Supervisor–student teacher interactions: The role of conversational frames in developing a vision of ambitious teaching

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A R T I C L E   I N F O

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Teacher education
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A B S T R A C T

In the context of current mathematics and science education reform, teachers are challenged to develop a vision of ambitious instruction (NRC, 2001; Windschitl, Thompson, & Braaten, 2011). This exploratory study examined the discourse of student teacher supervision, focusing on how the conversational frames of supervisors and student teachers influenced the way that student teacher practice was discussed. Analysis of four transcripts of post-observation meetings revealed three conversational frame types that influenced the effectiveness of the interactions: Educative, Supportive, and Evaluative. Analysis of talk-in-interaction provided a lens to examine the ways that supervisor–student teacher interactions can create productive learning opportunities while also illuminating the challenges in doing this work. Findings also suggest that the interaction of frame type influenced the outcome of the conversation, indicating that supervisors and student teachers may be able to negotiate frame alignment, leading to an educative experience.

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1. Introduction

Recent calls for improvements in teacher education include increasing the time that prospective teachers spend in the field observing and teaching in real classrooms (U.S. Department of Education, 2009). However, simply placing prospective teachers in classrooms for more hours will not in and of itself improve student teachers’ preparation and practice (Valencia, Martin, Place, & Grossman, 2009). The challenge for teacher educators is to create experiences and interactions that help preservice teachers build a professional vision of ambitious teaching (Feiman-Nemser, 2001; Lampert, Beasley, Ghousseini, Kazemi, & Franke, 2010; Windschitl, Thompson, & Bratten, 2011). Professional vision (Goodwin, 1994) refers to the ability to notice features of a practice that are valued by a particular social group. Both pre-service and in-service teachers have a professional vision of teaching, informed by their apprenticeship of observation (Lortie, 1975) and cultivated through their induction years into teaching (Sherin, 2007). Ambitious mathematics and science teaching emphasizes a student-centered pedagogy that enables students to know and use mathematics and science knowledge, to reason mathematically and scientifically, to test models and provide evidence-based explanations, and to participate productively in mathematical and scientific practices and discourse (Fennema & Romberg, 1999; NAS, 1996; NCTM, 2000; NRC, 2001, 2007; Windschitl...
et al., 2011). Current mathematics and science education reform initiatives challenge pre- and in-service teachers to develop a vision of ambitious teaching.

Student teaching supervisors might be able to help pre-service teachers develop such a vision. Research over the last two decades reveals that supervisors can have an impact on student teachers’ practice by acting as support agents; by helping student teachers learn to implement a reform-oriented approach to instruction; and by helping student teachers come to understand their role as future teachers (Bates, Drits, & Ramirez, 2011; Ebby, 2000; Fryholm, 1996; Little, 1990; Mossgrove, 2006). However, little research has investigated the mechanisms through which this apprenticing takes place or whether supervisors can help shape an ambitious vision of teaching. In this exploratory study, we examined conversations between supervisors and student teachers. More specifically, we focused on how conversational frames, defined as structures of expectations, influenced the way participants introduced and discussed topics and how they negotiated talk to achieve their goals. In particular, we asked the following questions:

1. How do supervisors and student teachers shape and negotiate conversational frames as they discuss and interpret observations of classroom practice?
2. What is the influence of frame alignment or misalignment between supervisors and student teachers on post-observation interactions as they lead to the development of a vision of ambitious teaching?

We drew on research in three areas: (1) ambitious mathematics and science instruction, (2) student teacher supervision, and (3) language in use. One of the core components of ambitious teaching involves helping K-12 students develop the language practices necessary for working in the disciplines, a skill that is difficult for teachers to learn early in their careers (Webb et al., 2008). University supervisors are in a unique position to help pre-service teachers develop these language practices. Typically, a supervisor observes a student teacher teach, and after the observation, the supervisor and student teacher debrief the lesson, and the supervisor provides both verbal and written feedback to the student teacher. We conjecture that, through these conversations, supervisors can socialize student teachers into the discourse patterns of mathematics and science in ways envisioned by reform initiatives.

1.1. Vision of ambitious mathematics and science instruction

Reform-oriented mathematics and science classrooms look quite different from traditional classrooms (Heibert et al., 1997; Stigler & Heibert, 1999; Windschitl & Thompson, 2006). In reform-oriented classrooms, teacher focus is on helping students develop an understanding of content as a way of thinking and of communicating rather than as a set of procedures to follow or concepts to master (Walshaw & Anthony, 2008; Windschitl et al., 2011). In this model, teachers are responsible for creating and maintaining a classroom environment where students learn to communicate about and through mathematics or science language as they generate a shared understanding of the subject (Heibert et al., 1997; NRC, 2007; Windschitl, 2009). Reform-oriented mathematics teachers frequently ask questions, listen attentively to answers, and press for evidence as students work to construct mathematical knowledge jointly (Woodward & Irwin, 2005). They also model collaborative behavior; make conceptual connections; provide time to examine and explore ideas; and press for explanation and meaning (Fraivillig, Murphy, & Fuson, 1999; Hufferd-Ackles, Fuson, & Sherin, 2004; Kazemi & Franke, 2004; Stein, Grover, & Henningsen, 1996). Their instructional moves help students develop the knowledge and skills to participate productively in content-rich discourse.

Research on science teaching also reports similar findings, noting that meaningful learning is a product of sense-making discourse rather than accomplished through the transmission of knowledge from teacher to student (Mortimer & Scott, 2003). By probing students’ ideas, teachers can encourage students to make their reasoning explicit and available for discussion and reflection by the classroom community, resulting in both student and teacher learning (van Zee, Iwasyk, Kurose, Simpson, & Wild, 2001). Thus, student ideas become a resource for students, whose thinking is challenged and extended, and for teachers, who uncover both their own and their students’ conceptions and misunderstandings about the problem under discussion.

To achieve this vision, teachers must learn how to create and sustain both the discourse norms and classroom culture that allow for the productive flow of student ideas. Further, teachers should develop questioning strategies designed to gauge students’ progress in meeting targeted learning goals (Kazemi & Stipek, 2001). In many instances, however, teachers ask questions as a way of maintaining student engagement in an activity rather than as a way of moving student thinking forward through the problem (McCain & Cobb, 2001). Doyle and Carter (1984) found that when engagement is the underlying motive for questioning, teachers generally accept all answers rather than stop to discuss incorrect responses. Based on their review of the literature on the teacher’s role in classroom discourse, Walshaw and Anthony (2008) determined that a pedagogical approach that is able to move students’ thinking forward involves significantly more than developing a respectful, trusting, and nonthreatening climate for discussions and problem solving; it involves socializing students into a larger mathematical world that honors standards of reasoning and rules of practice. These fundamental differences between traditional and reform-oriented classrooms place challenging demands on future teachers who must appropriate and refine a new system of skills, knowledge, and language practices (Valencia et al., 2009). Appropriating these aspects of ambitious teaching is
difficult for student teachers, who often lack opportunities to experiment with these skills and then rarely receive meaningful feedback on their efforts (Grossman & McDonald, 2008).

