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Introduction: Talk, Learning, and Teaching

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Introduction: Talk, Learning, and Teaching

In September 2011, the American Educational Research Association sponsored a research conference in Pittsburgh that brought together leading scholars from across the world in education, learning sciences, cognitive psychology, educational psychology, linguistics, and computer science. During the previous two years, we had communicated with scholars from many countries who we knew were interested in the roles of discussion and social interaction in school learning. We asked them to send us any data they had (even if it was still unpublished) on the effects of carefully orchestrated discussions on student learning. We also asked them to suggest other scholars to whom we might write.

The responses were startling. The data included evidence that students who had experienced this kind of structured dialogic teaching *performed better* on standardized tests (i.e., tests that the investigators did not control) than similar students who did not have discussion experience. The data also showed that some students *retained* their learned knowledge for two or three years. More surprising, in some cases students even *transferred* their academic advantage to a different domain (e.g., from science instruction to an English literature exam). These results were not found every time teachers tried to use dialogic methods in teaching traditional subject matter. But they occurred with enough frequency, and in enough of a variety of countries and school environments, that we began to think we had "happened upon" a powerful new way of organizing school learning. We saw the potential for providing educators with reliable tools for more equitable ways of teaching and students with transferable skills and knowledge.

Of course, we (and the scholars and educators who sent us their work) had not just "happened to" think of classroom talk as a way of expanding educational achievement and

opportunity. All of us were responding to a changing landscape of education practice and social theory that had been developing for more than a century.

Over the course of the 20th century, and continuing into the present, virtually every nation in the world has expanded its educational aspirations. Who went to school, what they learned, and what they could do with their knowledge beyond the classroom became a central concern. *More* children now go to school, and for longer periods, than at any time in the past. They are expected to acquire *more complex* knowledge along with skills for using that knowledge. Such learning is believed to both create personal opportunity and contribute to society. As the population of schools has changed, and the needs of democratic societies have become more evident, educators and others have voiced an active concern about equity, both in participation and in the outcomes of schooling. The demand to teach a greater body of knowledge to more students has led educators to experiment with new ways of organizing schools and teaching within them.

All of this has occurred against a backdrop of major changes in the social, cognitive, and learning science disciplines that form the basis for educational research.

- The idea that knowledge and skills are "nothing more than" collections of multiple "bits" of information—a view that predominated in learning and cognitive psychology for decades—is now giving way to complex (and widely debated) theories of how the bits of information are organized and used.
- Even scholars who work within "classical" cognitive theory, with a focus on individual competence and performance, have recognized that *social processes* and *social expectations* provide frameworks within which individuals learn (Koedinger, Corbett, & Perfetti, 2012).

- It is now understood that knowledge develops and is constructed through social interaction, including debates and disagreements in various disciplines (Dewey, 1916; Mead, 1967; Vygotsky, 1962, 1978; Bakhtin, 1981; Doise, Mugny, & Perret-Clermont, 1975; Resnick, Levine, & Teasley, 1991), although we still do not know exactly what kinds of exchanges are most effective.
- We understand language and linguistic competence in new ways, including differences in privileges for speaking (Bordieu, 1991; Gee, 1989) and styles of language (Heath, 1983). We know that multiple linguistic forms can be used to express intended meaning and complex ideas, to coordinate actions (Resnick, Levine, and Teasley, 1991; Resnick, Saljo, & Pontecorvo, 1997), and to mark one's "belonging" to certain social groups.
- The concept of *culture* has become a major element of educational and social research. Researchers examine how schools adapt (often negatively, occasionally positively) to cultural differences among students. Ladson-Billings, among others, has shown that these concerns can be positively addressed within a high-demand intellectual environment (2009).
- The social design of classrooms has been shown to influence students' achievement and their retention of knowledge (Dweck, 2006; Steele, 1997).

In response to these theoretical shifts, new theories of instruction have arisen. Rather than just having students memorize and recite material presented by the teacher or by a written text, many kinds of *discussion-based* teaching methods have been proposed, and a few have been implemented and studied.

With these developments as background, we came together in Pittsburgh to talk about talk—specifically, the role of *academic dialogue* in learning. Working from different theoretical perspectives and research traditions, the scholars who attended the conference have generated new inquiries and approaches to the study of talk, and produced some surprisingly powerful evidence. However, given the differences in our methods of study, it has been difficult to cumulate the knowledge, identify disagreements, and design research and practice efforts that have a good chance of succeeding. Prior to the Pittsburgh meeting, the work took the form of "islands of evidence," unconnected to a whole. We organized the conference as a working meeting to interrogate the boundaries of our respective islands. Its primary goal was to place these varied bodies of research and evidence in conversation with one another. In this volume, we attempt to capture some of the excitement of the Pittsburgh conference, and to indicate possible directions for continuing research.

