Information for the February 06, 2015 TeachingWorks Journal Club Meeting

We will discuss the following two articles in this meeting:

1. Barnhart. T, & Van Es. E. (2014). Studying teacher noticing: Examining the relationship among pre-service science teachers' ability to attend, analyze and respond to student thinking. Teaching and Teacher Education, 45: 83-93.

2. Chieu, V. M., Kosko, K. W., & Herbst, P. G. (2015). An analysis of evaluative comments in teachers' online discussions of representations of practice. *Journal of Teacher Education*, 66: 35-50.

In addition, bibliographic information is below for other relevant articles published in the following journals between October 15, 2014 and December 15, 2014.[1]

Journal of Teacher Education
American Educational Research Journal
Elementary School Journal
Journal of Curriculum Studies
Teachers College Record
Educational Evaluation and Policy Analysis
Teaching and Teacher Education
Journal of Education for Teaching: International Research and Pedagogy

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Achinstein, B. and B. Fogo (2015). Mentoring novices' teaching of historical reasoning: Opportunities for pedagogical content knowledge development through mentor-facilitated practice. *Teaching and Teacher Education*, *45*: 45-58.

> While worldwide policy attention turns to mentoring to develop new teachers' practice, researchers have not investigated mentoring exchanges that support novices' teaching of historical reasoning and pedagogical content knowledge (PCK) development. Drawing on case studies of U.S. mentor–novice pairs, authors ask: How, if at all, is the teaching of history represented in mentoring conversations? How, if at all, do mentoring exchanges support novices' teaching of historical reasoning? Authors illustrate how mentoring conversations can support PCK elements through guided conceptual and practical representations of disciplinary history instruction; and reveal a form of mentor PCK for diagnosing and supporting novices' PCK development.

Barnhart, T. and E. van Es (2015). Studying teacher noticing: Examining the relationship among pre-service science teachers' ability to attend, analyze and respond to student thinking. *Teaching and Teacher Education*, *45*: 83-93.

> This study investigates pre-service teachers' capacities to attend to, analyze, and respond to student thinking. Using a performance assessment of teacher competence, we compare two cohorts of science teacher candidates, one that participated in a video-based course designed to develop these skills and one that did not. Course participants demonstrate more sophisticated levels of attention to and analysis of student ideas. Analysis of the relationship among skills reveals that sophisticated analyses and responses to student ideas require high sophistication in

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[1] For the December 15, 2014, TeachingWorks journal club we considered the following journals: *American Educational Research Journal (December 2014, **51**(6)); Educational Evaluation and Policy Analysis (December 2014, **36**(4)); Elementary School Journal (December 2014, **115**(2)); Journal of Curriculum Studies (2014, **46**(6)); Journal of Education for Teaching: International Research and Pedagogy (no new issues since last meeting: 2014, **40**(5)); Journal of Teacher Education (November/December 2014, **65**(5)); Teachers College Record (**116**(11), **116**(12)); Teaching and Teacher Education (January 2015, **45**).*

attending to student ideas. However, high sophistication in attending to student ideas does not guarantee more sophisticated analyses or responses.

Boahin, P., Eggink, J., and A. Hofman (2013). Competency-based training in international perspective: Comparing the implementation processes towards the achievement of employability. *Journal of Curriculum Studies*, *46*(6): 839-858.

> This article undertakes a comparison of competency-based training (CBT) systems in a number of countries with the purpose of drawing lessons to support Ghana and other countries in the process of CBT implementation. The study focuses on recognition of prior learning and involvement of industry since these features seem crucial in achieving employability. The study shows that industry is involved in the training activities. However, recognition of prior learning (RPL) requires innovative techniques, such as e-portfolio and on-line facility, to provide greater awareness and quality information to assist learners to produce work-related evidence. Performance criteria in RPL assessment must cover situational contexts and contingency management skills to enhance flexibility and adaptable labour force in the event of changes in workplace practices.

Caughlan, S. and H. Jiang (2014). Observation and teacher quality: Critical analysis of observational instruments in preservice teacher performance assessment. *Journal of Teacher Education*, *65*(5): 375-388.