1.2. Student teacher supervision

One of the central tasks of university supervisors is to observe student teachers on multiple occasions and to provide feedback on their classroom practice (Borko & Mayfield, 1995). There are a number of challenges inherent in the position, including inadequate preparation of supervisors; lack of communication with and support from the university faculty and staff; and the need to balance the multiple, often poorly defined, roles of mentor, evaluator, and manager (Borko & Mayfield, 1995; Slick, 1998; Steadman & Brown, 2011). Fayne (2007) describes the multifaceted nature of supervision: as mentors, supervisors are responsible for helping student teachers develop the behaviors, practices, and beliefs characteristic of ambitious teaching; as evaluators, they are responsible for determining the fitness of their student teachers; and as managers, they are responsible for working with cooperating teachers at the school site to oversee all aspects of the student teaching experience.

Historically, many supervisors have viewed their roles primarily as providing emotional and administrative support rather than providing constructive criticism through comments, explanations, and suggestions. For example, Borko and Mayfield (1995) found that supervisors focused on paperwork, lesson plans, and behavioral objectives rather than on more substantive aspects of teaching, including content and pedagogy. To increase the effectiveness of supervision, they proposed that supervisors “challenge student teachers” existing beliefs and practices” (p. 502) to identify their existing visions of teaching and to provide educational experiences that help student teachers develop a professional vision more in line with ambitious teaching. In fact, Blanton, Berenson, and Norwood (2001) found that when supervisors posed open-ended questions and pressed the student teachers to provide evidence for teaching decisions, it was possible for the supervisor to move beyond supportive and evaluative roles to challenge student teacher teaching beliefs. Additionally, Smagorinsky, Cook, Moore, Jackson, and Fry (2004) found that tensions could be productive in student teacher learning, arguing that student teachers who are never challenged may well face “an ideological meltdown” (p. 22) when moving to settings that invalidate their teaching beliefs.

Research has also found that even when supervisors do challenge student teachers, they often interact with student teachers in ways that mitigate their critical comments, leaving mistakes and misunderstandings unidentified or unaddressed. Vásquez (2004) identified the positive and negative politeness strategies used by supervisors to minimize social distance and facilitate smooth interactions. She found that while student teachers felt they received a great deal of positive feedback, they were concerned about the lack of constructive criticism provided by supervisors during the post-observation meetings. Because the supervisors’ critical comments were often indirect and attenuated, they failed to leave any lasting impression on the student teachers, making the interactions less effective in promoting student teacher learning.

1.3. Framing in conversational interactions

Analysis of the conversations between university supervisors and student teachers can provide insight into the ways that language and conversational style affect the nature and effectiveness of their interactions. The concept of framing is useful in understanding how conversational interactions can either build alignment or signal conflict between interactants (Gumperz, 1982; Johnstone, 2008; Tannen, 1993). In this study, frame refers to the structures of expectations that allow individuals to interpret situations, events, and people (Tannen, 1993). In conversation, speakers use signaling mechanisms, or contextualization cues, to indicate what they mean. These contextualization cues, which are linguistic (e.g., words, sentences) and paralinguistic (e.g., tone, gesture, facial expression), allow the listeners to imagine themselves to be in a particular kind of conversation, enabling them to assess what the speaker intends (Gordon, 2011). According to Gordon (2011), “contextualization cues are a means of collaboratively accomplishing framing in discourse” (p. 73), allowing interactants to set goals collaboratively.

When speakers engage in conversation with each other, their expectations either are met or are defeated (Johnstone, 2008). Common frames, or shared expectations, ensure a smooth conversation and can allow for the successful negotiation of tensions. However, when speakers operate under different frames, conversational conflicts can result, possibly leading to a breakdown in communication. According to Tannen (1993), the key aspect of frames is “what people are doing when they speak” (p. 19). While frames may guide how interactants approach a conversation, their frames may be adjusted as the interaction unfolds. Interactants who find that they need to accomplish an unforeseen task in the conversation may shift their frame and hence what they are doing in the course of the conversation.

As an approach to discourse analysis, a focus on language in use offers a means to understand the role that language plays in social relationships, to identify causes of miscommunication, and to develop strategies for improving communication (Gordon, 2011). Horn and Little (2010), for example, examined how talk among secondary teachers in professional development could provide learning opportunities for teachers and account for improvements in their teaching. To pursue this question, they examined conversations of two groups of teachers who participated in ongoing professional development. They looked at conversational structure and at linguistic and paralinguistic cues and found that different conversational routines resulted in different opportunities for teacher learning. Drawing on similar methods, a micro-analysis of supervisor-student teacher conversations could highlight the processes that permit the supervisor and student teacher to...
build and maintain their relationship and to assert and accept authority effectively and efficiently through the projection and negotiation of their conversational frames. This analysis could provide insight into the ways that different supervisor–student teacher interactions can have different consequences for learning.

2. The study

2.1. Setting and participants

In this study, we examined four supervisor–student teacher conversations that took place during post-observation meetings to explore one possible mechanism through which student teachers can develop a vision of ambitious teaching. These meetings occurred within the context of a large western university’s Single Subject Teacher Credential Program. The program is a full-time, three-quarter program for individuals seeking careers as secondary mathematics and science teachers. During the first quarter, the teacher candidates enrolled in courses and completed pre-student teaching fieldwork in public school classrooms. During the second and third quarters, they completed their student teaching assignments while still taking classes at the university. The university supervisors interacted with student teachers during these quarters.

Supervisors met with their assigned student teachers five times over the course of the student teaching assignment. Each student teacher was responsible for developing the lesson plan and for delivering the instruction during the observation. They forwarded their lesson plans to their supervisors in advance of the observation to provide them with context for the observations. The supervisors and their student teachers met immediately following the instruction to discuss the lesson. All of these meetings took place at the school site.

Two secondary mathematics and two secondary science supervisors participated in the study. All were hired by the university specifically to mentor student teachers during the fieldwork portion of their program. Two of the supervisors were retired teachers, each with over 20 years of teaching experience, and two had less than five years of teaching experience. See Table 1 for information on study participants.

The broader goals of the teacher credential program are to prepare student teachers to adopt ambitious teaching practices. The courses emphasize principles of teaching for understanding in the disciplines, developing discourse communities in the classroom, attending to the needs of diverse learners, designing instruction to develop content area literacy, and analyzing and reflecting on practice. In a half-day workshop, the credential program director introduced the supervisors to these goals and discussed the logistics of supervision, such as managing the supervisor–student teacher relationship and coordinating observations with the classroom mentor teacher. The group also discussed what they might look for when they conduct observations as well as how to provide useful feedback.

The supervisors used several different tools to take notes and to structure their conversations. Some used an open-ended form provided by the teacher education program. This form allowed them to use their own approach to organize their notes and to guide the meeting. Two supervisors used a highly structured form that they acquired through a research project with a local research organization. This form identified five particular areas for observation: Classroom Involvement by Students, Cognitive Level of Task, Level of Student Engagement, Tools Used in Classrooms, and Strategies Used by Teachers. The intent of the form was to reflect areas of ambitious pedagogy and to guide observers in measuring the extent to which teachers made progress in these areas. Finally, one supervisor supplemented these with a form she created to capture additional elements of teaching, including professionalism, lesson flow, classroom interactions, and management. She viewed these areas as being important for student teacher reflection.

