Interaction in teacher communities: Three forms teachers use to express contrasting ideas in video clubs

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HIGHLIGHTS
- Contrasting ideas can benefit teacher communities, but expression is variable.
- Video club participants used three forms to express contrasting ideas.
- Forms are distinguished by the presence/absence of three interactional criteria.
- Expression via open discussion might result in the greatest benefits for teachers.
- Groups using serial turns or implicit critique can move toward open discussion.

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ABSTRACT
Interaction and the expression of contrasting ideas are thought to be important components of teacher learning communities. However, criteria for identifying beneficial interactional practices are needed. In this paper we use the tools of conversation analysis to examine mathematics teachers' expressions of contrasting ideas in a video club setting. Using turn-by-turn analyses of talk, we describe criteria for distinguishing three forms for expressing contrasting ideas — open discussion, implicit critique, and serial turns. We consider potential implications of each form for teacher learning and conclude with suggestions to help teacher communities move between the three forms.

In the past three decades, a growing body of international research has focused on the importance of teacher learning communities (Hadar & Brody, 2010; McLaughlin & Talbert, 2006; Stoll, Bolam, McMahon, Wallace, & Thomas, 2006). When such communities are working well, participation and discourse practices enhance teacher learning by supporting professional critique, reflection, and collaboration (Borko, 2004; Little, 2002; Van Es, 2012). However, many schools and teacher educators struggle to foster such constructive interactions (Grossman, Wineburg, & Woolworth, 2001; Van Es, 2012). In light of this challenge, it may be useful to conceptualize interaction as its own learning domain, establishing learning goals and identifying “prior knowledge” or interactional skills that groups of teachers already possess (Wiggins & McTighe, 2005). However, to specify the interactional norms we hope teachers will develop, we must first identify characteristics of constructive interactional practices and distinguish them from less productive approaches. Likewise, to understand communities’ existing interactional resources, we must examine elements of communication patterns that diverge from “best practices” of interaction and that may be useful in developing more ideal approaches.

In this study we take a step toward this goal by examining teachers’ micro-level interactions in the setting of teacher video clubs, which are apt for exploring such questions because their discussion-based format foregrounds interaction. We use tools from conversation analysis to examine a practice that is particularly important for developing strong teacher communities: the expression of “contrasting ideas,” or comments that are different and, to some degree, in opposition. While expressing contrasting ideas is sometimes associated with conflict and argument, our usage is not intended to imply either and should not be interpreted as having a negative connotation.

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Through the close analysis of talk, gaze, and gesture, we identify three ways of expressing contrasting ideas, which we term open discussion, implicit critique, and serial turns. Each form is characterized by a distinctive combination of three key interactional features: response to a prior speaker’s idea, expression of a contrasting idea, and preferred turn shape. We illustrate each form with transcript excerpts from a representative segment of a video club. We close by considering the resources for teacher learning that each form may provide and suggesting ways that facilitators can help groups move between forms.

1. Teacher communities

Internationally, considerable attention has been paid to identifying the forms and features of professional development that are most likely to lead to enhanced instruction and student learning (Avalos, 2011; Garet, Porter, Desimone, Birman, & Yoon, 2001; Stes, Min-Lelivelv, Gibels, & Van Petegem, 2010; Taylor & Rege Colet, 2010). Strengthening teacher communities is a particularly important aspect of effective professional development (Bryk, Camburn, & Louis, 1999; Hadar & Brody, 2010; Skerrett, 2010; Van Es, 2012), as cultivating community is thought to encourage teacher learning and growth (Cochran-Smith & Lytle, 1999; Grossman et al., 2001; Little, 2002; McLaughlin & Talbert, 2006; Snow-Gerono, 2005) and potentially improve student outcomes (Bryk, Sebring, Allensworth, Easton, & Luppescu, 2010; Lomos, Hofman, & Bosker, 2011). However, such claims raise the question of what we mean by “community.”

Grossman et al. (2001) cautioned that the word “community” loses its meaning when applied indiscriminately to any group of teachers in a room together. Researchers working to clarify what constitutes a teacher community have employed terms such as “inquiry community,” “teacher professional community,” and “professional learning community” to foreground different aspects of community (Cochran-Smith & Lytle, 1992; DuFour, Eaker, & DuFour, 2005; Levine, 2010; Louis, Marks, & Kruse, 1996; McLaughlin & Talbert, 1993). However, there exists a common thread of teachers collaborating and reflecting on their teaching with the goal of learning. Some researchers agree that the ultimate goal is the creation of a “learning community,” or a group of teachers engaging in successful collaboration, reflection, and teacher development (Cochran-Smith & Lytle, 1999; Little, 2002; Skerrett, 2010; Van Es, 2012). In this work we do not limit our investigation to communities that are already functioning effectively. Rather, we examine groups of teachers engaging in a shared enterprise with the goal of learning, perhaps with varying levels of success—what many would refer to as communities of practice (Wenger, 1998). Using this broader criterion for inclusion allows us to explore the similarities and differences between communities engaging in productive interactions and communities still working to develop effective interactional practices.

2. Role of communication

There is international agreement that communication is key in the development of strong teacher communities and enhancement of teacher and student learning. For example, in the professional development community Hadar and Brody (2010) created at a teacher training college in Israel, engaging in discourse about student learning was critical in creating opportunities for teacher development and encouraging teachers to enact new teaching methods in the classroom. Similarly, Wood’s (2007) comparison of two teacher learning communities in the United States highlights the importance of teachers using dialogue to question their practices and reflect on lessons learned in building crucial knowledge for teaching. Dobber, Akkerman, Verloop, Admiraal, and Vermunt (2012) found that teacher educators, experts on communities, and student teachers in the Netherlands all deemed a shared interactional repertoire especially important for promoting collaboration. Finally, Van Es (2012) observed that teachers’ successful and productive analysis of student thinking may be contingent on the establishment of shared participation and discourse norms including providing critical feedback, encouraging reflection, and supporting the expression of different perspectives, or contrasting ideas.