The conference was not just an academic undertaking, however. The collection of scholarship offered here has an embedded social mission. This book offers evidence that certain kinds of structured discussions can produce enduring learning, and that under the right conditions virtually every student can participate. The kind of classroom talk that our authors investigated accepts students' emergent ideas regardless of whether or not they are framed in "proper" speech—no grammar or vocabulary test is required to participate. In this sense, dialogic teaching has the power to break the cycle of low demand/low performance too often experienced by children from disadvantaged socio-economic backgrounds, children who are ethnic minorities, and/or those who are not fluent in the dominant language. All students are invited into discussions that allow all (respectful) forms of expression. This form of talk increases cognitive demand, and hence learning opportunities. Students do not just chatter. They must

defend their statements—for example, by referring to a text, demonstrating a mathematical proof, or citing scientific evidence. In short, students must make a claim on truth.

Overview of the Volume

This volume assembles the edited papers, and some of the discussion, that emerged from the conference. We bring together a wide range of bodies of scholarship on dialogue, and its disparate nature is reflected in the use of terminology. Authors use "dialogue," "dialogic pedagogy," "dialogic teaching," "accountable talk," "deliberation," and "argumentation," but all share basic assumptions. For the authors, talk is a privileged form of learning. This kind of talk begins with students thinking out loud about a domain concept: noticing something about a problem, puzzling through a surprising finding, or articulating, explaining, and reflecting upon their own reasoning. Students do not simply report facts they already know for the teacher to evaluate. Instead, with teacher guidance, they make public their half-formed ideas, questions, and nascent explanations. Other students take up their classmates' statements: challenging or clarifying a claim, adding their own questions, reasoning about a proposed solution, or offering a counter claim or an alternate explanation. This form of talk is orchestrated by a teacher. It may be conducted in whole groups, smaller collaborative groups, or with pairs of students. The key component is the learning power generated by two or more minds working on the same problem together.

Following a prologue that invites readers into one of the earliest systematic studies of classroom talk, we offer five sets of chapters. Each part examines questions participants considered at the Pittsburgh meeting, and questions that emerged in light of the discussion. Two commentary chapters at the end reflect on the themes and data presented throughout the book

and suggest directions that continuing research and practical development efforts might fruitfully explore.

Part 1 examines the evidence on learning through structured discussion. Part 2 examines the nature of productive talk across a range of learning settings (informal and formal). Part 3 considers dialogue in computer-mediated environments. Part 4 considers theoretical explanations that can account for the effects of discussion-based instruction, and methodological approaches to examining classroom talk in the age of "big data." Part 5 examines how such instruction might be brought to scale through teacher professional development. Finally, a concluding *Epilogue* contains two chapters that reflect on the range of issues that have been considered and suggest some profitable next efforts for the field.

Prologue: Problematizing Classroom Talk

We open the volume with a prologue in which authors Hugh "Bud" Mehan and Courtney Cazden reflect on their seminal study that set this field in motion nearly forty years ago, and relate it to present research. Cazden, on a sabbatical from Harvard University, returned to the classroom for a year to teach an elementary school class. Mehan, a sociologist equipped with the new tools of microsociology and ethnomethodology, studied her practice. The result was pioneering research that described a basic structure of classroom life: the teacher initiated (I) talk, often by posing factual questions; students responded (R) briefly; and the teacher evaluated (E) the response before moving on to a new question.

Mehan and Cazden also documented classroom discourse beyond the three-turn IRE exchange for the first time. Traditional information, such as arithmetic, was taught mainly through IRE recitation, but Cazden found she could open a new conversational space during social studies lessons in which she asked students questions about their families—questions to

which she did not know the answers. With this shift in authority, she saw the classroom come to life as a "social" place. Many of the later chapters in this volume can be thought of as explorations of the ways in which Cazden's methods of "opening conversation" can also be used to teach the core content of the school curriculum.