> Teacher preparation programs commonly use observational instruments to assess the progress and the exit performances of teacher candidates. However, while these instruments have been described and several have been studied for effectiveness, the field lacks a close examination of how they position participants: teacher candidates, K-12 pupils, and teacher educators. This article closely examines three classroom observation instruments used in preservice programs. We use critical discourse analysis (CDA) and systemic-functional linguistics to examine how the grammar of these instruments assigns agency and positions participants as teachers and learners, and define their larger discourses of professionalism and accountability. We argue that instruments differ in the extent to which they grant participants agency, thus influencing the assumed pedagogical relations among the teacher educator, teacher candidate, and K-12 pupils. Instruments are not neutral, but reflect the values of the programs that use them, inflected by often contradictory discourses of teacher and student learning.

Chieu, V.M., Kosko, K.W., and P.G. Herbst (2015). An analysis of evaluative comments in teachers' online discussions of representations of practice. *Journal of Teacher Education*, *66*(1): 35-50.

> It has been common to use video records of instruction in teacher professional development, but participants have rarely been encouraged to evaluate teachers and students' actions in those records, allegedly because evaluation deters from the development of a professional discourse. In this study, we inspected teachers' online discussions of animations of classroom episodes realized with cartoon characters, looking at the difference in the content of conversation turns when members made evaluative comments and when they did not make evaluative comments. We were interested in finding out whether making evaluative comments correlated with participants' reflection on their professional practice and proposal of alternative teaching actions; for that purpose we used systemic functional linguistics (SFL) to develop a coding scheme that attended to evaluation, alternatives, and reflection in forum discussions. We found statistically significant evidence that the more the participants actively evaluated the teaching in the animations, the more they proposed alternative teaching actions and reflected on instructional practice. We relate these findings to the notion of social presence in online discussions.

Duckor, B., Castellano, K.E., Téllez, K., Wihardini, D., and M. Wilson (2014). Examining the internal structure evidence for the performance assessment for California teachers: A validation study of the elementary literacy teaching event for tier I teacher licensure. *Journal of Teacher Education*, *65*(5): 402-420.

> Interpretations for licensure tests involve a series of inferences or a validity argument, leading from the test score to decisions about who is accepted or denied entry into a profession. Utilizing an argument-based framework for validation based on the Standards for Educational and

Psychological Testing, we explore the evidence for the ongoing use of the Performance Assessment for California Teachers (PACT) for Tier I licensure decisions. The evidence for a unidimensional and a multidimensional structure based on the instrument's content are examined with an item response model. Examining operational data (n = 1,711) from seven California teacher education institutions, we found sufficient internal structure validity evidence to support the continued, but limited, use of this instrument for its intended summative purpose. Evidence for a three-dimensional structure of model fit better explains overall teacher candidate performance on the PACT instrument as it is currently designed.

Gatti, L. and T. Catalano (2015). The business of learning to teach: A critical metaphor analysis of one teacher's journey. *Teaching and Teacher Education*, *45*: 149-160.

> This article analyzes the learning to teach process of one novice teacher, Rachael, enrolled in an Urban Teacher Residency (UTR) in Harbor City, United States. Building on Loh and Hu's (2014) scholarship on neoliberalism and novice teachers, we employ Critical Metaphor Analysis (CMA) to make visible the ways in which Rachael contends with conflicting frames of learning to teach— TEACHING IS A JOURNEY vs. TEACHING IS A BUSINESS—within her program. Rachael encounters three primary obstacles: programmatic incompatibility, pedagogical paralysis, and, ultimately, programmatic abandonment. The discussion explores the potential consequences of learning to teach in neoliberal contexts.

Goldhaber, D. and J. Cowan (2014). Excavating the teacher pipeline: Teacher preparation programs and teacher attrition. *Journal of Teacher Education*, *65*(5): 449-462.

> We analyze the placement and attrition patterns of teachers by preparation programs and document large differences in the rate at which teachers exit both their schools and the profession. These differences are robust to within-school comparisons. Moreover, assumptions about turnover and the persistence of program effects prove important for predicting the likely changes in student achievement that would result from varying the proportion of graduates from the most and least effective programs within a state.

Kayi-Aydar, H. (2015). Teacher agency, positioning, and English language learners: Voices of pre-service classroom teachers. *Teaching and Teacher Education*, *45*: 94-103.

> This study explores the identity (re)negotiations and agency of three pre-service classroom teachers who received their ESL (English as a Second Language) endorsement at a research university in the United States. An analysis of interview data and teachers' journal entries, from a narrative positioning perspective, indicates that the teachers took on various, and sometimes conflicting, positional identities in relation to their social context (e.g., mentor teachers, ELLs, etc.). The findings further indicate that those positional identities have shaped teachers' agency and self-reported classroom practices. The analysis presented provides implications for teachers of ELLs and teacher educators.

