaching, research has shown that teachers’ epistemological beliefs are typically aligned with their instruction, influencing power relations and interactional patterns between teachers and students (e.g. Johnston et al., 2001; Richardson et al., 1991; Sinatra and Kardash, 2004; Stipek et al., 2001). Notably, the relationship between beliefs and practices is not simple, as subscribing to more sophisticated ideas about knowledge and knowing may not always translate into effective use of dialogue-based practices during instruction (Alvermann et al., 1990; Schraw and Olafson, 2002). This is why we designed our professional development programme to help practitioners integrate theoretical, epistemological and practical understandings.

To illustrate the use of inquiry dialogue and review its key features, let us consider a short excerpt from a discussion in a fifth-grade classroom. The teacher in this excerpt participated in our professional development programme in dialogic teaching for a period of seven months. The students had read an article entitled ‘Deadly Hits’ about a boy named Zack, who was paralysed after getting a concussion during a football game. Students are discussing a question, ‘Who is responsible for Zack’s injury?’

**Teacher:** So who would like to start us off this morning? Okay, Jerry.

**Jerry:** Well, I think the one responsible for Zack’s injury would be the coach, because he was the one who let Zack play when he shouldn’t, because he knew that he already had an injury.

**Andrew:** I disagree with Jerry because it actually said in the passage that Zack thought that his team needed help, so he decided to go in, ‘cause the coach wasn’t trained to find a concussion. So, he decided to go in on his own, without the coach telling him to. ‘Cause the coach wasn’t trained to see a concussion.

**Lily:** I agree with Andrew because … you wouldn’t let … If you know we got hurt and we insisted to go back into something like that, you would at least make sure that we’re okay. And I think Zack’s coach probably made sure that he was okay, so it’s not all of his fault. He as an adult should say ‘No, maybe you could go back in next time’. But it’s not only his fault.

**Teacher:** So wait, how is that agreeing with Andrew? ‘Cause Andrew says it’s not the coach’s fault, but you’re …

**Lily:** Yeah, I don’t think it’s the coach’s fault either.

**Teacher:** But you said, ‘As an adult he should know’. I’m just … I want you to just clarify.

**Lily:** Well okay, I agree with Andrew, like everything that he said, but it’s not complete … Okay, I just agree with Andrew, like what he said. … The coach didn’t say ‘Zack, get back in here’. Zack wanted to and he went in on his own.

**Kate:** I disagree with Jerry. I don’t find that it’s the coach’s fault because in the paragraph it says they, the coaches weren’t trained at that time to know what brain concussion looks like. ‘Cause brain concussions are invisible injuries, it says it in this story, so, I don’t find that it’s the coach’s fault and …
Jerry: But Zack was hurt …
Kate: Yeah, but he said he was all right, so how is the coach supposed to know?
Teacher: OK, so let’s let him respond to that. They challenged you, right? So now let’s let Jerry respond … We had a few challenges, so let’s let Jerry maybe respond to that challenge, and maybe, I don’t know …
Jerry: But if you see someone fall down very hard on their head and come back to the bench, saying that they’re alright, the coach should know that they’ve been in an injury, and the coach should not let them play.

The discussion is centred on an open-ended, contestable question that does not have a single right answer. During the discussion, the teacher largely releases control over the flow of discourse to the students. We see students asking questions, self-nominating, and evaluating each other’s answers. There are exchanges with consecutive student turns without teacher interruption. As students discuss their positions on the question of who is responsible for the injury, they provide elaborated explanations of reasoning behind their views and refer to story information for evidence. The teacher does not dominate the discussion, speaking less than the students. Her deliberately chosen questions serve to advance the inquiry further, as she asks students to clarify how their ideas connect with those of other group members (‘So, wait, how is that agreeing with Andrew?’) and encourages the discussion of an opposing perspective (‘They challenged you, right? So now let’s let Jerry respond’).

The excerpt above demonstrates the demands placed on teachers and students in a more dialogic classroom. During inquiry dialogue, students need to work on two major goals: (1) to collaborate with each other, and (2) to engage in rigorous argumentation. When students are not achieving these goals independently, the role of the teacher is to intervene, to model and support good reasoning. Teacher contributions during the discussion change from telling students what to think to helping them improve their thinking. In other words, teachers need to be ‘procedurally strong, but substantively self-effacing’ (Splitter and Sharp, 1996: 306). Instead of feeding students the right answers, they model and support effective use of talk to help students to co-reason together.