This final practice, the expression of contrasting ideas, is the focus of the current study and has been addressed by a variety of researchers, albeit using different terminology. For example, Day’s (1993) work in the UK calls for both support and challenge from colleagues, including “confrontation either by self or others” (p. 88) to optimize professional development and enhance teacher learning. Lima’s (2001) work in Portugal emphasizes enacting change in schools through the development of “cognitive conflict” (p. 111). In the United States, one of Little’s (1993) key principles of professional development is that it “offers support for informed dissent” (p. 138), while Lord (1994) writes about critical collegialship, a relation among teachers that involves “bringing[ing] to the surface [their] questions and concerns [and] learning[ing] from constructive criticism” (p. 184). These themes of challenging colleagues, offering critical feedback, and expressing multiple perspectives surface in many additional studies of teacher communities (e.g., Borko, 2004; Craig, 2012; Piazza et al., 2009; Snow-Gerono, 2005).

2.1. Benefits of expressing contrasting ideas

A variety of benefits have been described for groups that discuss contrasting ideas. First, such interactions can strengthen community ties. Achinstein (2002) found that reflecting on ideas, engaging in critical discussion, and addressing conflict and dissent head-on were crucial components of creating or reinvigorating a teacher learning community. Similarly, though Grossman et al.’s (2001) teachers initially avoided discussing diverse perspectives, teacher-led discussions acknowledging individual differences and considering multiple points of view enhanced group understanding and helped group members see themselves as a “we.” Additionally, Van Es (2012) found that developing participation and discourse norms centered on critical and reflective discussion was a key component of building a learning community in which teachers both supported and challenged each other.

Second, De Dreu (1997) suggests that conflict can enhance creativity and help individuals value independent thinking. De Dreu and De Vries (1997) found similar benefits for discussing divergent perspectives, including greater originality and creativity among individuals. In the educational setting, this is linked to enhanced teacher learning: Engaging in critical discussion encourages teachers to consider alternate perspectives, reflect on their own attitudes and teaching practices, and potentially make changes to those beliefs and practices (Achinstein, 2002; Grossman et al., 2001).

Third, at the organizational level, expressing contrasting ideas has the potential to improve cooperation and group decision-making, as suppressing conflict can reduce the quality of organizational decisions (De Dreu, 1997). In schools, openness toward conflict, questioning, and change encourages groups to engage with major philosophical and organizational issues that need to be
addressed (Achinstein, 2002). In fact, Lima (2001) argued that schools are better able to enact school-wide reform successfully when teachers engage openly with one another’s contrasting ideas.

2.2. Discourse norms regarding contrasting ideas

Despite these potential benefits, research on interaction both in and outside of educational settings indicates that people are often hesitant to express contrasting ideas. For example, early researchers studying politeness in cultures around the world characterized disagreements as potentially threatening to “face” and thus to be avoided (Brown & Levinson, 1978). Similarly, conversation analysis work in the United States found that disagreements are conversationally “dispreferred,” meaning that they are enacted far less often than agreements and tend to include delays, hesitations, and hedges (Pomerantz, 1975, 1984). Empirical investigations into discourse practices in New Zealand and the United Kingdom have corroborated this finding (Holmes & Marra, 2004; Marra, 2012; Myers, 1998).

However, the avoidance of disagreement is far from universal (Angouri, 2012; Angouri & Locher, 2012; Georgakopoulou, 2012; Kothoff, 1993; Myers, 1998; Schiffrin, 1984; Sifianou, 2012). Rather, norms vary by context. For example, Myers (1998) described an overall dispreference for disagreement in UK focus groups—facilitators sometimes even take steps specifically to avoid conflict (Puchta & Potter, 2004)—but noted that participants showed fewer signs of hesitation in formulating disagreements with the moderator than with other participants. Similarly, while dispreferred in some professional contexts (Holmes & Marra, 2004), explicit, unmarked disagreements were typically not avoided during the problem-solving talk Angouri (2012) observed in multi-national companies. Other work has emphasized the importance of broader cultural norms related to disagreement: For Jewish Americans in Philadelphia, argument among close friends and family members served a social function, signaling intimacy and affection (Schiffrin, 1984).

3. Research design

3.1. Research goals

Although calls for fostering teachers’ expressions of contrasting ideas began more than 20 years ago (e.g. Day, 1993; Lord, 1994) and some communities outside of education do express contrasting ideas frequently and openly (Angouri, 2012; Schiffrin, 1984), many teacher communities struggle to fully enact this practice (Grossman et al., 2001; van Es, 2012). Thus, they are likely to need support in developing norms for constructively expressing contrasting ideas. To facilitate such change, however, teacher educators and researchers need clearer definitions of what “counts” as expressing contrasting ideas. Grossman et al. (2001) and Van Es (2012) begin to address this issue by describing developmental changes in interactional practices. Our work complements theirs by identifying micro-level criteria that are observable in real time and that characterize several forms of expressing contrasting ideas. In other words, we seek to answer the following primary research questions:

How do teachers express contrasting ideas in video clubs?

What features distinguish variations in the expression of contrasting ideas?

Because the current study is cross-sectional rather than longitudinal in nature, we cannot definitively link forms of expressing contrasting ideas to teacher learning outcomes. However, by comparing the features of different forms of expressing contrasting ideas and the contexts in which those expressions occur, we offer some preliminary theorizing about the following secondary research question:

What resources for teacher community building and teacher learning does each form of expressing contrasting ideas afford?

3.2. Conversation analysis

In order to better understand and characterize the various ways that teachers express contrasting ideas, we turn to conversation analysis (CA), a research tradition oriented around very close analysis of everyday interaction. CA seeks to identify patterns, or interactional structures, that organize the order, content, and form of speakers’ turns in conversation (Sacks, Schegloff, & Jefferson, 1974; Schegloff, 1968). The analyst’s role is to observe how participants enact these structures through their speech, gaze, and gestures to determine how the participants themselves experience each interaction that occurs.