Knoblauch, D. and M.A. Chase (2015). Rural, suburban, and urban schools: The impact of school setting on the efficacy beliefs and attributions of student teachers. *Teaching and Teacher Education*, *45*: 104-114.

> This study investigated student teachers' efficacy beliefs, to determine if school setting (i.e., rural, suburban, and urban) impacted teachers' sense of efficacy. Each setting group exhibited significant increases in teachers' sense of efficacy following student teaching. The urban student teachers exhibited significantly lower teachers' sense of efficacy. We also examined the attributions (external or internal) the student teachers made following student teaching. The urban student teachers did not make more external attributions than the rural and suburban student teachers, and the patterns of the self-serving attributional bias as well as the fundamental attribution error were apparent.

Neugebauer, M. (2015). Who chooses teaching under different labor market conditions? Evidence from West Germany, 1980–2009. *Teaching and Teacher Education*, *45*: 137-148.

> To shed light on this question, this paper analyzes trends in labor market conditions and trends in teacher graduates' characteristics over three decades. Based on representative data from West

Germany, it shows that teacher earnings have not declined over time. Likewise, there is no decline in academic aptitude among teacher graduates. Unemployment risks, on the other hand, have fluctuated greatly. In times of high unemployment risks, the likelihood to enter teaching was low, especially for persons with pronounced extrinsic job-security motivations. This changed markedly in recent years, when employment prospects became auspicious.

Rasmussen, J. and M. Bayer (2014). Comparative study of teaching content in teacher education programmes in Canada, Denmark, Finland and Singapore. *Journal of Curriculum Studies*, *46*(6): 798-818.
This article presents the results of a comparative study of the content in selected teacher education programmes for primary and lower secondary teachers in Canada, Denmark, Finland and Singapore. First and foremost, the study is a comparison between teacher education programmes in, on the one hand, Canada, Finland and Singapore, all of which score highly in international comparisons such as PISA and TIMMS, and on the other hand Denmark, which receives average scores, but it also functions as a comparison between all four countries. The study covers the following subjects: pedagogy and mathematics. The study does not offer proof of any clear difference between the Danish teacher education programmes and those found in the top-performing countries. Two main findings are: (1) philosophically based professional knowledge, much of which is normative in character, forms an extensive part of the body of professional knowledge within the Danish teacher education programmes, which is not true of the programmes in the Top-3 countries and (2) the programmes in Canada and Singapore more frequently employ literature combining research-based knowledge with practical guidance and experiences, while the programmes in Denmark and Finland keep these knowledge forms separate.

Sato, M. (2014). What is the underlying conception of teaching of the edTPA? *Journal of Teacher Education*, *65*(5): 421-434.
The edTPA, a nationally available performance assessment for teacher candidates, has recently been developed and implemented in teacher education programs across the United States. Advocates make arguments for the need for such an assessment while critics of standardized performance assessments point out the dangers of standardization. This article takes a step back from the arguments in support of or in opposition to the assessment and asks fundamentally what the underlying conception of teaching of the edTPA is. After examining conceptions of teaching articulated by scholars such as Nathanial Gage, Larry Cuban, Lee Shulman, Paulo Freire, and bell hooks, this article argues that the underlying conception of teaching of the edTPA is one of professional practice, not only at the individual level but also at the level of teaching as a collective enterprise. The conception of teaching argument is also connected to discussions of the validity arguments for the edTPA with specific attention to face validity, content validity, and construct validity.

Sjølie, E. (2014). The role of theory in teacher education: Reconsidered from a student teacher perspective. *Journal of Curriculum Studies*, *46*(6): 729-750.
With the persistent criticism of teacher education as a backdrop, this article explores the common perception that teacher education is too theoretical. This article takes the view that the student teachers? assumptions regarding the concept of theory affect how they engage with theory during initial teacher education. Using a qualitative approach, this study examines student teachers? conceptualizations of the nature and role of theory in teacher education. The results indicate conflicts between student teachers? assumptions about theory in general and pedagogical theories in particular, and also between a narrow conception of the nature of theory and a more nuanced understanding of the purpose of theory. Student teachers? encounter with pedagogy as an academic discipline?with a different epistemology than the one they know from their discipline-specific studies?seems to cause considerable struggle that often ends in a devaluation and denigration of theory in teacher education. The implications of these findings for teacher education are discussed.