2.2. Data collection

Data for this study included the audio recordings and transcripts of one post-observation meeting between each supervisor and student teacher pair. A member of the research team shadowed each supervisor, observing a lesson and taking field notes on classroom interactions. After the lesson, the researcher observed, took field notes on, and audio recorded the
supervisor–student teaching and interaction, as well as turn-taking, frames and cues. We used both the data from the transcripts and prior research on supervisor–student teacher interactions to identify frames from which participants might have been operating (Blanton et al., 2001; Borko & Mayfield, 1995; Fayne, 2007; Tannen, 1993). By frames, we mean the structures of expectations that each interactant uses to interpret conversational moves (Tannen, 1993). We conducted a detailed analysis of linguistic and paralinguistic cues of each conversational interaction (Gordon, 2011) (see Table 2). Linguistically, we looked at the use of repetition and evaluative language, as well as the topic and specificity of supervisor comments. When the speaker returned repeatedly to specific topics, we inferred that the speaker was not only indicating the importance of the topic, but was signaling an expectation for the nature of the conversational interaction. Additionally, when the speaker used evaluative language through the use of adjectives and adverbs, we characterized this as indicating a speaker’s attitude toward a particular event or instance (Tannen, 1993). Finally, we considered both topic and specificity of comments as indicators of supervisor professional vision of ambitious teaching (Ball & Cohen, 1999; Bates et al., 2011; Boaler & Humphreys, 2005; Windschitl et al., 2011). We also analyzed the content of participants’ talk to examine how comments, suggestions, and explanations shaped the nature and flow of the conversation. Paralinguistically, we investigated the ways in which speakers indicated uncertainty, indexed the nature of the interaction, mitigated impact, avoided challenging a speaker’s authority, or helped build rapport (Gordon, 2011; Gumperz, 1982; Johnstone, 2008; Tannen, 1993). From this analysis, we generated three frame types that characterized both supervisor and student teacher conversational expectations (Corbin & Strauss, 2007).

During the third phase, we focused on understanding the alignment of supervisors and student teacher frames. We reviewed the transcripts to identify the frames that both supervisors and student teachers adopted, the extent to which their frames were aligned, and the strategies they used to negotiate frame alignment. To do this, we examined the conversational moves of both the supervisor and the student teacher and the extent to which we perceived that their frames remained stable or shifted over the course of the conversation. We analyzed transitional pauses, overlapping speech, and jointly produced sentences to identify the ways in which conflicting frames were or were not brought into alignment. Through an analysis of turn-taking, we examined how participation structures related to shared expectations of patterns of turn-taking protocols for a particular situation (Bloom, Carter, Christian, Otto, & Shuart-Faris, 2004). For example, transitional pauses allowed listeners to become speakers, and overlapping speech offered interactants opportunities to make bids for the floor and to assert and accept authority. It is important to note that particular utterances took place in the context of a conversation. The utterance context, as well as rhythm, stress, and intonation, influenced both the hearer’s interpretation and our analysis.

### Table 2

<table>
<thead>
<tr>
<th>Type of cue</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linguistic cues</td>
<td></td>
</tr>
<tr>
<td>Repetition</td>
<td>Indicate a topic of importance</td>
</tr>
<tr>
<td>Evaluative language</td>
<td>Indicate attitude toward a particular event</td>
</tr>
<tr>
<td>Topic and specificity</td>
<td>Indicate professional vision of teaching</td>
</tr>
<tr>
<td>Overlapping speech</td>
<td>Build rapport, make bids for the floor, and assert or accept authority</td>
</tr>
<tr>
<td>Hedges</td>
<td>Mitigate the impact of an utterance, index uncertainty, avoid challenging a speaker’s authority, or build rapport</td>
</tr>
<tr>
<td>Paralinguistic cues</td>
<td></td>
</tr>
<tr>
<td>Pauses</td>
<td>Allow listeners to become speakers (transitional pauses), indicate thinking, index uncertainty</td>
</tr>
<tr>
<td>Prosody (rhythm, stress, intonation)</td>
<td>Reflect emotional state of speaker, index nature of interaction (question, command, etc.)</td>
</tr>
</tbody>
</table>

2.3. Data analysis

Data analysis consisted of three phases. First, the first author transcribed the recording from each meeting, and used Jefferson Notation to highlight both linguistic and paralinguistic cues in the transcripts (Atkinson & Heritage, 1999). Jefferson Notation allowed us to represent such features of an interaction as overlapping speech, pauses, and changes in intonation that influenced the messages that were given and received in the conversations. For our purposes, this notation revealed length of speaker pauses, how frequently speakers overlap in their talk, and the topic under discussion when speakers shift their intonation. From this, we could identify patterns and variations in participants’ interactions that may have reflected different goals for the conversation (Gumperz, 1982). See the Appendix A for the specific notation used.

During the second phase, we used both the data from the transcripts and prior research on supervisor–student teacher conversations that occurred during each meeting. These meetings ranged in length from 15 min to 28 min.

3. Results

In the following section, we first present the three frame types identified through the analysis of contextualization cues. Then, we examine each interaction separately, focusing on conversational frames and the ways in which frames were presented and negotiated over the course of each conversation. These sections consist of a close analysis of excerpts taken from the post-observation meeting transcripts that illustrate how we categorized an interaction of a particular frame type and how these frames shifted or remained stable over the course of the conversation.
Table 3
Educative, supportive, and evaluative frames.

<table>
<thead>
<tr>
<th>Frame</th>
<th>Example of supervisor comments</th>
<th>Cues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educative</td>
<td>“maybe just do sort of like a model of what they are going to do. ‘Okay, first you’re going to get your acid and you’re going to put it in this beaker…’ and you can sort of do it with them… because if they’re spending a lot of time on procedure that means they’ll have less time or less time for you to assist them understanding the concepts…”</td>
<td>Specific examples of practice; detailed examples and suggestions for improvement; focus on student learning; hedges to maintain rapport; emphasis on role of teacher in the learning</td>
</tr>
<tr>
<td>Supportive</td>
<td>“I understand, again, there’s parameters and, you know, there’s only so much you can do in certain situations.”</td>
<td>Focus on constraints of field experience; hedges to maintain rapport; supportive language; no suggestions for improvement</td>
</tr>
<tr>
<td>Evaluative</td>
<td>“I think you made very clear directions. That’s one of the things I see that you do more and more as we go along. Your directions are clear and there’s no confusion as I look around the room… so thank you for being really top-notch in that regard.”</td>
<td>Evaluative language; repetition to emphasize importance of issue; references to student teacher’s performance; no suggestions for improvement</td>
</tr>
</tbody>
</table>

3.1. Three frame types: Educative, Evaluative, and Supportive

Through our analysis of the transcripts and discussions, we identified three distinct types of conversational frames for the supervisor–preservice teacher interactions: Educative, Supportive, and Evaluative. Supervisors and student teachers with an Educative frame appeared to focus on helping the student teacher develop the knowledge, skills, beliefs, and dispositions to engage in ambitious instruction. These conversations were characterized by discussions in which the supervisors provided specific comments on student teacher practice, detailed explanations of their comments, and related suggestions for improvement; and student teachers described their teaching decisions, analyzed classroom interactions, and asked questions as they analyzed their teaching. Thus, an Educative frame opened a space for a productive conversation where student teacher learning was supported through the conversational interaction.