Part 1: Effects of Dialogic Participation in and Beyond the Classroom

The assembled papers making up Part 1 document student growth in the ability to participate in academic discussions; students' mastery of traditional subject matter knowledge in the core domains of mathematics, science, and language arts; and their ability to apply learning in other domains (transfer). The chapters in this section can be read in any order. We have grouped them, somewhat arbitrarily, by research field and school subject matter, beginning with reading literary texts (Chapters 3, 4, and 5), moving on to developing skills of reasoned argumentation (Chapters 5 and 6), to philosophy (Chapter 8), and ending with mathematics and science (Chapters 7, 9, and 10). Taken together, these chapters show that dialogic forms of teaching can significantly raise student achievement—on traditional tests and examinations that educators have relied on for decades—in virtually every school subject. Several of the chapters show strong *retention* of knowledge over the years, along with *transfer* to other school disciplines.

In Chapter 3, Ian Wilkinson, Karen Murphy, and Sevda Binici discuss the extensive research literature on discussion-based teaching of reading comprehension. They review what is known about the major approaches for conducting discussions about text and show that structured book discussion can produce important reading comprehension gains. They also point out that only a few controlled studies have looked at whether discussion fosters general comprehension abilities, that is, whether these abilities transfer as individuals engage with new

texts and novel tasks. Even though more controlled research on transfer is needed, the authors' review of the best evidence available suggests that students may indeed be learning general text interpretation skills and perhaps developing enthusiasm for engaging with complex written material. In other words, they appear to be learning how to build interpretations—not just acquiring knowledge of specific texts or vocabularies.

The following two chapters are written by authors whose reading programs are included in Wilkinson and colleagues' list of programs that have documented effects on reading competence. Margaret McKeown and Isabel Beck (Chapter 4) provide a detailed account of how their *Questioning the Author* program guides elementary school learners through an imagined conversation in which they press the author to explain why his or her text used particular words, phrases, and text structures. As the chapter title suggests, comprehending a text is viewed as an interactive process, one in which both author and readers have a voice.

In several important studies, Richard Anderson and his colleagues have documented growth in reading comprehension test scores and argumentative reasoning as a function of the semi-structured classroom discussion of children's stories (e.g., Reznitskaya et al., 2009). In Chapter 5, Jingjing Sun, Anderson, Tzu-Jung Lin, and Joshua Morris attempt to open the "black box" of learning and development that occurred across a successive series of group discussion activities. Adopting a micro-genetic approach, they carefully trace the emergence of elementary school students' learning to lead discussions and learning to apply analogic reasoning in peer dialogue.

Deanna Kuhn and Nicole Zillmer (Chapter 6) show a similar trajectory of growth in the ability of middle school students to engage in reasoned discussion as a result of participating in student-led discussions twice weekly over three years. Chapters 5 and 6 might be described as

accounts of programs in which students are placed in small groups and "let loose" to develop reasoning skills by arguing with one other. However, a careful reading of each will show that the sequence of texts and topics for discussion, together with some "ground rules" introduced and monitored by adults, are crucial for the development of student skills.

Noreen Webb, Megan Franke, Angela Turrou, and Marsha Ing (Chapter 7) show how teacher modeling and carefully orchestrated teacher interventions are essential to children's learning elementary mathematics during group discussions. In particular, Webb et al. help to identify precisely the kind of teacher support that improves students' collaborative problem solving, and the kind of intervention that is less effective.

In the final three chapters of this section, we encounter evidence that students can learn more than "just what they are taught" when teacher-led discussion is carefully crafted. These chapters document what some have called the "holy grail" of education: *retention* of intellectual advantage over time, and *transfer* to disciplines and skill sets that were not directly taught.

Keith Topping and Steven Trickey (Chapter 8) show that one hour of discussion per week of texts developed to teach basic philosophical concepts to children led to superior performance on the Cognitive Abilities Test, a test that measures nonverbal and quantitative reasoning as well as verbal reasoning skills. Moreover, these advantages over a control group were retained two years after the experimental program ended, and after students had transferred from primary to secondary school.

Catherine O'Connor, Sarah Michaels, and Suzanne Chapin (Chapter 9) describe an intervention that included structured discussion in elementary and middle grade mathematics classrooms. Students in the intervention group, from families of very low socio-economic status,

performed at high levels on the state English Language Arts test as well as on the state mathematics test.

A skeptic might consider each of these smaller scale studies as statistical "flukes"—unlikely to be repeated at a scale of interest to education designers or policy makers. However, the work of Philip Adey and Michael Shayer (Chapter 10) over a thirty-year period shows that such findings can occur at a scale that scholars and educators cannot ignore. Adey and Shayer studied the effects of structured, teacher-led discussion of science and mathematics problems (mostly based on the interview protocols of Jean Piaget and his colleagues in Geneva) on long-term mental development. Their most impressive set of findings show that participants in the science discussions at 12 years of age outperformed control groups three years later not only on the science portion of the British national examinations, but also on the English and mathematics portions.