Abstract:

This study investigates pre-service teachers' capacities to attend to, analyze, and respond to student thinking. Using a performance assessment of teacher competence, we compare two cohorts of science teacher candidates, one that participated in a video-based course designed to develop these skills and one that did not. Course participants demonstrate more sophisticated levels of attention to and analysis of student ideas. Analysis of the relationship among skills reveals that sophisticated analyses and responses to student ideas require high sophistication in attending to student ideas. However, high sophistication in attending to student ideas does not guarantee more sophisticated analyses or responses.

Summary prepared by Nicolas Boileau and Pat Herbst.

Background / Context
Barnhart and Van Es (2014) report on a study of pre-service teacher noticing; specifically, of their ability to attend to, analyze, and respond to student thinking. Prior research has shown that, if not taught how to attend to, analyze and respond to student thinking, pre-service teachers often won't. Instead, their attention is drawn to "superficial features of classroom interactions or use student behaviors, such as raising hands enthusiastically, staying on-task, and following classroom routines in an orderly fashion to deduce that students understood the lesson (Carter, Cushing, Sabers, Stein, & Berliner, 1988; Copeland, Birmingham, DeMeulle, D'Emidio-Caston, & Natal, 1994; So, 2012; Star & Strickland, 2008; Star, Lynch, & Perova, 2011)" (p.85). Further, when evaluating instruction, pre-service teachers often make claims about teaching and learning without backing these claims with sufficient evidence. That said, some researchers have expressed optimism that introducing pre-service teachers to "tools and frameworks" describing how to attend to, analyze, and respond to students could "permit more sophisticated attention to salient details and enable the transformation of these noticed details into evidence that can be used to inform future instructional decisions (Davis, 2006; Levin et al., 2009; Santagata & Angelici, 2010; Stürmer, Konings, & Seidel, 2012)" (p.85).

Purpose / Research Design
In order to test the hypothesis that pre-service teachers can be taught how to attend to, analyze and respond to students' thinking in sophisticated ways, the authors set out "to investigate how a video-based course, Learning to Learn from Teaching (Santagata & van Es, 2010), supported secondary science pre-service teachers in learning to analyze and reflect on teaching and learning in systematic ways" (p.84). The authors sought to understand both whether such a course could influence the development of these skills, as well the relationship between those skills. Accordingly, the paper is framed as a response to the following two research questions:

> "a) Do pre-service teachers who participated in a course designed to scaffold systematic analysis of teaching through video analysis draw on the skills to analyze their own teaching compared to a cohort of teachers who did not participate in the course? and
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> b) How are the skills of systematic analysis of teaching related to each other?" (p.84)

To answer these questions, the authors used the Performance Assessment for California Teachers (PACT) to compare the responses of two cohorts of pre-service teachers – one who had taken the LLfT course and one that did not – to three questions related to their ability to attend to, analyze and respond to student thinking. The non-LlfT cohort was essentially a control group, in the sense that the two cohorts underwent the same teacher education program (fieldwork and courses) at the same university, with the

exception of the LIfT course. The responses to three questions were analyzed using a mixed methods approach. A qualitative approach was deemed necessary to construct detailed descriptions of the ways in which participants attended to, analyzed, and responded to student thinking, while the "analytic power" (p.87) quantitative methods were needed to investigate the relationship between those three skills.

To answer the first research question, a random sample of responses was analyzed using a "sentence-by-sentence coding technique" (p.87), which provided the authors with information about what participants observed and analyzed, how detailed their descriptions of those things were, and "the relationship among what they observed, their analyses, and their suggestions for improving teaching" (p.87). This allowed the authors to define three "levels of sophistication" (p.87) with which each of the three skills were enacted - "low", "medium" or "high." These, in turn, were used to construct the framework described in the following table (also found on page 87 of the paper), which contains definitions of what was regarded as low, medium and high sophistication in each of the skills of interest:

Table 2
Levels of sophistication for noticing skills.