One way analysts describe such patterns is in terms of the “preference structure” governing particular aspects of interaction in a given context. Preference in this sense does not refer to individuals’ likes and dislikes but rather to shared conventions collectively enacted in conversation, indicating that some responses are invited and expected (preferred) while others are not (dispreferred) (Pomerantz, 1975, 1984). For example, in ordinary conversation, it is typically preferred that each speaker responds directly to the immediately preceding comment (Sacks, 1972); however, in the focus group setting consecutive responses to facilitators are also accepted, or preferred, and are often even encouraged by the facilitator (Myers, 1998; Puchta & Potter, 2004). In this work, we are particularly interested in preferences related to expressing disagreement, which we can identify by examining the way participants shape their turns. When expressing disagreement is dispreferred, speakers often pause before speaking, use stalling words such as “uh” and “well,” and sometimes contradict themselves (Kothoff, 1993; Pomerantz, 1984). In contrast, when expressing disagreement is preferred, disagreements tend to be stated quickly, openly, and clearly; speakers typically begin just as the previous turn ends (knowing as “latching”) and often use emphatic language. We draw on these differences in turn shape to gain insight into the interactional norms that teacher groups enact.

3.3. Video club context

In this work, we use the tools of CA to analyze teacher video clubs, a type of teacher professional development in which small groups of educators gather regularly to watch and discuss video recordings of each other’s classroom lessons (e.g. Sherin & Han, 2004). Video clubs are typically moderated by facilitators who aim to guide discussions towards identifying and interpreting student thinking, or considering the impact of particular teacher moves (Van Es & Sherin, 2008). Video clubs bear some structural similarities to focus groups; however, rather than eliciting multiple

Note that from this point forward, we use the term preferred in the relatively broad sense of an utterance that is understood as fully acceptable in a given conversational context. We do not follow Bilmes (1988) more technical definition of preference as an utterance whose absence leads to justifiable inferences. Moreover, under our usage “opposite” responses (such as agreeing and disagreeing) may differ in preference in some contexts—such as when being preferred where the other is dispreferred—but they may also coexist as preferred responses.
independent opinions, the goal of video clubs is to engage teachers in collaborative discussion (Myers, 1998; Puchta & Potter, 2004; Van Es, 2012). Since video clubs are rich with opportunities for teachers to engage in critical and productive discussion about their craft (Borko, Jacobs, Eiteljorg, & Pittman, 2008; Wineburg & Grossman, 1998) and facilitators typically encourage multiple perspectives during discussion, video clubs offer an apt setting for examining how contrasting ideas are expressed.

3.4. Data collection

This study uses data from three video clubs, which were convened for three hour-long sessions each. The data were collected as part of a larger project on teacher learning through video directed by Dr. Miriam Sherin (Sherin & van Es, 2009). The goals of the research program were to design a professional development sequence to examine how video clubs can a) support teacher learning, and b) operate as teacher learning communities. The current study focuses on interaction and discourse as one component of the latter goal.

Participants in this research were teachers who took part in one of three video clubs: Westview, Lakeside, or Jackson (see Table 1 for information on each club). The Westview club was comprised of five secondary mathematics teachers who taught at Westview, a high-performance college preparatory high school with approximately one-fourth low-income enrollment. Its students are predominantly White, Hispanic, and Asian. At the time the club was convened, the facilitator served as a district level administrator; however, he had previously been the mathematics department chair at Westview. Thus, the teachers in this club had prior familiarity both with each other and with the facilitator.

Participants in the Lakeside club were six secondary mathematics teachers drawn from four local schools with a range of student demographic characteristics. As such, many participants did not know each other prior to the convening of the club. The facilitator for the Lakeside club was a secondary science teacher from a different school and an experienced teacher educator who did not have any prior relationship with the participating teachers.

Participants in the Jackson club were elementary school teachers from Jackson, a low-performing K-8 school. Jackson’s enrollment is almost entirely low-income and about one-quarter limited English proficiency, and its students are predominantly Black and Hispanic. The facilitator for the club was a local principal and experienced teacher educator with whom the participating teachers were not familiar prior to the convening of the video club.

Schools were selected due to their existing relationships with the researchers. Teachers who had worked with the researchers previously and agreed to participate again then assisted with recruiting additional teachers. Although three groups of teachers cannot represent all possible permutations of video club dynamics, this sample was sufficient to illustrate some substantial variation in ways of expressing contrasting ideas.

The director of the project was present at the filming of each club. However, facilitators ran all of the club meetings and decided which videos to show the group, which segments to discuss, and what questions to ask teachers. As such, initial conversations about what videos to show the group, which segments to discuss, and which teachers to engage in critical and productive discussion about their craft (Borko, Jacobs, Eiteljorg, & Pittman, 2008; Wineburg & Grossman, 1998) and facilitators typically encourage multiple perspectives during discussion, video clubs offer an apt setting for examining how contrasting ideas are expressed.

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Table 1

<table>
<thead>
<tr>
<th>Eastview Lakeside Jackson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participating teachers</td>
</tr>
<tr>
<td>5 secondary mathematics</td>
</tr>
<tr>
<td>teachers from Westview</td>
</tr>
<tr>
<td>(Ron, Mary, Jennie, Brenda, Samantha)</td>
</tr>
<tr>
<td>6 secondary mathematics</td>
</tr>
<tr>
<td>teachers drawn from 4 schools</td>
</tr>
<tr>
<td>6 elementary teachers from Jackson (Sonia, Ellen, Angela, Noah, Paula, Molly)</td>
</tr>
<tr>
<td>Facilitator</td>
</tr>
<tr>
<td>District level administrator; prior mathematics department chair at Westview (Albert)</td>
</tr>
<tr>
<td>Secondary science teacher and experienced teacher educator (Melissa)</td>
</tr>
<tr>
<td>Local principal and experienced teacher educator (Melissa)</td>
</tr>
<tr>
<td>Guidelines</td>
</tr>
<tr>
<td>No discussion of guidelines</td>
</tr>
<tr>
<td>Establishment of “ground rules”: focus on student thinking and student ideas; do not critique teaching or classroom management</td>
</tr>
</tbody>
</table>

The data we analyzed consist of approximately nine hours of footage from the three video clubs. We began by selecting two short segments of talk in which teachers seemed to be expressing contrasting ideas in different ways. We created highly detailed transcripts of these clips, following the conventions described by Jefferson (2004), and iteratively examined participant talk, gaze, and gesture to characterize the conversational structures at play in these interactions (Goodwin & Heritage, 1990; Ochs, 1979). After identifying key features of these two interactions, we searched the data corpus for all interactions involving contrasting ideas — expressed either in similar ways to our exemplars or in some other manner. We identified 39 interactions involving contrasting ideas and discovered one additional form that participants used to express such ideas. We termed the three forms open discussion, implicit critique, and serial turns. Both authors then used these three categories to independently code one-third of the interactions, spread across the three groups. As a measure of inter-rater reliability, Cohen’s Kappa was calculated, and a satisfactory level of agreement was achieved (Cohen’s Kappa = .729). We then discussed interactions we had coded differently and agreed upon a
code for each. Subsequently, each author coded half of the remaining interactions using the same categories. Exemplars of the three forms that emerged from this process are described below.