A Supportive frame was characterized by what appeared to be an expectation of emotional support. Supervisors with this frame carefully directed the conversation away from critical comments and probing questions, and student teachers addressed placement and policy challenges they encountered in their field experience. During this conversation, the supervisor worked to create a comfortable and nonthreatening space for the student teacher to manage the difficult emotional experience of student teaching. Though offering support is one important aspect of a supervisor’s role, this frame did not allow for the development of a vision of ambitious instruction. It is possible that the supervisors’ concern for providing emotional support limited their willingness to press the student teachers for deeper explanations that may have resulted in uncomfortable conversational tension.

An Evaluative frame was characterized by what appeared to be a focus on the fitness of the student teacher to teach. During these conversations, supervisors noted the quality of the student teachers’ practice, but gave few explanations of comments or suggestions for improvement. Any comments or suggestions that were given were more general in nature. The supervisor with an Evaluative frame provided the student teacher with an understanding of the quality of her teaching practice, but since he offered few suggestions or explanations, he provided the student teacher with little opportunity to explore and develop a vision of ambitious instruction. See Table 3 for participant frames and examples of comments associated with each frame type.

3.2. Frame alignment

To understand how frames informed supervisors’ and student teachers’ participation in discussions to achieve their conversational goals, we examined how the interactions unfolded over the course of the meetings. Through an analysis of conversational moves, we identified the extent to which participants’ frames were aligned and the ways that their frames interacted. We also considered these moves in light of the broader program goals of supporting pre-service teachers in developing a vision of ambitious teaching. Thus, we categorized outcomes of the frame interactions as Productive

Table 4
Outcome of conversation and frame orientation.

<table>
<thead>
<tr>
<th>Outcome of conversation</th>
<th>Frame orientation</th>
<th>Pre-service teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-productive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persistence in framing: misaligned frames</td>
<td>Neil: Evaluative</td>
<td>Kristin: Educative</td>
</tr>
<tr>
<td>Negotiating between frames</td>
<td>Angela:Primary – Educative; Secondary – Supportive</td>
<td>Lisa: Supportive</td>
</tr>
<tr>
<td>Persistence in framing: aligned frames</td>
<td>Amy: Supportive</td>
<td>Evelyn: Supportive</td>
</tr>
<tr>
<td>Productive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persistence in framing: aligned frames</td>
<td>Emily: Educative</td>
<td>Martha: Educative</td>
</tr>
</tbody>
</table>
and Non-productive with respect to this overarching goal for supervisor–student teacher interactions. Table 4 provides information on the outcome of each conversation and the orientation by participant.

We characterized one interaction as Productive. That is, both the supervisor and the student teacher brought an educative frame to the conversation, and it persisted throughout the conversation. We called this Persistence in Framing: Aligned Frames. The three other interactions were considered Non-productive, but they took on different forms. In one, both participants exhibited persistence in framing, but the supervisor and the student teacher had misaligned frames. In another, both participants exhibited persistence in framing and had aligned frames, similar to the Productive interaction, but their conversation was oriented around a non-educative outcome. Finally, in the third, we observed what we call Negotiating between Frames. In this interaction, the supervisor (Angela) and student teacher had misaligned frames, but throughout the conversation, the supervisor appeared to adopt a secondary frame to align with that of the student teacher. However, her primary frame that reflected her expectation of participating in an educative experience drove her overall participation. Thus, while we see an effort by one participant to achieve frame alignment, this goal is not achieved, leading us to characterize this conversation as non-productive. Importantly, analysis of the transcripts suggested that participants in each interaction exhibited multiple frame orientations to some extent. However, aside from this one supervisor, the participants appeared to maintain a stable set of expectations throughout their interactions.

Both frame type and frame alignment appeared to influence the productivity of the interaction. We characterized two conversations as having frame misalignment and two as having frame alignment. In misaligned conversations, the supervisor and the student teacher seemed to hold different expectations for the goals of the meeting. For example, during the interaction between Neil and Kristin, Neil appeared to have an Evaluative frame, frequently referencing the quality of Kristin’s teaching, while Kristin appeared to expect the conversation to be educative in nature, in some cases providing detailed explanations of and suggestions for her own practice. Both Neil and Kristin exhibited expectations for the meeting that seemed to remain stable throughout the conversation, resulting in a conversation that can be characterized as Persistence in Framing (Misaligned Frames). Their different, competing frames may have contributed to a Non-productive interaction.

While our analysis of the conversation between Angela and Lisa also indicated frame misalignment, there was evidence of Negotiation between Frames. Angela initially exhibited an Educative frame, offering both explanations of her comments and suggestions for improvement, while Lisa appeared to seek a supportive conversation, frequently turning the conversation toward a discussion of her student teaching placement. However, as the conversation progressed, and as she responded to Lisa’s expectation of support, Angela began to exhibit conversational moves that indicated a shift between an Educative frame and a Supportive frame. This may have been her attempt to move Lisa toward an Educative frame. Lisa’s frame, however, remained stable, limiting the possibility of an educative conversation. Thus, it is likely that the persistent frame misalignment that characterized this conversation led to a Non-productive interaction.

The interactions between Emily and Martha and Amy and Evelyn were characterized by features that indicated frame alignment, which we coded as Persistence in Framing (Aligned Frames). While in both interactions, the participants appeared to hold similar frames, the conversations had distinctly different goals for student teacher outcomes. In the interaction between Amy and Evelyn, the supervisor and the student teacher appeared to have aligned frames, but because they both seemed to expect the conversation to provide emotional support, there was little in the way of an educative interaction. Amy seldom challenged Evelyn to make her reasoning explicit, leading to a Non-productive conversation. Similarly, both Emily’s and Martha’s interaction exhibited similar features. However, their frames were categorized as Educative in that they both expected that the interaction should lead to student teacher learning. Because of their aligned, educative frames, the conversation seemed to be a Productive space for learning.

3.2.1. Non-productive: persisting frames (different frames)

Neil’s (supervisor) and Kristin’s (student teacher) post-observation conversation provided an example of frame misalignment. The following two excerpts illustrate how each participant had different expectations for their interaction, and an analysis of the conversation revealed the impact that the different but stable frames had on the conversational outcomes. Excerpt 1 provides evidence for Neil’s Evaluative frame and Kristin’s Educative frame.