Skill	Low sophistication	Medium sophistication	High sophistication
Attending	Highlights classroom events, teacher pedagogy, student behavior, and/or classroom climate. No attention to student thinking.	Highlights student thinking with respect to the collection of data from a scientific inquiry (science procedural focus).	Highlights student thinking with respect to the collection, analysis, and interpretation of data from a scientific inquiry (science conceptual focus)
Analyzing	Little or no sense-making of highlighted events; mostly descriptions. No elaboration or analysis of interactions and classroom events; little or no use of evidence to support claims.	Begins to make sense of highlighted events. Some use of evidence to support claims.	Consistently makes sense of highlighted events. Consistent use of evidence to support claims.
Responding	Does not identify or describe acting on specific student ideas as topics of discussion; offers disconnected or vague ideas of what to do differently next time.	Identifies and describes acting on a specific student idea during the lesson; offers ideas about what to do differently next time.	Identifies and describes acting on a specific student idea during the lesson and offers specific ideas of what to do differently next time in response to evidence; makes logical connections between teaching and learning.

The framework was then used to code 16 LIfT cases and 8 non-LIfT cases, in order to determine whether the two cohorts differed in terms of the levels of sophistication of their attendance to, analysis of, or responses to student thinking. Each participants' level of sophistication in ach of the three skills was rated as 1, 2 or 3, depending on whether it was deemed low, medium or high, respectively. Multiple coders were used. Inter-rater reliability for each of the three skills was between 73% and 93%.

The authors also explained that they used a Mann-Whitney U test "to examine differences between LLfT and non-LLfT participants as compared to each other on each of the three skills (attending, analyzing, and responding) and their combined rank score on the three skills" (p.87). Finally, "[b]ecause the data [were] not normally distributed, the sample size [was] small, and the data [were] ordinal rather than categorical, [the data from the two cohorts were combined and] Kendall's Tau values were calculated to determine the strength of the relationship among the skills across all cases (attending analyzing; attending responding; analyzing responding)." (p.87)

Findings/Results
In relation to the first research question, the authors found that LLfT candidates were, on average, more sophisticated than non-LIfT candidates, in terms of their ability to attend to, analyze and respond to student thinking. More specifically, the authors found that "although there are low scoring individuals in both groups, most of the candidates who participated in the course scored in the medium to high range for the three skills, while a greater number of the candidates who did not experience the course scored in the low to medium range for all three skills" (p.88).

To exemplify some of the differences between the two cohorts, the authors compare detailed descriptions of one non-LLfT candidate's analysis of a video of their instruction with an LLfT candidate's analysis of a video of their own instruction. The non-LLfT candidate's analysis was similar to those described in previous literature – focused on the teacher and containing evaluative statements without enough

evidence to back their claims. In contrast, the LLfT candidate demonstrated a high "level of attention in the description and content of student thinking" and "built on students' science thinking during instruction" (p. 89).

In relation to the second research question, the researchers "hypothesized that high sophistication on attending would support higher levels of sophistication on analyzing, and higher sophistication on attending would in turn support higher levels of sophistication on responding" (p. 90) and that "low levels of sophistication in some skills would inhibit candidates from demonstrating high levels of sophistication in others, and that candidates would be more likely to demonstrate high levels of sophistication in the skill of attending compared to analyzing and responding" (p. 90). The results generally support these hypotheses. The Kendall's tau value for the relationship between attending and analyzing as well as for the relationship between analyzing and responding were both positive and highly significant. On the other hand, the descriptions of the two students (one from each cohort) summarized above, in addition to a low and non-statistically significant Kendall Tau coefficient for the relationship between attending and responding, had the authors question whether there was truly a relationship between these skills. Based on this, the authors claim that "highly sophisticated analysis depends on highly sophisticated attention to student ideas," that "highly sophisticated responses, whether proposed or enacted, depend on highly sophisticated analyses of student ideas," but that the quality of many of the responses to students were poor. Consequently, they suggest: "attending without analysis does not typically lead to sophisticated responses to student thinking" (p. 91).

Discussion/Conclusions
In terms of the first research question, the authors were encouraged by the result that the LLfT course is associated with improvement in students' ability to attend to, analyze, and respond to student thinking, given that, in contrast, non-LlfT candidates missed many opportunities to attend to student thinking, despite the fact that the PACT assessment encouraged them to. They were particularly encouraged by these results, because the study was conducted several months after the LlfT candidates had taken the course and prior research suggests that teachers do not typically carry what they learn in their teacher-education courses with them into their work in schools.