Part 2: Dialogic Classroom Cultures

The chapters in the second section take an in-depth look at several examples of academic dialogic instruction. The authors assume, in effect, that dialogic participation *can* produce cognitive gains (as shown in Part 1). They ask, "What does it look like?" and "How are academically productive discussions facilitated?", within and outside of the classroom. Making discussion and dialogue an integral part of learning in either type of setting poses pedagogical as well as epistemic challenges, many of which are addressed here. These chapters focus on the tension between the role of the teacher as a discussion leader and an authority in the classroom, between registers of knowledge and disciplinary-specific ways of "knowing," and on the nature of student autonomy and student "voice" within the classroom.

In Chapter 11, Michael Ford and Ellice Forman show that most students think of science as a body of known facts, rather than a continuously evolving set of explanations. The authors use Bakhtin's concept of dialogic thinking to describe the process of creating scientific explanations—showing how scientists actively seek data and interpretations that challenge current scientific thinking. Ford and Forman show how a skillful teacher can gradually shape a community of discourse in which students learn to accept, even to search for, uncertainties that can ultimately be used to build authoritative scientific knowledge.

In Chapter 12, Baruch Schwarz takes us inside a learning environment that has rarely been observed directly by "outsiders"—the discussion of biblical and Talmudic texts by students in a traditional Jewish *yeshiva.* Following a tradition developed over many centuries, young men read and discuss texts, rabbinic commentaries from different time periods, and textual interpretations that have become the basis of written and oral law. In *yeshiva* debates, study partners develop and critique each other's interpretations according to standards of analysis and dialectical argumentation. Schwarz suggests that the rules of *yeshiva* partner study and those of scientific argumentation are surprisingly similar. He raises the question of whether *yeshiva*-style argumentation might be adopted fruitfully in science teaching.

In Chapter 13, Sherice Clarke shines a spotlight on *students'* views about participation in talk and their interpretations of classroom discussions. Based on observations and in-depth interviews, Clarke shows that for many students (especially those generally underserved by the education system), participation seems risky. In a troubling finding, she reports that many students remained silent (though not disruptive) for the entire observed six weeks of instruction in an urban high school. She raises questions about what non-participation means for student

achievement, and discusses the need for students' silence to be part of the research conversation about dialogic instruction.

In the final chapter of this set, Christine Pauli and Kurt Reusser (Chapter 14) discuss a large scale Swiss/German research study that focused on finding relationships among characteristics of classroom talk and student performance. They found that both the quality of classroom talk and the quality of the presentation of mathematical content independently predicted student performance gains (see Applebee, Langer, Nystrand, & Gamoran, 2003, for similar studies in English Language Arts). They also provide evidence that teaching using academically productive talk was limited to students who were already high achieving. In effect, the kind of teaching that this volume suggests can *produce* intelligence and academic competence tended to be available only to students who *already possessed* that competence—a form of "Matthew effect" in which "the rich get richer and the poor get poorer."

Part 3: Dialogue in the Digital Age

The chapters in Part 3 examine how academic discussion may shape (and be shaped by) the growing role of technology in education. Here, we include chapters that give us a taste of some of the variety in this booming new field of inquiry.

James Gee (Chapter 15) shows how computer-mediated games might provide a lens for interpreting classrooms that are trying to adopt dialogic methods. In the out-of-school, online interactions that Gee describes, participants shape and "enforce" common values concerning the content and processes they are engaged in. These shared views and skills, often absent in classrooms in which teachers begin to use dialogic practice, are essential to the game environment—and also, by implication, to the successful use of talk-based classroom pedagogies.

In formal education, students usually have little choice over what, how, when, and with whom they learn. In Chapter 16, Christa Asterhan reports on the use of computer mediation in classroom-located small group discussions. Asterhan draws a distinction between an "epistemic" function that computers can perform to manage joint knowledge construction and a "social" function that manages who speaks and how students respond to one another. Drawing on findings from communication and learning sciences research, she predicts that what constitutes "productive talk" and "productive teacher support" in computer-mediated environments may prove to be quite different from their face-to-face counterparts.

In Chapter 17, Gerry Stahl shows how the careful design of theory-driven, pedagogical software may create meaningful learning interactions between physically distributed learners. Stahl bases his argument on a series of studies with Virtual Math Teams, where school-aged children can choose to engage in after-school mathematics activities. He suggests that the same basic prerequisites for productive learning interactions are present in online collaborations as in face-to-face collaborations: co-attention, shared understanding, and group cognition.