Excerpt 1

84 S what would be your impression of the the gr- class today do you as far as were they engaged were there a a
85 ST um a bunch of kids that were absolutely tuned out not involved ah what would be your overall impression
86 S um I think that they were mostly engaged ah this group I noticed at least (.6) three of them (.) once they didn’t
87 ST get it they just stopped working (.) and
88 S like [student] you mean
89 ST yeah [student] and her friend over here =
90 S um hum
The excerpt begins with Neil asking Kristin a reflective question about the general topic of student engagement (lines 84–85: “what would be your impression of the class today as far as were they engaged . . . ”). His discussion of student engagement remained general in nature, with his comments related to broad observations of student behavior rather than specific instances of student learning. Thus, he never helped Kristin create connections between student engagement and student learning. Moreover, throughout the conversation, his conversation remained focused on issues of student engagement and teacher pedagogy, and he did not discuss the relationship between teaching, student learning, and content (Ball & Cohen, 1999).

In response to Neil’s initial prompt, Kristin provided specific and detailed evidence to support her claim that not all students were engaged in the lesson (lines 86–93: “I noticed at least three of them once they didn’t get it they just stopped working just started talking about other things” and lines 91–95: “Michael sitting right here just kind of drew his quadrant drew the points he knew and then just sat here like this waiting for me to come and give him some attention”). The long pause in line 86 is particularly important as evidence of Kristin’s Educative frame because it indicated that she was reviewing and thinking about student behavior as it was related to the lesson. By carefully reviewing the lesson, Kristin was able to provide specific and detailed evidence to support her claim about student engagement, and by identifying specific issues from practice, she appeared to be attempting to engage in an educative discussion of her practice. At this point, Neil could have engaged Kristin in a discussion by asking her questions about her observations or by pressing her for ideas on how to increase engagement, in effect opening an educative space in which they could work to examine student engagement with respect to ambitious instruction. Instead, Neil opted for a different type of conversation by choosing to list, in detail, his observations of student behavior (lines 96–116) and to correct her overall impression of some lack of engagement with his own assessment of student involvement (line 116: “contrary to what you might have felt they were doing some considerable work”). In this segment, when Kristin offered a critical critique of her practice, even citing specific evidence for her observations, Neil countered with statements that implied that her observations were incomplete and that her teaching was fine, possibly even signaling to Kristin that she was too hard on herself. Thus, the misalignment between frames led to an unproductive interaction, as Neil pursued a conversational path in which Kristin appeared reluctant to engage. While he provided Kristin with an evaluation of her teaching on that particular day, she seemed more focused on discussing her practice in a more educative manner.

As the conversation progressed, Neil’s Evaluative frame became more pronounced as he frequently and repeatedly used positive adjectives of evaluation and rarely highlighted critical issues of practice or asked probing questions about Kristin’s impressions of the lesson. In Excerpt 2, for instance, Neil uses specific language to evaluate Kristin’s teaching, providing evidence for the persistence of this frame.

In this exchange, Neil frequently and repeatedly used positive adjectives of evaluation (clear, clearly, top notch, powerful, very high level, incredibly good). At several points, he even thanked Kristin for aspects of her teaching (e.g., line 246: “so thank
you for being really top notch in that regard”). While frequently complimenting her abilities, Neil rarely provided Kristin with explanations for his comments or with suggestions for improving her teaching. Instead, he offered assessments of her teaching ability (e.g., line 258: “I thought that there was some very powerful pieces that you did during the warm up”). It is also important to note that Kristin continued to utter only softly spoken single word responses throughout this interaction, possibly indicating her lack of engagement in the conversation. This may be because Neil’s comments, while overwhelmingly positive, provided little to no input on how she might work to refine her practice.

3.2.2. Non-productive: persisting frames (same frames)

The conversation between Amy (supervisor) and Evelyn (student teacher) illustrates the impact of shared, but non-Educative, frames on the nature and flow of the conversation. In this interaction, both the supervisor’s and the student teacher’s utterances were coded as a Supportive frame, which provided Evelyn with the opportunity to manage the difficult experience of student teaching. However, as indicated by the segment of conversation in Excerpt 3, while emotional support is an important aspect of the supervisor’s role, by itself it does not allow for the development of a vision of ambitious instruction.
Excerpt 3

1 S we were discussing the the (.2) umm (.4) the way lesson was broken up so the first part (.2) you did
2 warm up and you had an agenda on the screen for them and they did ah revisited some (.1) materials
3 you’d done before (.1) and looking at the three theories of how life on earth originated (.2) okay (.2) and
4 then you use umm you gave them a few minutes while you went around and stamped the homework
5 ST um hum
6 S so this homework is like (.1) something that they already have printed out (.1) ahead of time (.1) or is that just
7 something you assign each day for=
8 ST yeah that was homework=
9 S that they assign from us that was assigned last class=
10 ST =that they should have (.1) done (.1) for homework
11 S okay all right (.2) right (.2) so you stamped that and then umm how will you check for
12 completion on that (.4) just you basically as you go around and stamp you’re just looking for completion
13 ST right right
14 S okay all right and then you used a random call method to choose students to give their answers that they’d
15 written for the umm (.4) ah three theories and hypotheses (.2) answered hydrothermal events and then >you asked
16 some other additional questions that the other students answered< and then Mark said meteorites=
17 ST um hum
18 S =and again (.2) you umm elaborated and asked some more questions (.2) and then Steven said ((laugh)) pa(h)ss
19 ST (((laugh))
20 S does Steven pass very often ((laugh))
21 ST no no it was I guess it was just that last hypothesis he (.1) wasn’t familiar with ((laugh))
22 S but Vicky volunteered to answer=
23 ST um hum
24 S =and she said that AH (.2) large bacteria (.1) is that what she said=
25 ST Yeah
26 S =found underneath the surface of the earth=
27 ST um hum
28 S =and then you elaborated on that as well (.2) okay and a few more students had some input there
29 ST um hum
30 S all right (.2) so then you told them to put the warm up away and all that took about (.2) um 15 minutes or so
31 ST um hum
32 S and I just had a question here ((throat clear)) (.2) in the question it says (.1) three theories and then I heard you
33 using the word hypotheses (.4) do they use them interchangeably or
34 ST mistake I didn’t um I should have replaced this theory with hypotheses yeah um hum yeah
35 S with hypotheses okay I was just curious
36 S oh you know what yeah I think that was my
37 ST
38 S

During this excerpt, Amy detailed the events of the lesson as they occurred, almost as if giving a play-by-play commentary, and provided Evelyn with specific details of her teaching moves. Amy’s narrative is punctuated by clarification questions (lines 13–14: “how will you check for completion [on the homework]?” and line 22: “does Steven pass very often?”), which served to build rapport and to provide a non-threatening way for the student teacher to explain her pedagogical choices. Particularly noticeable in this conversation is the way in which the supervisor and the student teacher used laughter as a rapport-building strategy (lines 20–23). In this instance, Amy asked about Steven passing when asked to give an answer. One interpretation of this exchange is that Amy wanted to understand if it was standard classroom practice to allow students to pass in responding. The laughter in this exchange served to mitigate the implied criticism contained in Amy’s question, but in doing so, it might have signaled to Evelyn that the question was unimportant. Thus, while Amy drew attention to this aspect of Evelyn’s practice, the laughter shifted the focus so that they did not explore the topic in more depth. Moreover, this conversation followed a typical IRE pattern—teacher Initiation, student Response, teacher Evaluation—with few probing or pressing questions (Mehan, 1979). For example, when Amy asked Evelyn if the students (and by extension, the student teacher) use the words “theory” and “hypothesis” interchangeably (lines 34–35), Evelyn responded that she made a simple editing mistake in her class materials. Though this is an important question, Amy begins the question with the hedge just, which serves to minimize the importance of the question. In addition, Amy continued to downplay the question by not probing more deeply to uncover what led to the mistake, by not offering an explanation regarding the important difference between the two concepts, and by not providing suggestions for rectifying the problem the next day. Instead, she ended the exchange with “okay I was just curious” (line 38), eliminating the possibility of conversational tension, thus allowing Evelyn an opportunity to feel more comfortable in the meeting and, more importantly, in her teaching.