### 4. Results

The three forms that participants used to express contrasting ideas (open discussion, implicit critique, and serial turns) are characterized by the presence or absence of three interactional features: (A) response to a prior speaker’s idea, (B) expression of a contrasting idea, and (C) preferred turn shape (see Table 2). Feature A, response to a prior speaker’s idea, can often be assumed in ordinary conversation, as it is conventional for a speaker to respond to the immediately preceding turn (Schegloff, 1972). However, in the video club context with a designated facilitator posing questions, our observations corroborate research on focus groups indicating that participants sometimes respond directly to the facilitator rather than to one another (Myers, 1998). Therefore, it is non-trivial that speakers must demonstrate this responsiveness to the content of another participant’s idea for this first feature to be present.

Feature B, expression of a contrasting idea, is the defining feature of the practice we examine. Following the conventions of CA, participants must demonstrate that they themselves understand their ideas to be contrasting in order for the researcher to make that characterization (Schegloff, 1997). This acknowledgment need not be verbal or explicit; in some cases we recognize participants’ understanding only through careful analysis of their gaze and gesture.

Finally, feature C indicates that the expression of contrasting ideas is conversationally preferred. Again, we use the terms preferred and dispreferred in a technical sense. We do not mean to imply that teachers would rather disagree than agree with each other; both agreement and disagreement can be preferred simultaneously in a given interactional context. Rather, when the expression of contrasting ideas is preferred, teachers’ turn shapes signal — via body language or verbal markers — that expressing such contrasts is socially acceptable (Pomerantz, 1984).

In the sections below, we illustrate each form with an excerpt from our data and use participants’ talk, gaze, and gesture to identify the presence or absence of each of the three features in the given excerpts. We conclude each section by highlighting a few aspects of the interactions that follow, focusing especially on how—if at all—the contrasting ideas presented are taken up in subsequent turns. We will draw on these aspects later as we consider the affordances of each form.

#### 4.1. Expression of contrasting ideas form #1: Open discussion

Expressing contrasting ideas via open discussion is defined by the presence of all three interactional features: response to a prior speaker’s idea, expression of a contrasting idea, and preferred turn shape. We illustrate this form using an excerpt from the Westview teachers, who engaged in open discussion more frequently than any other form. During this excerpt, the facilitator and five teachers sit in a small semi-circle with a cluster of five desks in the center, discussing a video in which Ron’s class is exploring the relationship between perimeter and area. The facilitator asks the teachers how they interpret the fact that one student, Josh, did not explicitly reference perimeter in his explanation of what happens to the area when the length and width of a rectangle are doubled.

In the exchange below, Ron indicates that he thinks Josh’s omission is significant. Mary interjects, suggesting a contrasting interpretation, and Ron responds, defending his initial formulation. Mary agrees with one aspect of Ron’s position but then continues to disagree with Ron about whether Josh actually understood the idea⁴:

Ron: That’s kind of a big deal because (.3) as I found in my next class it’s not so easy to say you double the perimeter and that doubles the length and doubles (.6) the width (.9) of the rectangle. The kids in the next class didn’t understand that (.9) so I was trying to get them to say okay, what happens when you double the perimeter (.5) and [then wh—

Mary: (Leaning forward, looking at Ron) [But Josh was getting that.]

Ron: (Looking at Mary) Well but he doesn’t say it.

Mary: Right. But he was going, I mean I guess he was going straight to the fact that (1.0) it depends on these two things.

In this exchange, Mary demonstrates that she is attending to Ron’s comment by responding immediately and overlapping his talk, making eye contact with him, and leaning forward slightly as she speaks. Furthermore, she responds substantively to the content of his comment about student understanding by echoing his use of “that” to refer to the concept that “the kids in the next class” did not understand. Mary offers a contrasting idea, shifting the focus from the class’s collective understanding to a narrower identification of what Josh gets (“But Josh was getting that”), and signals contrast with Ron’s idea openly by beginning with the word “but,” situating her comment in contrast to what came before. The speed and tone of her response signal no dispreference for disagreement.

Ron demonstrates his attention to Mary’s comment by maintaining eye contact and also responding substantively to her challenge. He offers his own contrasting idea by highlighting the difference between “getting that” and “say[ing] it,” accenting the word “say.” By making this contrast, Ron suggests that since the students in the next class had trouble with the concept, the fact that Josh “doesn’t say it” explicitly means that he may not have understood either. Ron also openly signals the contrast between his ideas and Mary’s, both by his reciprocal use of the word “but” and through his stress of the word “say,” which is the key element of contrast between their ideas.