The focus on procedural teacher intervention used to improve student reasoning implies that practitioners need to understand the processes and criteria of quality argumentation (Hammer and Schifter, 2001; Splitter and Sharp, 1996). Moreover, teachers need to apply this understanding, reacting to student arguments as they are being developed – in real time – during the discussion. This is a challenging task that requires a sharp focus on discussion content, as well as the ability to track and analyse it:

It takes a thoughtful teacher to set up the environment, to identify, model and coach, not just its reasoning moves, but its group rules and practices, to help it stay on-track and focused, and to work to provide just enough structure – not more and not less – for its own inherent structure to emerge … The teacher must learn – through paying careful and thorough attention to what children are saying – to recognize (the) reasoning moves in everyday language, and to feed that recognition back to her students. (Kennedy, 2013: 4)

To conclude, dialogic teaching requires that practitioners develop knowledge and skills that differ significantly from those that prevail in more traditional classrooms. First, teacher pedagogical and epistemic views need to be consistent with socio-constructivist theories and evaluativist perspectives that underlie dialogue-intensive practices (Windschitl, 2002). Second, teachers have to develop an awareness of different kinds of talk and use language flexibly and strategically in relation to given pedagogical goals. Third, for the purpose of promoting students’ argument literacy through inquiry dialogue, teachers need to: (1) understand the processes and criteria of quality argumentation; (2) be able to recognize strengths and weakness in student reasoning; and (3) have a repertoire of moves to model and
support good reasoning. These are ambitious goals that entail a serious transformation in beliefs and practices of many practitioners (Alexander, 2008; Nystrand et al., 2003; Windschitl, 2002). In the next section, we review previous research on teacher education and professional development and identify features that potentially support teachers’ use of dialogue-intensive pedagogies.

CHANGING TEACHERS’ DISCOURSE PRACTICES

There have been numerous efforts to help teachers make the transition to more dialogic discourse practices (see Murphy et al., 2011) and a few concerted attempts to systematically study the professional development needed to support them in that process (e.g., Adler et al., 2004; Michaels et al., 2008; Saunders and Goldenberg, 1996). The days of traditional one-shot professional development workshops have passed as it is now well documented that they seldom produce substantial or sustained shifts in teachers’ practices (Cochran-Smith and Lytle, 1999; Englert and Tarrant, 1995). Indeed, there is an emerging consensus that effective professional development for teachers needs to, among other elements, be grounded in the daily lives of teachers, be intensive and sustained, involve the collective participation of teachers, and provide both conceptual and procedural knowledge about teaching and learning (Wei et al., 2009; Yoon et al., 2007). Dialogue-intensive pedagogies impose an additional order of complexity on teaching and learning, and the supports needed to help teachers make the transition to more dialogic practices are not so readily defined. In this section, we review the little that is known about professional development in dialogic teaching and related pedagogies.

We begin with the observation that engaging teachers in reflection on their discourse practices appears to be necessary but not sufficient for changing their practices. As noted previously, Alvermann and Hayes’s (1989) efforts to improve the discussion practices of five high school teachers proved largely unsuccessful. Despite engaging teachers in repeated cycles of videotaped observations, reflection on the videos, and planning conferences over a six-month period, teachers’ discourse practice remained essentially unchanged. In their conclusion, Alvermann and Hayes (1989: 333) noted that ‘merely asking teachers to reflect upon entrenched patterns of classroom discussion is obviously insufficient to change those patterns’.

Subsequent professional development efforts to modify teachers’ discourse practices have combined opportunities for reflection with more deliberate forms of co-inquiry into teachers’ practices. For example, Kucan (2007, 2009) asked 12 teachers in a Masters-level methods course in reading comprehension to record, transcribe and analyse excerpts of their own discussions and then engaged the teachers in analysis of the transcripts. The categories used to code teachers’ questions and responses, in conjunction with instruction in how to conduct discussion to foster students’ comprehension of text, provided the impetus for teachers to make improvements, albeit modest, in their discourse practices. In a similar fashion, Juzwik and colleagues (Heintz et al., 2010; Juzwik et al., 2012) prompted teacher candidates in a secondary English teacher preparation course to reflect on videos of their teaching to help them engage in more dialogically organized instruction. The videos were posted to an online social networking site to enable teacher candidates to comment on each other’s practices and to reflect on how they might implement the feedback they received from their peers and their instructors.