Allan Collins and Barbara White (Chapter 18) conclude this section with a reflective discussion on the general implications for education of the continuing migration of human communication to digital media. They suggest that digital communication technology does seem to have the potential for making dialogue central to learning beyond face-to-face classroom talk. They also warn about pitfalls such as the danger of increasingly shallow communication. However, they argue that, somewhat paradoxically, digital communication opportunities can strengthen the central role that school and teachers play in socializing children to become reasoned speakers.

Part 4: Theoretical and Methodological Accounts of Learning and Development through Dialogue

Part 4 raises two questions. (1) What are the social and cognitive processes through which structured academic dialogue builds intellective competence? (2) How can we explain these effects? In the first section of Part 4, four scholars from different disciplinary backgrounds propose theories.

In Chapter 19, Anna Sfard takes up the first part of our challenge. She takes us on a conceptual journey through the arguments and claims made about the relationship between talk and learning, allowing us a kind of "meta-vantage" of the assumptions and ideas presented in this volume. She argues that thought is internalized dialogue, and self-dialogue is the means through which learning occurs. Participating in externalized dialogue, therefore, cannot magically make learning occur. The learner must also engage in an internal dialogue to make sense of talk.

James Greeno (Chapter 20) asks which of the processes that are engaged through dialogue support learning, retention, and possibly the transfer of knowledge in and across domains. As a psychologist drawing on sociolinguistics, he examines talk sequences and shows that they have an underlying cognitive structure. Sequences "frame" interaction, and thus they imply certain verbal responses. He argues that some sequences may be more productive than others, as they require students to engage in deeper cognitive processes.

In Chapter 21, Michelene Chi and Muhsin Menekse attempt to unpack the processes through which dialogue improves retention and understanding of academic content in peer interactions. They argue that gains from peer interaction depend on the extent to which partners engage in co-construction, a term that is often cited in the literature, but left unspecified. An operational definition of co-construction is proposed that distinguishes it from other, less

productive types of cognitive engagement. This allows for detailed and specific hypotheses to be formulated and (con-)tested empirically.

In Chapter 22, Ken Koedinger and Eliane Stampfer take on the challenge of explaining long-term improvement and far transfer effects, through the lens of cognitive science. They start with the argument that it is unlikely that a general faculty (such as "intelligence") improves through classroom dialogue. Instead, they believe improvements happen in specific components of skill or competence that are imitated, practiced, and refined through repeated classroom dialogue opportunities. They also argue that any serious, scientific attempt to explore these processes in depth requires extensive collection of data that tracks growth over time and across a variety of settings and tasks.

New developments in methodologies and designs allow at-scale research on dialogic classroom learning and instruction. Technological developments in data harvesting and machine learning offer further opportunities for research at scale. However, automated analyses of large data sets of dialogue come at a price. The remaining three chapters in this section deal with the affordances and tradeoffs between achieving an accurate understanding of the specific on the one hand, and the generalities that are obtained from large data sets on the other.

This tension is perhaps best formulated in the chapter by Carolyn Rosé and Alla Tovares (Chapter 23), who explore the conflict between the goals and methods of sociolinguistics, which aims to preserve complexity in the analysis of social interaction, and computational linguistics, which aims to find well defined, stable patterns in data. Rosé (a computational linguist) and Tovares (a sociolinguist) juxtapose the two approaches and show how they may complement each other. Both authors advocate investigating the nature of the social processes, and then letting these insights drive the search for meaningful patterns in data.

The quantitative study of the processes of dialogue involves multi-layered, nested data. To study these data at scale, new statistical methods are needed. In Chapter 24, Ming Ming Chiu shows how "Statistical Discourse Analysis" enables researchers to identify social and cognitive processes that unfold during dialogue. Chiu's method allows us to model the processes in talk and the ways in which they nest within larger social structures. His analysis also relates these processes to individual learning outcomes.

Richard Correnti, Mary Kay Stein, Margaret Smith, James Scherrer, Margaret McKeown, James Greeno, and Kevin Ashley (Chapter 25) argue that the systematic measurement of the quality of classroom discussions can also be used to increase the incidence of high quality classroom discussions by offering professional development opportunities. For example, teacher-tailored visualizations of classroom discussion features can support teachers' reflection on their practice. Thus methodological advancements in measurement have the potential to become powerful tools for teacher learning, as well as providing a means to track teacher improvement over time.