In the third turn, Mary indicates that she is responding to Ron’s comment by saying “right” and then maintaining Josh as the subject of her response. This time her contrasting idea centers on the fact that Josh’s comments might indicate an understanding of the relationship between doubling the perimeter and doubling the width and height even though he doesn’t explicitly state his ideas about perimeter. She again uses the word “but,” openly signaling her contrasting perspective. Thus, in this excerpt we repeatedly see not only responsiveness to prior turns (feature A) and the

#### Table 2

<table>
<thead>
<tr>
<th>Form of expression</th>
<th>Interactional feature</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>(A) Response to a prior speaker’s idea</td>
</tr>
<tr>
<td>Open Discussion</td>
<td>✓ ✓ ✓</td>
</tr>
<tr>
<td>Implicit Critique</td>
<td>✓ ✓ ✓</td>
</tr>
<tr>
<td>Serial Turns</td>
<td>✓ ✓ ✓</td>
</tr>
</tbody>
</table>

We use the following transcript conventions to align with the work of prior researchers (e.g., Jefferson, 2004): an underscore indicates stress in speech (as evidenced by either a change in pitch or amplitude); an equal sign denotes latching, or no break in participants’ speech; open brackets indicate overlapping talk; a dot in parentheses signals a short pause (<1 s); and a number in parentheses indicates the length of a longer pause in seconds. To increase transcript readability, we only include information about gesture and gaze that is pertinent to our analysis.
presentation of contrasting ideas (feature B), but also verbal and non-verbal markers indicating that the presentation of such ideas is conversationally preferred (feature C).

Several additional aspects of this conversation are worth noting for later consideration of the affordances of the open discussion form. First, as the conversation continues, the topic of discussion is taken up by multiple participants, and the contrasting ideas are discussed throughout the entire second half of the video club. In fact, all five teachers enter the conversation to share their thoughts and think through the two viewpoints. Additionally, throughout discussion of the contrasting ideas, participating teachers not only respond to the facilitator but also ask questions of each other, and all contributions to the conversation are tightly connected to the question at hand. The teachers also periodically clarify what they are trying to figure out and update the different viewpoints as the conversation progresses. Finally, when the facilitator eventually moves on to pose a new question, Ron—the person whose comment Mary initially disagreed with—is the first to offer a response.

4.2. Expression of contrasting ideas form #2: Implicit critique

Implicit critique is defined by the presence of features A and B but the absence of feature C. That is, teachers respond to prior speakers’ ideas and express contrasting ideas but use turn shapes that suggest a dispreference for expressing contrasting ideas. Lakeside teachers used this form more than any other form; therefore, we use an excerpt from the Lakeside club to illustrate implicit critique.

While seated in seven chairs arranged in a large circle with no tables at the center, the group discusses a video of Karl’s students presenting ways to calculate a person’s new salary after a 5% increase. The group’s discussion focuses on one student who calculated the salary by finding 1.05, multiplying that by 5, and adding the result back to the original number. The facilitator opens this discussion by drawing attention to previous comments by teachers Deirdre and Jane, referencing them each by name, and then asking the group, “What are we going to do with that, as a teacher?” Jane, the second teacher to respond, alternates between her own perspective as a frustrated teacher and the perspectives of students struggling to learn how to solve percent problems in a single step. Jane’s ideas in this excerpt will become the basis for two contrasting ideas expressed by Karl through implicit critique:

I—I tried to with you know training the kids for WorkKeys, so many percent problems. And (.6) you know time is an issue with these kids, they’re not the best readers and then they’ve got a lot of problems to do in a short amount of time. And to be like well to increase it by five percent you just multiply by one point oh five, ‘cause that’s a hundred and five percent. But her salary didn’t go up a hundred and five percent (eye roll). Or, you know, it’s thirty percent off, multiply it by point seven. And it (.8) I (.3) found this year, I think I just confused the kids more and they would’ve got there on their own if I would’ve just kept my mouth shut.=

Karl responds to Jane with contrasting ideas about both the goal of instruction and the difficulty of the mathematics. However, he accomplishes this in a way that signals that the presentation of contrasting ideas is dispreferred:

—That’s—that’s a—a pretty like rich algebraic type of problem to get them to really understand (.9) why you’re (gestures toward Jane) multiplying by one point oh five. And I think (.11) at that (points at Jane) level (throat clear) (.16) I’m not sure (.7) if (.7) that (.6) would t—that would’ve sunk in (.11) in the time that I was willing to spend on it. Because (.10) for— for them to truly understand that (.9) you know, cause to me first they would have to see that, I think what’s important that they see is it’s five percent then you add it back to the original amount … .I mean it—it just, there’s so much more math involved (.10) um (.10) and we actually get into that but it’s not in their freshman year.

In this turn, Karl indicates his responsiveness to Jane’s comment (feature A) by beginning to speak just as she finishes. He also enters the conversation with the word “that’s,” referring to one of Jane’s prior statements, and gestures towards Jane as he echoes her use of the phrase “one point oh five.”

Karl’s language and gestures also demonstrate that he is suggesting contrasting ideas (feature B). Karl’s first contrast locates difficulty in the math problem rather than in the students themselves, as Jane suggested. Karl refers to the idea of multiplying by 1.05 as a “rich algebraic type of problem,” which frames Jane’s strategy as extremely difficult. He then says “at that level,” emphasizing the “that,” raising his pitch, and pointing toward Jane, again demonstrating his responsiveness to her comment and emphasizing the difficulty of her solution method. Finally, after suggesting that it would have taken too long for the students to “truly understand” Jane’s method, Karl goes further to say that there is “so much more math” involved in her method than would be appropriate to teach during freshman year. Karl’s second contrasting idea offers an alternative to Jane’s implied teaching goal. While Jane focuses on problem-solving speed, Karl indicates a goal of getting students “to really understand.” He mentions that he would have wanted Jane’s method to really sink in and describes “what’s important” for students to see to “truly understand.” The use of the words “really” and “truly” and the emphasis in their repetition suggests that in Karl’s view, Jane’s way did not involve deep understanding.

While Karl seems to view his ideas as in contrast to Jane’s, those ideas are not accompanied by any overt signaling of contrast (nothing analogous to the repeated use of “but” in the prior excerpt). Instead, Karl’s frequent pauses indicate a dispreference for expressing contrast, and thus feature C is absent.