Others professional development efforts have sought to arm teachers with a repertoire of discursive moves to enhance their discourse practices. Beck et al. (1996) trained teachers to implement Questioning the Author (QtA), an approach to conducting text-based discussion in social studies and language
arts classes that focuses on having students grapple with what an author is trying to say to foster a more coherent understanding of the text. In QtA, the teacher poses Queries such as ‘What is the author trying to say?’, ‘What do you think the author means by that?’, or ‘How does that connect with what the author already told us?’ In later work, McKeown and Beck (2004) developed a set of ‘Accessibles’, one-page descriptions of pedagogical cases to support teachers’ implementation of QtA. Similarly, Michaels and O’Connor (in press) identified a set of talk moves to help teachers facilitate substantive and rigorous discussions (e.g. ‘Can you say more?’, ‘Why do you think that?’). These talk moves are conceptualized as tools to help teachers engage students in high-level thinking and reasoning. They provide the basis for professional development in Accountable Talk (Michaels et al., 2002, 2008), an approach to conducting academically productive discussions in various content areas (see also, Hillen and Hughes, 2008).

Still more ambitious attempts to change teachers’ discourse practices have incorporated reflection, co-inquiry and discursive moves within a more expansive teacher-learning context. These efforts seem to have yielded more sustained shifts in teachers’ discourse practices. Notable among these efforts are: Goldenberg and colleagues’ professional development work with primary-grade language arts teachers to help them conduct Instructional Conversations (Goldenberg, 1993; Goldenberg and Gallimore, 1991; Saunders and Goldenberg, 1996; Saunders et al., 1992); Adler et al.’s (2004) work with middle school teachers to foster more dialogic discussions in their language arts classrooms; and Hennessy et al.’s (2011) work with teachers in various grades and content areas to help them adopt a more dialogic pedagogy when using interactive whiteboards. What distinguishes these professional development efforts from others is that they adhered to many of the principles known to characterize effective professional development. For example, the professional development was firmly grounded in the realities of teachers’ daily work, took place over an extended period of time (in some cases, involving a weekly meeting over a year), and helped teachers acquire both conceptual and procedural knowledge of the pedagogy. Another distinguishing feature was that researchers offered opportunities for teachers to co-plan lessons in meetings. These lessons provided the basis for subsequent co-inquiry and reflection through analysis of videos or transcripts. Yet another feature was that the process of co-inquiry was itself dialogic. For example, in Goldenberg’s work, weekly meetings with teachers took on many of the qualities of Instructional Conversations; in Hennessy et al.’s work, the co-inquiry was dialogic inquiry (Wells, 1999) such that dialogue served as the central means by which teachers constructed their understanding of the new pedagogy.

In sum, research on professional development in dialogic pedagogy is relatively inchoate. Reflection on discourse through analysis of video and transcripts, teacher learning through a process of co-inquiry, and a focus on discursive moves to promote productive talk appear to be core features of most programmes. Providing opportunities for co-planning and using dialogic pedagogy as a vehicle for achieving professional development goals also seem to be important. These features helped to guide the design of our own professional development programme to support teachers’ knowledge and use of dialogic teaching to promote students’ argument literacy.

PROFESSIONAL DEVELOPMENT IN DIALOGIC TEACHING

Overview of a Dialogic Teaching Programme

We are currently working on a three-year project to design and evaluate a comprehensive professional development programme in
dialogic teaching. The project is being conducted largely as a design study (Collins et al., 2004), during which we work collaboratively with teachers to identify and organize instructional content and activities that support teachers’ use of dialogic teaching to promote argument literacy. Each year, we implement a version of the programme and collect data from teachers and students to assess programme effectiveness and inform its revisions. In other words, each year comprises a new iteration of the programme. At the time of writing, we are nearing the conclusion of the second year of the project.

Study participants came from school districts in two states in the US, Ohio and New Jersey. In Year 1, we worked with a total of ten Grade 5 teachers and their students (six in Ohio and four in New Jersey). In Year 2, 13 fifth-grade teachers participated at both sites (six in Ohio and seven in New Jersey). The teaching experience of participants ranged from two to 26 years.