Part 5: Scaling Dialogic Practice through Teacher Development

The final set of chapters is about scaling *practice* as opposed to its measurement. Here we mean moving beyond individual "superstar" teachers to the widespread use of dialogic teaching in classrooms. We also mean moving beyond proof of concept studies and research methods rooted in detailed case studies (what could be called the "anthropology" of classroom talk), to larger samples of learners and teachers.

This section focuses on how we might make dialogic instruction a reality across contexts, for all populations of learners. All of these chapters acknowledge the complexity of orchestrating discussion when discussion by its nature is improvisational. How do we teach

teachers to pay attention to student ideas and how they relate to instructional goals, and keep the conversation moving in fruitful directions that support whole-class subject matter learning?

In the first chapter of this set, Robyn Gillies (Chapter 26) shows that professional development interventions can have a positive impact on dialogue quality and on students' subsequent learning outcomes. Her findings are particularly noteworthy because the intervention she studied was relatively short. Though the teachers were volunteers, they were not "star" teachers, as is often the case in descriptive studies of best practice.

By contrast, in Chapter 27 Sarah Michaels and Catherine O'Connor highlight the complexity and expertise necessary to orchestrate dialogic instruction effectively. Taking on the challenge of how we might scale dialogic instruction in all settings, with all students, the authors take us through the development of their research and training on *Accountable Talk* (Michaels et al., 2008). They suggest that professional development should support teachers in conceptualizing talk "moves" as tools, a repertoire of utterances that teachers can call on to address particular problems of practice in interaction.

Magdalene Lampert, Hala Ghousseini, and Heather Beasley offer a different, albeit complementary, perspective on professional development for pre-service mathematics teachers. In Chapter 28, Lampert and colleagues ask how we might help novice teachers develop dialogic pedagogy. As they conceptualize it, professional training should position emerging teachers as sense-makers about mathematics instruction in the same way that dialogic classroom instruction positions students as sense-makers about the subject matter under discussion.

In Chapter 29, Mary Kay Stein, Randi Engle, Elizabeth Hughes, and Margaret Smith offer a model of teacher development of dialogic instructional practices in mathematics, based on what they refer to as the *five practices for orchestrating productive mathematics discussions*. In

this chapter, they report on a case study of a cohort of graduate students engaged in learning how to notice and bring forward important student ideas.

In Chapter 30, Vivian Mihalakis, Anthony Petrosky, and Stephanie McConachie give us a bird's eye view of structured class discussions in English Language Arts, in which students interpret literature through a process of collaborative reasoning. The authors argue that such discussions must be carefully structured and coordinated. Planning lessons at this level provides a scaffold for teachers new to this way of teaching. At the same time, these lessons scaffold the development of students' disciplinary "habits of mind," and provide multiple entry points for students to negotiate access to discussions.

In Chapter 31, Jonathan Osborne reviews a body of work on teacher development efforts that aimed for transformational change. He outlines the difficulties of working with teachers who may not be initially committed to the values of dialogic teaching and learning. Osborne alerts us to the complexity of the required change, which may involve overall practice, ideology, and beliefs about teaching. He warns us not to expect fast uptake when we look for robust changes on a large scale.

Lindsay Clare Matsumura and Helen Garnier meet the challenge of scale head on. In Chapter 32, they report on an ambitious, district-wide professional development effort to embed dialogic pedagogy in reading instruction through a coaching program. Their data indicate that the quality of text discussions improved and student achievement rose significantly, including dramatic increases for English Language Learners. The authors also report on the systemic features that may have afforded some of these improvements, and others that may have constrained them.

Epilogue: Discussion Chapters

In Chapter 33, Robin Alexander offers both a commentary and a call to action. We find ourselves at a *new* crossroads and Alexander poses critical questions for us to consider. This volume brings together the evidence—distilled, convincing, and compelling—yet there is still a gap between the evidence and practice. He points to the role of policy, and the challenge of convincing decision-makers that talk is not "idle chatter in the class," but the means through which we can socialize intelligence.

Lauren Resnick reflects on how far scholars and practitioners have come in nearly half a century of studying talk as a means for learning, and considers how we might move forward from this point in Chapter 34. As this volume shows, the evidence indicates a tight interconnection between how we talk about things and how we come to know, learn, and teach. In other words, participation in discussion is a core act of learning. Resnick argues that we must acknowledge that fact—and see where it leads—when we treat this way of learning as a basic human right.

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