Several additional features of this interaction are worth noting. First, the discussion surrounding these contrasting ideas continues for multiple turns, and all teachers engage in the conversation. However, unlike the Westview group, the teachers at Lakeside do not focus closely on developing the precision and clarity of points being discussed but instead weave together different threads of conversation and refer loosely to the ideas on the table. Second, throughout the discussion, the facilitator (Joe) consistently attaches ideas to individual teachers by gesturing towards them while discussing their ideas and explicitly referencing a particular person’s perspective, as he does when introducing this topic. Finally, the teacher who expressed the initial idea (Jane) continues to participate in the conversation and is the first person to respond to the next question Joe poses. In fact, nearly 20 min after her initial comment, Jane returns to the same topic with a comment that illustrates what seems to be a shift in the initial belief she expressed: Jane indicates that she is “reminded” that there are multiple “perfectly good ways” of solving the problem at hand. She acknowledges that she often gets “engrained” and “caught” in her own way of thinking, and that it is helpful to be reminded that her students can demonstrate understanding using different methods.

5 A standardized test oriented towards job skills.
4.3. Expression of contrasting ideas form #3: Serial turns

The third form, serial turns, is exemplified by the presence of feature B, and the absence of features A and C. That is, teachers express contrasting ideas but do not respond to prior speakers' ideas, instead responding directly to the facilitator. Additionally, teachers use turn shapes suggesting that disagreement is not a preferred response form, although the lack of direct responses to participants’ ideas makes the preference structure difficult to determine.

To demonstrate serial turns, we present an excerpt from the Jackson video clip, the only club to regularly exhibit serial turns. Sitting in chairs arranged in a full circle with no tables in the center, the teachers discuss a video clip in which teacher Sonia asks her students to describe what an estimate is. One student, Gina, gives the example of adding two numbers where the answer will be close to twenty. Gina models adding ten plus ten to get twenty, and then states that if she “go[es] up two and … get[s] twenty-two,” that would be an estimate. Before the group watches how Sonia responds to this student, the facilitator puts this question to the group: “If any of you were teachers in the room, how would you respond?”

Three teachers respond in turn following the facilitator’s question: first Angela, then Ellen, and finally Noah. Each teacher describes the move s/he would have made if s/he were in Sonia’s place. As we will demonstrate in the following paragraphs, the content of what each teacher says is different; however, while they sometimes acknowledge these differences, they do not respond to the content of each other’s turns.

Angela, the first teacher to answer the facilitator’s question, comments that she would have responded by helping the student put her answer into the correct mathematical language:

I think I would probably (.4) help her verbalize it (.2) like, I would probably translate it — And I don’t know if that’s right or wrong. But (.3) I think that when (.2) I know my kids are on the right track (.4) they just don’t have the vocabulary or (.3) or th—you know—the way to form (.3) the right sentences — I think that I say okay so what you’re saying is (.3) and then I put it into (.4) the correct (.3) verbage (.3) for them. I think I often do that.

At the facilitator’s request, Angela goes on to narrate the response she might have offered to Gina and the class, and then summarizes her technique by stating, “So I would probably (.3) model (.9) what she would say (.5) once she (.6) had that (.5) type of (.3) um (.1.0) you know (.3) ver—verbal skills.”

After Angela finishes her turn, the facilitator scans the room and begins to say, “Anybody …” when the second teacher, Ellen, begins talking. She describes how she would briefly restate Gina’s answer and then invite other students to expand on it, but does not make mention of Angela’s suggested response:

I—uh—I would've um (.5) just said oh I—I think y—I know Gina’s on the right track. I hear her say that she thinks ten plus ten is twenty. Getting an estimate is somewhere around the right number. Does anybody else wanna add something (.3) or help elaborate (.4) that idea for us? I mean it’s a little—I have—w —worked—work with a little ol—older kids so the verbalization’s a little bit higher.

Although Ellen’s turn follows Angela’s and appears to offer a contrasting idea, Ellen does not respond directly to Angela or the content of her turn. Ellen does not interrupt or latch her turn to the end of Angela’s, as Mary and Karl did; instead, she starts her turn only after the facilitator has begun to ask for additional responses. Furthermore, Ellen does not gesture toward Angela or make eye contact with Angela specifically. At the start of her turn, Ellen’s eyes scan the room, and then once she begins saying “around the right number …” her eyes focus in on the facilitator, where they remain until the end of the following sentence. This evidence indicates that feature A—response to a prior speaker’s idea—is not present.

Later in her comment, Ellen does refer to Angela’s prior response when she mentions her own students’ “verbalization,” echoing Angela’s discussion of “verbiage” and “verbal skills.” By commenting on the “higher” verbalization of her students as compared to Angela’s, Ellen suggests that there is a reason for the action she describes being different from the action Angela describes. Thus, feature B is present since we see evidence that Ellen attends to her idea as different from Angela’s.

Though Ellen acknowledges that she notices this difference, she does not state her idea in a way that suggests the presentation of contrasting ideas is a preferred response form. There is no attention to the fact that the ideas are different until the end of her response. Furthermore, though the structure of her final thought suggests that she is providing a reason for her different move, she does not explicitly state the purpose this comment serves or the fact that her idea is different. For this reason, feature C appears to be absent.

Following Ellen’s turn, the third teacher, Noah, offers yet another idea about how he would respond to Gina and the class. This time, Noah begins by explicitly acknowledging the fact that his move contrasts with the moves suggested by both Angela and Ellen:

My act—my next step is (.3) a little bit different and I don’t know what was on the board or what the goal of the math message was um but the first thing that came into my mind was okay she seems to have an idea let’s give her an (.5) a—a specific example and see what she would do with this so: you know (.4) Gina you (.5) kind of have this idea and I think you have a lot of the key pieces. = Let’s look at (.4) this problem. How would you use estimation to solve (.6) this problem? = Cause the thing that—that came into my mind first um was (.4) you know how is she gonna be able to take this a:nd generalize her knowledge of e—estimation into a specific problem?

In this turn, although Noah presents a third way to respond to Gina and the class, he does so without responding to the content of either of the prior speakers’ turns. Noah’s reference to Gina as “seem[ing] to have an idea” and his suggestion to use a “specific example” or “specific problem” do not echo the language used by either of the prior speakers. His gaze also suggests that his response is not directed specifically at either Angela or Ellen. Instead, Noah begins by scanning the room with his eyes. Then part way through the first sentence he fixes his gaze on the facilitator where it remains for the majority of his turn. Thus, once again, feature A—response to a prior speaker’s turn—is absent.