This type of interaction occurred throughout the discussion. On several occasions in the conversation, Amy introduced several important issues that arose throughout the lesson. For example, one of the issues Amy raised was related to student
use of headphones to listen to music during class, while another was related to Evelyn's decision to address science versus religious beliefs in her lecture. In both interactions, Amy posed her question from a school or district policy perspective rather than an instructional perspective, which may have served to distance her from any implied criticism of Evelyn's practice. Moreover, throughout the conversation, Amy rarely challenged Evelyn to address the impact of her teaching decisions on student learning or to consider alternatives to her practice. Framing her questions in this way may have served to distance Amy from any implied criticism of Evelyn's practice. We hypothesize that she did so to avoid clashes that would diminish her ability to play a supportive role.

3.2.3. Non-productive: negotiating between frames

In another non-productive exchange, the supervisor (Angela) and student teacher (Lisa) appear to have different frames. In this case, though, one of the interactant's conversational moves seemed to be attempts to negotiate frame alignment throughout the conversation. The following excerpt occurs early in the conversation after Angela opened their discussion by addressing neutral administrative details (lines 1–55), possibly to make Lisa feel more comfortable. She began this segment of the conversation by first giving positive comments (lines 57–59: "...you did a good job...") before continuing with more critical comments, explanations, and suggestions.

Excerpt 4

56 S =always thinking academically () academic language () so that’s a really good tool for that (1) U::M and
57 then also a couple times when you were asking the kids questions you did a good job of having them
58 explain why () so you said () why is that () when um they were responding and then I really liked the I
59 closure with the sorting game, so that that was was really good () um () s:::o as for next time () so ()
60 think () okay () so let’s look at your () the [form] here and just see like what you see when you’re like
61 looking at that in terms of what’s going on
62 ST yeah () and I feel like () it’s kind of been different because these kids are used to taking no::tes=
63 S =um hum=
64 ST =well () technically () they are used to filling in their notes before ()
65 S class=
66 ST =and then coming to class and she kind of assumes that if they filled it in then they know it so we don’t
67 have to talk about it=
68 ST okay
69 um
70 ST =so I’m tr::ying to get them to taking notes in class versus just=
71 S okay
72 ST =how they did before but yeah I’m kind of bothered with the whole lesson note idea that they are just
73 listening () listening ()
74 S okay () when they get so when they before they were taking their notes at school () at home () then what
75 are they doing then in class () just like working through practice problems
76 ST I’m not really sure
77 S (or () okay)
78 ST I mean I watch so many days where they did kind of nothing that=
79 um
80 S okay
81 ST =I’m not sure completely sure () I know in general I like the idea of like some notes or then some idea
82 and then work it out on your own then back to the idea and work it out on your own but
83 S okay
84 ST it doesn’t seem like () and because () this today is such a review () that there really isn’t time for that=
85 S okay () s:::o
86 S BUT I DON’T REALLY LIKE=
87 ST okay ()
88 ST =either or all class listening
89 S SO WHAT DO YOU SEE WHEN YOU LOOK AT THIS
90 ST everybody r listening to me is about the only thing=
91 S Right
Evidence for Angela’s Educative frame can be found in the topics she introduced (lines 56–59: academic language, questioning skills, and lesson structure and lines 95–96: student-centered lesson and more student interaction), in the suggestions she provided (lines 96–106), and in the way that she pressed Lisa, repeatedly returning to the topic of student interaction (lines 60–61, 85, 89, 93–94, and 97–99). Her attempts to press Lisa about her classroom experiences indicated her expectation that the interaction be educative.

Lisa’s frame, however, did not seem to be aligned with Angela’s frame. Instead, Lisa’s moves appeared to be aimed at shifting the conversation away from instruction and toward support (lines 62–88). As the conversation progressed, Angela made conversational moves that served to align her frame with Lisa’s frame. This occurred throughout the conversation as she mitigated the impact of her utterances through both hedges and pauses (lines 59–60), possibly in an attempt to build rapport (lines 63–83). In contrast, Lisa showed little evidence of shifting frames and did not acknowledge Angela’s authority to offer constructive criticism and suggestions. For example, when asked to address the observation form, Lisa initially ignored (line 62) and then repeatedly deflected Angela’s question, instead discussing her struggle with the way her cooperating teacher typically teaches (lines 62–84) and questioning the appropriateness of the content for her middle school students (lines 109–119). After line 119, Angela moved to a new topic, possibly because Lisa had not yet shifted to a more Educative frame.

We can see further evidence of the difference in frames in conversational attempts by both Angela and Lisa to control the nature of the conversation. When Angela first attempted to draw the conversation back to focus on Lisa’s practice (Line 85: “okay so when you’re looking at...”), Lisa talked over Angela (line 88: BUT I DON’T REALLY LIKE THAT EITHER) to maintain control of the conversation. However, Angela used the same strategy to refocus Lisa’s attention on the topic under discussion (line 91: WHAT DO YOU SEE WHEN YOU LOOK AT THIS [pointing to the observation form]). As soon as Angela regained control of the conversation, she proceeded to offer constructive comments and to provide suggestions for increasing student interaction. However, possibly in an attempt to soften the emotional impact of her comments, Angela’s advice was often mitigated through her use of the hedges maybe, just, and kind of, which served to downplay the authoritative force of her comments and to minimize the importance of her recommendations. In effect, the use of these hedges provided Lisa with openings to deflect the conversation away from Angela’s more substantive comments.

While Angela’s conversational moves indicated that she was primarily focused on engaging Lisa in an educative interaction, she also made moves that mitigated the impact of her critical comments. In lines 57–61, her positive comments, used to build rapport, were given smoothly and with little hesitation, but in line 59, as she began to introduce critical comments, she hesitated over words in what may have been an attempt to search for the best way to initiate the difficult part of the conversation without shutting down the interaction. However, Angela’s pausing and hedging may have signaled uncertainty to Lisa, who responded by rerouting the conversation from the topic of increasing student interaction to a
discussion of her cooperating teacher (lines 62–88), further illustrating her Supportive frame. Thus, though Angela appeared
to negotiate between frames in an attempt to build an educative interaction, the conversation was not productive because
Lisa maintained her expectation of support.