In terms of their second research question, the authors suggest that the dependence of pre-service teachers' abilities to analyze and respond to students thinking on their ability to attend to student thinking has important implication for teacher education. It implies both that, if we hope to enable pre-service teachers to analyze and respond to student thinking, claim that "preparing pre-service teachers to learn how to attend to student ideas may be a critical prerequisite skill for more integrated, disciplined, and effective reflection proposed by research (Davis, 2006; Hiebert et al., 2007; Rodgers, 2002)" (p. 91). However, it is important to keep in mind that the ability to analyze or respond to student thinking are not necessary consequences of attending to student thinking.

Last, on page 92, the authors also acknowledge several limitations to their study, which included:
- "[O]nly look[ing] at candidates' proposed instructional responses to student thinking as documented in the PACT, rather than how actually responded during instruction as captured in the videos of instruction"
- The use of only "one data source, the PACT assessment, to analyze pre-service teachers' reflective capacities"
- "[O]nly look[ing] at candidates' reflection and analysis of teaching at one point in time."

Questions
1. Consider the table on page 87. The coding system used three characteristics expected of teachers' commentaries on videos: attending, analyzing, and responding. But they defined these phenomena at a molar level—they assessed completed comments holistically, according to how well the coders considered the teacher to have engaged in the target characteristic. If these characteristics were to be defined at a molecular level - that is, by the presence and nature of specific discourse or language features - how do you think one could look for evidence of attending, analyzing, and responding?

2. The authors attributed one level for each characteristic and each participant, even though the participants responded to several questions. If the data had been parsed more finely, say, if the coders had assigned one level for each characteristic and each response, how could this have complicated the data analysis? Would such data structure afford other opportunities, in terms of questions to ask?
3. Beyond the (limited) practical value of suggesting that the LIfT class had a positive correlation with the qualities of the assessment portfolios, what can we learn from the methodologies employed in this study?
4. What other characteristics of participants' analysis of their own videos of teaching could one look at in written individual entries? How could one code for those?
5. The quality of participants' commentaries on their own video as far as attending, analyzing, and responding might have been influenced by the fact that they were writing them for an official assessment. If one were to compare them with responses to same questions by same sort of participants in a lower stakes assignment, what conjectures could one study? How?

Chieu, V. M., Kosko, K. W., & Herbst, P. G. (2015). An analysis of evaluative comments in teachers' online discussions of representations of practice. *Journal of Teacher Education, 66: 35-50.*

Abstract:

It has been common to use video records of instruction in teacher professional development, but participants have rarely been encouraged to evaluate teachers and students' actions in those records, allegedly because evaluation deters from the development of a professional discourse. In this study, we inspected teachers' online discussions of animations of classroom episodes realized with cartoon characters, looking at the difference in the content of conversation turns when members made evaluative comments and when they did not make evaluative comments. We were interested in finding out whether making evaluative comments correlated with participants' reflection on their professional practice and proposal of alternative teaching actions; for that purpose we used systemic functional linguistics (SFL) to develop a coding scheme that attended to evaluation, alternatives, and reflection in forum discussions. We found statistically significant evidence that the more the participants actively evaluated the teaching in the animations, the more they proposed alternative teaching actions and reflected on instructional practice. We relate these findings to the notion of social presence in online discussions.

Summary prepared by Joy Johnson and Pat Herbst.

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Background (Context)
Chieu, Kosko, and Herbst review both studies of online and offline discussion of representations of practice in teacher preparation and in-service professional development. Videos of classroom instruction have often been used to elicit teacher knowledge and foster conversations about teaching practice, yet facilitators often advise against teachers making evaluative comments in such conversations as it might hinder professional discourse. Prior research by Chieu, Herbst, and Weiss (2011), however, had found that when confronted with animated representations of classroom interactions and not forewarned against evaluations, teachers do make evaluative comments and that these evaluations are often accompanied by teacher reflection and discussion of alternative teaching actions. Thus, this type of representation of practice provides an avenue through which the role of evaluation in teacher learning can be investigated.