However, the content of Noah’s response is substantively different from both prior speakers’ ideas. Noah clearly indicates that he views his comment as in contrast with Angela’s and Ellen’s (feature B) by his initial statement, “My … next step is a little bit different.”

Noah’s explicit statement that his move is different suggests that disagreement might be a preferred response form in the group, although it is not possible to ascertain how the other group members receive his comment, as the conversation quickly changes topic after Noah’s turn. Regardless, the difference in the way group members express contrast illustrates the complexity of group norms and the possibility of a group lacking a shared preference structure.
Before moving on, we highlight several additional features of this interaction: First, after one final comment is made, the facilitator asks whether anyone has anything to add. When no one responds she introduces a new video clip, and the conversation promptly shifts gears, making this interaction significantly shorter than the interactions exemplifying the two prior forms. Second, only three of the six teachers offer ideas during the conversation, and none of the ideas elicit a response from the other teachers or are referenced during subsequent conversation. Finally, both teachers who expressed the initial ideas during this interaction entered the subsequent conversation within the first few turns.

5. Discussion

In a sense, open discussion, implicit critique, and serial turns are all different ways of doing the same thing: expressing contrasting ideas. However, even in the short segments we analyzed we found suggestive evidence that differences between these forms might be linked to differential benefits for participating teachers. In this section we consider potential benefits and limitations of the three forms, connecting back to international teacher education literature on the expression of contrasting ideas. We also discuss factors that may contribute to the enactment of each form, drawing on details provided at the end of each results section, to speculate about how teacher communities might move between the three forms. Below we include an expanded version of Table 1 to highlight the features of each video club that we draw on during our discussion (see Table 3).

5.1. Benefits and drawbacks of open discussion, implicit critique, and serial turns

The first and most important similarity between the three forms—indeed, the criteria for inclusion in our analysis—is that teachers recognize they are offering comments that contrast with those offered by other group members. Some of the benefits attributed to expressing contrasting ideas, such as exposure to multiple perspectives (Achinstein, 2002; De Dreu, 1997), may stem simply from the act of recognizing and expressing a difference of opinion, and to this extent, all three forms we described may count as examples of beneficial interactional practices.

One important distinction between forms is the degree to which expressing a contrasting idea encourages continuing discussion of and reflection on that issue. Researchers both in and outside of the United States have noted that engaging in critical reflection is a key feature of a teacher learning community (e.g. Avalos, 2011; Skerrett, 2010; Van Es, 2012). In the exemplars of both open discussion and implicit critique, discussion of the focal ideas continued for multiple turns, each member of both groups participated throughout, and the groups engaged in a sustained collective reflection that progressed throughout the discussion. In contrast, the interaction involving serial turns ended shortly after it began, only half of the teachers participated, and each of those teachers spoke only once. Thus, opportunities for shared reflection were sharply limited in both duration and depth, suggesting that expressing contrasting ideas through either open discussion or implicit critique offers greater opportunities for teacher learning than enacting serial turns.

A second distinction lies in how openly and fluidly contrasts are addressed—the key difference between open discussion and implicit critique. Our observations support prior work emphasizing the importance of openness in expressing disagreement (Achinstein, 2002; Grossman et al., 2001; Lima, 2001; Lord, 1994). In our exemplar of open discussion, the streamlined, preferred shape of the response meant that ideas could be exchanged quickly and candidly, without hedging and delays. Conversely, in implicit critique participants’ contrasts were often hidden behind partial agreements, hesitations, and carefully chosen language. Participants also tended to take longer turns and include more ideas in each turn—perhaps to reduce emphasis on the contrast. Thus, maintaining a focused conversation often seemed difficult, and although teachers recognized their own ideas as contrasting, it was

Table 3 Video club features.

<table>
<thead>
<tr>
<th>Participating teachers</th>
<th>Westview</th>
<th>Lakeside</th>
<th>Jackson</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5 secondary mathematics teachers from Westview (Ron, Mary, Jennie, Brenda, Samantha)</td>
<td>6 secondary mathematics teachers drawn from 4 schools (Karl, Deidre, Jane, Laura, Teresa, Todd)</td>
<td>6 elementary teachers from Jackson (Sonia, Ellen, Angela, Noah, Paula, Molly)</td>
</tr>
<tr>
<td>Club guidelines</td>
<td>No discussion of guidelines</td>
<td>Specific mention that there are no guidelines</td>
<td>Establishment of “ground rules”: focus on student thinking and student ideas; do not critique teaching or classroom management</td>
</tr>
<tr>
<td>Room setup</td>
<td>Six chairs arranged in a small semi-circle with a cluster of five desks in the center</td>
<td>Seven chairs arranged in a large circle with no tables at the center</td>
<td>Seven chairs arranged in a large circle with no tables in the center</td>
</tr>
<tr>
<td>Facilitator question</td>
<td>Asks teachers how they interpret the fact that Josh did not explicitly reference perimeter in his explanation of what happens to the area when the length and width of a rectangle are doubled</td>
<td>References two teachers’ points of view about a student’s way of problem solving, and then asks, “What are we going to do with that, as a teacher?”</td>
<td>Pauses video clip before showing how the teacher responds to a student, and then asks, “If any of you were teachers in the room, how would you respond?”</td>
</tr>
<tr>
<td>Uptake</td>
<td>- Sustained conversation - All teachers participate - Teachers ask each other questions - Contributions are tightly connected to the topic; clarification is consistently sought</td>
<td>- Sustained conversation - All teachers participate - Teachers weave together different threads of conversation; ideas lose some clarity - Facilitator consistently attaches ideas to individual teachers</td>
<td>- Short-lived conversation - Half of teachers participate - Teachers do not ask each other questions - Both teachers whose ideas are challenged enter subsequent conversation within the first few turns</td>
</tr>
</tbody>
</table>
not clear whether they fully recognized the contrasts in each other's contributions. In fact, as analysts it took us many iterations of watching the footage to feel that we had fully grasped what each person was communicating. Thus, we think it unlikely that participating teachers could reliably recognize and process all of these contrasts in real time. Moreover, conversational turns that take the dispreferred form occur less frequently (Pomerantz, 1975); thus, fewer contrasting ideas are likely to be shared in groups with a dispreference for disagreement. These differences make open discussion likely to afford greater benefits to teacher communities than implicit critique.