3.2.4. Productive: frame alignment

We characterized the previous examples as non-productive conversations because the interactants did not have shared
Educative frames. However, if both interactants had expectations of an Educative interaction, then the conversation could
be productive. The conversation between Emily (supervisor) and Martha (student teacher) illustrates the impact of aligned,
stable frames on the nature and flow of a conversation. The following excerpts (5 and 6) illustrate both supervisor and
student teacher Educative frames and provide evidence for the ways in which these frames interacted over the course of
the conversation to produce an educative experience for Martha. Throughout the conversation, Emily provided detailed
feedback, elaborate explanations, and specific suggestions to Martha. In addition, Emily’s contextualization cues opened a
space for a productive interaction, allowing Martha to offer her own comments, explanations, and suggestions.

Excerpt 5

5    ST   >oh it’s in the lab that’s where it is< it’s here (.2) see we di:did all this yester:day
6    S    ((laugh))
7    ST   um hum um hum
8    S    s:::o (.2)
9    ST   you know (;) >and it is confusin<
10   S    yes, that’s see

11   ST   in fact was the
12   S    yes exact-exactly (.2) so if you were to if they were
13   ST   to AH work out this problem right here=
14   S    um hum
15   S    =and be able to (;) you know work it as if you were doing stoichio:metry=
16   ST   um hum
17   S    =they would be able to come up with ha ha well the reason why >you know< or the difference between normality
18   S    and molarity and you can sort of explain it to them=
19   ST   that makes sense
20   S    =conceptually what means cuz I think students are still (;) umm=
21   ST   yeah
22   S    =a little bit confused about the difference between normality and molarity (;)
23   S    yeah I think they are too so we did that (;) and it’s interesting
24   S    >and I understand why you are trying to do this I mean it’s a really
25   S    simple lab< which would “you know “<help them>=
26   ST   yeah
27   S    =but um as you move forward with more complex concepts I think it’s helpful to have that basic foundation
28   ST   yeah
29   S    yeah

Evidence for Emily’s Educative frame in Excerpt 5 can be found primarily in the specificity of the suggestions that she
provides (lines 12–13: “if they were to work out this problem right here”) and in the detail of the explanations that she gives
Martha (lines 27: “but as you move forward with more complex concepts I think it’s helpful to have that basic foundation”).
Early in the conversation, Emily established her authority by interrupting Martha (line 12) to introduce and elaborate on
the thematic point of this segment—the importance of helping students develop conceptual understanding, a topic that
repeats throughout the conversation. Emily again used this strategy a few lines later when she interrupted Martha to keep
the conversation focused on student learning (line 24). The conversational moves in this segment also provide evidence of
Martha’s Educative frame. For example, when Emily provided a suggestion for student work (lines 12–20), Martha interjected
with “that makes sense” (line 19), and when Emily stated that students appear to be confused about the difference between
normality and molarity (line 22), Martha agreed, stating, “yeah I think they are too” (line 23), indicating shared frames. This
is in contrast to Kristin, who offered only soft, single word responses as she removed herself from the conversation with
Neil, and Lisa, who deflected Angela’s feedback as she attempted to reroute the conversation.

Another example from their conversation (Excerpt 6) illustrates Emily’s and Martha’s shared Educative frame, as Emily
provided another detailed suggestion for helping students build conceptual understanding (lines 131–133: “...to visually
show them what they will be doing...”), and as Martha accepted her suggestion, using the same words as Emily (line 152:
“goes over a couple of times with them”).
Excerpt 6

131 S oh one more suggestion that I have is maybe to visually um show them what they will be doing during=
132 ST um hum okay
133 S =the-lab () so here I would draw >you know< even on the board or on your lab handout um (.2) you know
134 ST yeah
135 S =wh- what’s where’s the base where’s the acid=
136 ST um hum
137 S =right () and see here () also () you can even put the amount =
138 ST yeah
139 S =and the known () and the known amount=
140 ST yeah
141 S and you’re being asked for so that visually >they can sort of=
142 ST yeah
143 S =okay as I move through this activity when I do this this is exactly what I am doing=
144 ST um hum
145 S =right () and I think this would also help them to bridge this connection right here
146 ST yeah yeah
147 S as they are being asked to solve the unknown (1) okay
148 ST um hum
149 S u::m (.6) yeah I think they’re they’re still not clear on this (2) the purpose of the lab (1) um but
150 ST um hum
151 S > I mean that’s something you can easily go over them with them=
152 ST yeah goes over a couple of times with them
153 S um hum um hum

In this Excerpt, Emily used the discourse markers you know (line 133), right (line 145), and okay (line 147) as expressions of intersubjectivity that served to highlight an assumption of a shared reality, in the form of common frames, which both Emily and Martha used to establish and maintain a sense of common purpose. This shared reality thus serves to drive the conversation forward in a productive, educative direction.

Excerpt 7 underscores the importance of shared frames in negotiating the conversation and in easing conversational clashes. In general, aligned conversational frames contribute to an easier flow of a conversation, limiting the conversational clashes that occur. In this instance, however, there was disagreement over one of Emily's suggestions, a disagreement that could have easily led to a breakdown in the conversation. Instead, Emily's and Martha's aligned frames allowed for a more productive discussion.

Excerpt 7

156 S >one more thing that I thought may be to sort of um () minimize the time that is spent on the procedural stuff
157 ST um hum
158 S =of what they are gonna do () okay () >first you’re going to get you know your acid and you’re going to put
159 S this in this beaker and you can sort of do it with them=
160 ST um hum
161 S =model it with them and then you know you’re going to get your titration >and so on and so forth< and here’s
162 S how you’re gonna’ () you know um add the number of base into how your gonna’ mix the different solutions
163 ST you know your titration=
164 S and here’s how are you going to read it (1) so that when=
165 ST yeah
166 S =they get into their groups they probably spent more than half the time trying to get the things ready I mean
167 ST yeah of course
168 S explaining labs=
169 ST um hum
170 S =that students should I know that’s the college level but student should read the protocol and what you’re doing
171 S is you’re actually () u::m (1) discouraging them from reading (.2) that you you’re inadvertently=
172 S um hum
173 S =saying it doesn’t matter to me whether you read it or not because I’m going to explain
174 S yeah
175 S right right
176 S =every little bit to you< now that’s a college level but that was such an interest () I thought it was
177 S um hum
178 S =thing to do () (h) I had found a great YouTube () and um but that doesn’t mean that I shouldn’t do it=
179 S ((laugh)) yeah
In lines 157–167, Emily provided a detailed suggestion for minimizing the time spent on laboratory procedures, but her use of the discourse markers you know (e.g., line 157) and okay (e.g., line 159) set off by pauses allowed Martha the space to question Emily’s comments. In line 168, Martha clearly disagreed with Emily’s suggestion and interrupted with the statement that “it’s a hard thing to know because I’ve been criticized . . . for over explaining labs,” noting that other observers had offered distinctly different comments and suggestions. She further stated that when teachers model for students “what you’re doing is you’re actually discouraging them from reading . . .” (line 171–172). Emily offered noncommittal or relatively content-free contributions as Martha talked, which allowed Martha to maintain the floor as she talked through her ideas. In this way, Emily validated Martha’s prior experiences without not strongly agreeing with them. This allowed for continued rapport between the two interactants, which may have contributed to Martha’s ultimate acknowledgement and consideration of Emily’s suggestion that she model procedures for her students.