First Year

The project in Year 1 was conducted in three stages: pre-testing, implementation of the professional development programme, and post-testing. During the pre-testing stage (September), we videotaped two discussions in each classroom to collect baseline information about typical teacher practices. We also interviewed teachers about their background and experience, as well as assessing their epistemological beliefs using the interview measure developed and validated by King and Kitchener (1994).

From October through May, we implemented our professional development programme. The programme included a variety of activities, such as study group meetings, focus group interviews and in-class coaching. All project activities were similar at both sites, but with some variations to test the viability and effects of different instructional approaches or sequences of approaches. During the post-testing period (May), we again interviewed teachers about their epistemological beliefs. We also piloted measures designed to assess students’ argument skills when speaking, reading, and writing to be used in subsequent years to evaluate programme effectiveness.

By the end of our first year, we had developed initial materials for the programme, such as PowerPoint slides, instructional activities, and videos for illustrating inquiry dialogue. We also collected data from multiple sources, including study group meetings, focus group interviews and coaching sessions. We conducted content analysis of the data to inform the revisions of the professional development programme for Year 2.

Second Year

In Year 2, the study was structured using the same three stages as in Year 1. The pre- and post-testing stages were identical to Year 1. However, stage two – the implementation of the professional development programme – was revised based on the data collected and analysed in Year 1. In Year 2, project activities were similar at both sites, with variation in materials and programme delivery methods only to accommodate specific needs of teachers at the two sites. The activities in Year 2 consisted of: (1) a two-day workshop; (2) eight study group meetings, including three focus-group interviews; and (3) six individual coaching sessions.

The programme in Year 2 began in October, with a two-day workshop on dialogic teaching, lasting approximately 12 hours in total. There was a short, one- to two-week interval between Day 1 and Day 2. After the first day of the workshop, we asked teachers to conduct inquiry dialogue with their students before the next meeting, and at least once per month through the rest of the academic year. The teachers conducted the discussions during language arts lessons, and we videotaped their discussions.

Following the two-day workshop, we met with teachers every two weeks in
November and December in teacher study groups. Starting in January, study group meetings were conducted once per month. Study groups lasted about two hours, totaling approximately 14 hours per year. During these study-group meetings, participants engaged in mini-lessons, collaboratively analysed transcripts and videos of classroom discussions, and took part in activities on topics related to dialogic teaching, inquiry dialogue and argumentation. Teachers also read and discussed several short digests that we wrote on these topics.

In addition to taking part in workshops and study groups, teachers received individual coaching in how to conduct discussions to promote argumentation. During these sessions, teachers viewed and critiqued their own classroom interactions with the help of an experienced discourse coach, who supported the teachers’ on-going development and reflection. They also rated the quality of their discussion using a carefully researched observational rating scale. Another coaching activity was a demonstration of inquiry dialogue with fifth-grade students conducted by the discourse coach in the teachers’ own classrooms. Each teacher participated in six coaching sessions, lasting about 30–40 minutes each.

Finally, during study group meetings in November, February and May, we conducted focus-group interviews with teacher participants. The purpose of these focus-group interviews was to identify what teachers found valuable (or not) in learning about dialogic teaching and argumentation. All workshops, study group meetings, focus-group interviews and coaching sessions were audio-recorded, transcribed, and analysed to inform revisions of the professional development programme.

Examples of Instructional Activities for Teachers

By the end of Year 2, we had identified key instructional priorities and related activities of the professional development programme in dialogic teaching. Consistent with previous research on the classroom talk and related professional development efforts (Alexander, 2005; Alvermann et al., 1990; Mehan, 1998; Nystrand et al., 2003; Smith et al., 2004), our teachers needed considerable support with learning how to effectively facilitate inquiry dialogue in their classrooms. This is why the majority of instructional time in our programme was spent on helping teachers acquire the necessary skills and knowledge to become effective facilitators of inquiry dialogue. When designing the programme, we chose instructional activities that were themselves aligned with dialogic teaching and, more generally, with evaluativist epistemological perspectives and social-constructivist theories of learning. This was done in order to help teachers experience, and eventually adopt, classroom practices consistent with contemporary theories of knowledge construction.