5.2. Movement between forms

While open discussion is an especially beneficial form for expressing contrasting ideas, our analysis suggests that a group's facility with either implicit critique or serial turns is also an important resource to be recognized and capitalized on. Using one form especially often—as two of our groups did—suggests that the group's shared interactional norms already support a particular way of expressing contrast. Thus, in this section we consider how features of serial turns or implicit critique might serve as important assets in moving groups away from one form of interaction to another. While many factors may contribute to a group's interactional practices, here we focus on factors that are plausibly under the control of the video club facilitator, including the framing of questions, video club guidelines, and the physical setup of the video club space. We consider how such factors might be linked to each form, and how they can be leveraged to move groups from one form to another.

For groups primarily enacting serial turns, contrasting ideas already present in interaction represent a critical resource for facilitators to leverage. However, for sustained discussion or reflection to take place, teachers must modify their practice by adding feature A—responding to each other's ideas. Research on focus groups in Western Europe has illustrated that facilitators can play an important role in encouraging or discouraging participants from responding to one another depending on how they frame questions (Myers, 1998; Puchta & Potter, 2004). In our data, the Jackson club facilitator encouraged the expression of new and unrelated ideas by requesting that teachers offer their own answers to a particular question (e.g. “What would you do?” [emphasis added]). In contrast, the Lakeside facilitator asked teachers what “we” might do, invoking collective problem solving. He also regularly attached ideas to individual teachers and requested participants' thoughts on each other's ideas, thus encouraging reflection and helping teachers put their ideas in conversation with each other. Moreover, facilitators can prize these types of interactions at the start of the club by providing guidelines that encourage collaboration and shared reflection (Myers, 1998; Puchta & Potter, 2004). Finally, the physical setup of the room might be influential in the establishment of group goals and norms: The Westview teachers were arranged in a small circle around a shared table, and throughout their discussion they remained particularly focused on group problem solving and sense-making. Thus, sitting around a shared table might be a productive arrangement for fostering a sense of collaboration and encouraging groups to work and reflect on problems together.

Groups primarily expressing contrasting ideas through implicit critique already make use of multiple perspectives to reflect collectively on an issue. Indeed, evidence from the Lakeside group suggests that this form might even facilitate teacher learning, as Jane seemed to describe a shift in her thinking over the course of the conversation. However, to benefit maximally from one another's ideas, groups using implicit critique (as well as those using serial turns) should work to cultivate feature C, a preference structure that supports contrast or disagreement. While such preference structures often occur in groups that have already developed strong ties (Grossman et al., 2001; Schiffrin, 1984; Van Es, 2012)—as was the case in the Westview group, where teachers knew each other best at the start—it is also possible for facilitators to help cultivate a group preference for expressing contrasting ideas and, in doing so, strengthen community ties. Rather than taking steps to intentionally avoid conflict, as focus group facilitators sometimes do (Puchta & Potter, 2004), video club facilitators can foster the expression of contrasting ideas by asking teachers to clarify and succinctly summarize their ideas, and highlighting areas of contrast (Myers, 1998; Puchta & Potter, 2004). Even Grossman et al.'s (2001) teachers—who initially experienced high levels of tension and avoided discussing different perspectives—were able to more constructively disagree with each other after group members facilitated discussions encouraging the expression of diverse perspectives. Again, a club's guidelines might be important: The Jackson club facilitator specifically indicated that the group would not critique teaching or classroom management, which might have inhibited disagreement. Building explicit norms that welcome and encourage contrasting viewpoints will not guarantee that those norms are immediately enacted (Myers, 1998), but it can be a good start.

5.3. Future directions

The framework we have created suggests several important directions for future research. First, research using a longitudinal study design and examining teachers in both professional development settings and the classroom would be extremely valuable. By following teachers engaging in different types of interactional practices, such research could begin to tighten the links between the use of these three forms of expressing contrasting ideas in teacher communities, and opportunities for student learning in the classroom. Second, our framework can be applied to a broader range of contexts to examine similarities and differences in enactment and impact of using the three forms. For example, observing different types of professional development settings and teacher communities in different countries would enhance our knowledge of the wider benefits and limitations of each form. Additionally, one limitation of the current study is that none of the interactions we observed were obviously tense, or showed evidence of harm to relationships or shutting down of participation. Since such conflicts certainly happen, a more in-depth examination of tense interactions may help to illuminate the benefits and drawbacks of expressing contrasting ideas using these different forms.

6. Conclusion

Applying the tools of conversation analysis, we have identified three forms that teachers use to express contrasting ideas (open discussion, implicit critique, and serial turns) and three features, the absence or presence of which define those forms. We argued that a teacher community is unlikely to reap the full benefits of participation if members express contrasting ideas using a form other than open discussion. However, even interactions that lack some elements of open discussion can provide resources for facilitators to draw upon in fostering more extensive and reflective discussions of contrasting ideas.

We hope this work will make both a theoretical and a practical contribution. First, recognizing the increasing international focus on communication in teacher professional development, we offer a framework for examining the expression of contrasting ideas in teacher communities. While researchers often note the presence or absence of explicit disagreement, our feature-based typology
allows for a more detailed understanding of the ways contrasts are communicated. Our hope is that the framework will help researchers capture not only the most ideal forms of expressing contrasting ideas—for example, those occurring in successful teacher learning communities—but also interactions that involve various elements of such discussions.

Second, we hope that the ability to identify different forms in which contrasting ideas are expressed will help facilitators and teacher educators foster and strengthen teacher learning communities. Contrasting perspectives may not always be obvious in the moment—as in some cases of implicit critique, for example—but they are still valuable, and worth looking for and highlighting. While expressing contrasting ideas openly and explicitly is challenging for many groups of teachers, our framework illustrates that it is possible to support teachers in enacting open discussion without having to start from scratch. We hope that practitioners will use our framework to capitalize on the existing resources of teacher communities that use serial turns and implicit critique, making the difficult process of engaging teachers in discussions of contrasting ideas at least a bit easier.

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