4. Conclusions and implications

This study focuses on university supervisors’ and student teachers’ conversational frames and on the impact of supervisor and student teacher frame alignment on conversational outcomes. Through our analysis, we identified three frame types that index supervisors’ and student teachers’ structures of expectations for the purpose of the meeting. We characterized an Educative frame as a willingness to give and receive feedback, suggestions, and explanations. Generally, the conversational strategies used when both interactants share an Educative frame allowed them to work collaboratively to create an educative space. In contrast, the Evaluative and Supportive frames limited the discussions between the supervisor and the student teacher. The supervisor with an Evaluative frame, for instance, provided extensive comments on the quality of the student teacher’s practice, but offered few explanations for comments or suggestions for improvement. In addition, he neglected to provide specific details that might enable the student teacher to create connections between her practice and student learning (Boaler & Humphreys, 2005). Similarly, a Supportive frame was characterized by frequent references to an awareness of the challenges of student teaching, which led to few specific comments or pressing questions and limited the extent to which the conversation focused deeply on the specifics of the student teacher’s practice. While the conversational strategies within this frame created a comfortable space for both participants by easing the emotional impact of the interaction, they also appear to mitigate the importance of the supervisor’s comments and questions.

One issue that arises from this analysis is the influence of frame alignment on conversational outcomes. We observed that when the student teacher and supervisor had shared frames, they were able to accomplish their goals for the discussion. For example, the conversation between Emily and Martha was productive because both appeared to focus on the expectation of a learning experience, and tensions that arose between them during the interaction created a learning space (Smagorinsky et al., 2004) where the supervisor and the student teacher could safely challenge each other’s thinking (Blanton et al., 2001; Borko & Mayfield, 1995). We view these moments of tension as productive for teacher learning. It is not typical for teachers to engage in conversations with colleagues where they critically examine classroom interactions, probe each other’s thinking, and use evidence to make claims about teaching and learning (Horn & Little, 2010; Lord, 1994). However, research shows that such deep inquiry into practice can promote new understandings about teaching and learning (Borko, Jacobs, Eiteljorg, & Pittman, 2008).

Importantly, alignment alone does not ensure productive conversations. Amy and Evelyn’s shared Supportive frame appears to have led the conversation away from potentially productive tensions. At the same time, initial misalignment of frames may not necessarily lead to unproductive interactions. While both misaligned cases in this study were not productive, supervisors and student teachers may be able to negotiate frame alignment over the course of a conversation, as observed in the conversation between Angela and Lisa, to develop common expectations that can lead to educative experiences.

A second issue that arises from this study concerns what constitutes a productive conversation. We examined the ways in which conversational frames may have afforded student teachers an opportunity to explore a vision of ambitious teaching. Current mathematics and science reform initiatives call for teachers to appropriate and refine a new system of skills, knowledge, and language practices (Heibert et al., 1997; NRC, 2007; Windschitl et al., 2011). In a number of conversational moments, the supervisors with Educative frames modeled strategies for creating discursive environments by repeatedly asking questions, listening attentively to answers, and pressing for evidence, explanations, and meaning as they worked with student teachers to construct knowledge of ambitious pedagogy. These types of interactions model for student teachers ambitious teaching practices they might employ when teaching, such as asking probing questions, listening closely to student ideas, and pressing for explanations.

Although this study points to important ways that student teachers and supervisors interact with one another, there are several limitations. First, we investigated only four supervisor–student teacher pairs and identified three potential conversational frames. We do not contend that these are the only frame types that participants in these conversations might adopt. Analysis of additional pairs may yield other frame types for these interactions. Additionally, this study focused on one observation between the student teacher and supervisor. To draw inferences about the prevalence of particular frame types from this analysis is premature. It may be the case that supervisors and student teachers use different frames at different points in the student teaching experience. For instance, early in the student teaching experience, the participants may adopt a Supportive frame, but shift to the Educative or Evaluative frame after the student teacher has become established in the classroom. It may also be the case that the supervisor adopts different frames depending on the perceived needs of the student teacher. Future research that examines multiple interactions between one supervisor and student teacher can provide insight
into the ways in which these conversations evolve over the course of the student teaching experience. In addition, research that examines a single supervisor interacting with several different student teachers may yield information on the stability of the supervisor’s frame across interactions with different people.

Finally, this study raises important issues about how to structure supervisor–student teacher interactions. Ultimately, the work of university supervisors involves a complex type of interaction, characterized by competing demands. Supervisors must balance their educative and evaluative roles in ways that help student teachers to develop a vision of ambitious instruction while offering emotional support and providing detailed feedback on the quality of student teacher practice. We propose that a protocol to structure conversations around the three conversational frames identified in this paper may be productive for both student teachers and supervisors. Empirical research suggests that structuring observations of teaching enhances the learning experience (Santagata & Guarino, 2011; Seidel et al., 2005; van Es & Sherin, 2002). A protocol that makes explicit the expectations for the conversation to both the student teacher and supervisor can ensure that they seek to achieve the same goal in the conversation (Tannen, 1993) and that they are aware of what each other intends to accomplish through the interactions.

Analysis of language in use provided a lens to examine the ways that supervisor–student teacher interactions can create productive learning opportunities while also illuminating the challenges of doing this work. Valencia et al. (2009) discuss the limitations of student teaching in providing educative opportunities for preservice teachers, indicating that simply increasing the amount of field experience may not improve student teacher preparation and practice. We propose that uncovering the frames that guide these conversations can improve the design of learning experiences to better prepare supervisors to engage student teachers in productive discussions of teaching and learning.

Appendix A.

Notation used in transcript excerpt

<table>
<thead>
<tr>
<th>Notation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>.( .)</td>
<td>Just noticeable pause</td>
</tr>
<tr>
<td>( .3) , (2.4)</td>
<td>Timed pauses</td>
</tr>
<tr>
<td>A: word [] word</td>
<td>Start of overlapping talk</td>
</tr>
<tr>
<td>^word &lt;word</td>
<td>Onset of noticeable pitch rise or fall</td>
</tr>
<tr>
<td>wo:. rd</td>
<td>Drawn out vowel; one colon equals one beat</td>
</tr>
<tr>
<td>.hh, hh</td>
<td>In-breath and out-breath</td>
</tr>
<tr>
<td>wo(h) rd</td>
<td>Word with laughter in it</td>
</tr>
<tr>
<td>wor -</td>
<td>A sharp cut-off</td>
</tr>
<tr>
<td>(words )</td>
<td>A guess at unclear speech</td>
</tr>
<tr>
<td>( )</td>
<td>Unclear talk</td>
</tr>
</tbody>
</table>
=word | No discernible gap between two speakers’ turns or, if put between two words, sounds within a single speaker’s turn, shows that they run together |
| Word, WORD | Underlined sounds are loud, capitalized sounds are louder still |
| "word" | Quiet sounds |
| >word< | Inward arrows show faster speech, outward arrows show slower speech |

References