An example of an instructional activity we used during our study-group meetings was debriefing. During this activity, teachers discuss the successes and challenges they have experienced with implementing inquiry dialogue in their classrooms. This created opportunities for collegial support, promoted teacher engagement, and allowed sharing of effective classroom practices among teachers. Thus, teachers were learning about dialogic teaching ‘through social interaction around problems of practice’ (Elmore, 2002: 17), a feature of professional development that is consistent with our approach to instruction and that supports teacher use of new instructional methods (Elmore, 2002; Wei et al., 2009).

Another effective practice that emerged in our professional development programme was co-planning. During co-planning, teachers collaboratively constructed an entire unit around a text to be read by their students (i.e. the ‘Deadly Hits’ article cited earlier). Teachers identified key topics or themes in the text and turned them into contestable questions to be used during
inquiry dialogue (e.g. ‘Who is responsible for Zack’s injury?’). Next, teachers participated in inquiry dialogue, led by an expert facilitator. Being participants in the inquiry dialogue allowed teachers to explore central themes in a given student text on a deeper level, thus becoming more prepared to discuss the same text with their students. In addition, it enabled teachers to experience the rewards and demands of examining complex questions in a collaborative and structured environment, where each member was accountable for helping the group to reach the most reasonable judgment. As they engaged in inquiry dialogue, teachers adopted new roles and participation structures, and experimented with new discourse practices. Teachers also observed and reflected on the facilitation of the inquiry dialogue modelled by an expert.

In addition to participating in inquiry dialogue during co-planning, teachers collaboratively worked on designing pre-discussion and post-discussion activities around a given text. Pre-discussion activities were used to promote students’ cognitive and affective engagement with the text. For example, before gathering for a discussion, students took notes about their reactions using post-it notes or selectively highlighted ideas in the text that resonated with them. On the other hand, the goal of post-discussion activities was to help students transfer the argument skills and dispositions learned in the group to their individual efforts in speaking, hearing, reading and writing arguments. For example, during a post-discussion activity students wrote a letter to a relevant party (e.g. the protagonist in a story) explaining their group’s position on the issue.

As noted earlier, although dialogic teaching is centred on inquiry dialogue, it requires that teachers flexibly use multiple teaching strategies to help students develop and transfer their argument literacy skills. From observation and teacher feedback, we learned that engaging teachers in debriefing and co-planning was useful for helping them to acquire procedural knowledge about dialogic teaching and to connect it to conceptual knowledge about the role of talk in learning. Co-planning also offered teachers a shared experience that they were able to take back to the classroom, thus grounding their learning in practice.

CONCLUSION

Informed by prior work in professional development and dialogic teaching, and our own ongoing study, we are developing a set of design principles to guide future iterations of our programme. The emerging principles include:

- Professional development in dialogic teaching should exemplify dialogic teaching. In particular, teachers should have multiple opportunities to engage in and be exposed to inquiry dialogue;
- Teachers should have multiple opportunities to reflect on their discourse practices through analysis of video and transcripts of discussions;
- Teachers’ use of discourse-moves to promote argumentation is contingent on the quality of student arguments and should be taught in the context of an analysis of argumentation;
- Instruction should be situated in authentic activity and proceed from whole to part (e.g. co-planning provides a context for learning about pre- and post-discussion activities and orchestrating inquiry dialogue; inquiry dialogue provides a context for learning about parts of an argument);
- Connections to standards and curricular content for which teachers are responsible should be readily apparent.

As we have indicated, making the transition from teacher-dominated classroom practice to a more dialogic pedagogy requires a substantial shift in teachers’ beliefs about knowledge construction and about the role of talk in learning. Research on professional development in dialogic pedagogy is not well developed, and it remains to be seen whether our current instantiation of these design principles is sufficient to support teachers in making the transition to dialogic teaching.
teaching to promote argument literacy. Our analyses of videotaped discussions at the beginning and end of each year of our study suggest that teachers made substantial improvements in their facilitation of inquiry dialogue and in the quality of students’ argumentation. Although our initial results are promising, considerable research remains to be done to identify and test innovative strategies to help practitioners learn about the theoretical, epistemological and procedural knowledge needed to successfully implement dialogic teaching in classroom settings.

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