The notion of presence, derived from Marvin Minsky's "telepresence," is frequently used in human-computer interaction and computer mediated work to describe the qualities of a computer mediated interaction that make it possible for participants to live the illusion that their experience is not mediated. A social variant of presence might apply to online forum interactions and helps raise the question of how online interactions may increase participants' sense that they are actually talking to other people when they post in a forum. Grounded in Systemic Functional Linguistics, particularly on the notion that language has systems that enable users to relate to others (language fulfills *the interpersonal metafunction*), and on the characterization of evaluation as one of such language systems (Martin & White, 2005), the authors suggest that participants' use of evaluation in online forums might increase social presence because of its support of interpersonal communication. Because of that positive aspect of evaluation, the researchers argue for the importance of asking the question whether the presence of evaluation in online postings correlates with other indicators of professional learning. Prior work by Herbst and Chazan (2006) had proposed *alternativity* (i.e., the ability to consider other teaching choices or actions) and *reflection* (i.e., the capacity to consider the reasons for or consequences of a teaching action) as two productive characteristics of teachers' discussion about representations of practice. Other literature has also identified alternativity and reflection as important components of teacher learning, even when not associated with discussions of representations of practice. In this study, the authors investigate the correlation between evaluative comments and expressions of reflection and alternativity in online postings.

Research Questions/Methodology
The authors investigate the correlations between evaluative comments and reflection and alternativity in an online forum for preservice and novice teachers hosted in *LessonSketch* in which teacher and student

interactions are represented through animations. Using this platform, the authors investigated the following questions:

RQ1: "Are there any associations between the observation that participants evaluate events of embedded animations and (a) the observation that they anticipate alternative actions by teacher or students, and (b) the observation that they interpret or reflect on what they notice?" (pp. 38-39)
RQ2: "What is the nature of those associations, if any?" (p. 39)
RQ3: "Are there any significant effects of the way individual participants post in forums (i.e., the frequency of their forum posting) on those correlations?" (p.39)

To respond to these questions, eight online sessions were designed for a teacher education course on geometry instruction. Each session included a discussion of one or more animated classroom stories in which the 21 students enrolled in the course commented on and discussed the animated stories in an online forum with a total of 723 posts. Eleven of the participants were teacher candidates while the remaining 10 students were novice teachers in their first three years of in-service teaching. Participants' postings were the unit of analysis. Each unit was coded, using a coding scheme developed on the basis of indicators from Systemic Functional Linguistics, for the presence of evaluation, reflection, and alternativity. For instance, posts with evidence of evaluation were coded a 1 and while postings without any evaluative comments were coded as 0.

Binary codes were then analyzed to determine the likelihood that a post with evidence of evaluation would also have evidence of reflection or alternativity. Because each participant posted multiple times for any given online session and across online sessions, the authors did not treat forum posts as independent. The authors used a Hierarchical Generalized Linear Model (HGLM) to address the nesting of forum posts within individuals, yet because of sample size constraint, the analysis did not also address the nesting of comments within discussion threads. Two multi-level models were developed; one in which reflection was the dependent variable and a second with alternativity as the dependent variable. The first level of each model included a variable for evaluation and an error term while the second level of each model included as independent variables the number of posts by a particular student and the status of the student as a preservice or novice teacher.

Findings
In their analysis of the association between evaluation and reflection, the results of the unconditional (or empty) model found that participants were more likely to make a forum post that included reflection than not and that 10% of the variance in whether a post included reflection was due to individual forum participants. When adding evaluation in a post as a predictor, the authors found that a post was 3.2 times more likely to include reflection if it included evaluation than if it did not include evaluation. Additionally, a participant's total number of posts or status as a pre-service or in-service teacher was not significantly related to reflection.

In their analysis of the correlations between evaluation and alternativity, they found that participants were more likely to post comments with alternativity than not, but they did not find that the nesting of posts within individuals significantly explain the variance in alternativity. Thus, in their analysis of alternativity, the authors did not employ a HGLM but instead used a logistic linear regression. This analysis found that the odds of a comment including alternativity were 4.1 times greater if the post also included evaluation than if it did not include evaluation.

Discussion/Conclusions
Though Chieu, Kosko, and Herbst found that a large percentage of posts contained reflection and alternativity, these characteristics of online discussion were significantly more likely when a post also included evaluation. Considering the professional desirability of those two characteristics, the authors suggest that discouraging participants from making evaluative comments may lower the quality of discussion of practice. The notion that evaluation supports the interpersonal metafunction and thus social presence helps understand the positive value of evaluation. If such discussions are anchored in representation of instruction that use animated cartoons as opposed to videos of a participant's teaching, the usual misgivings about evaluation have even less weight.

Questions

1. In this study the researchers used postings nested in individuals and entered as predictors of individual behavior the *status* (preservice, novice) and the *posting frequency*, none of which ended up being significant. What other predictors might be sensible to consider? Why would they make a difference?

2. *Alternativity* and *reflection* were the two outcome variables coded in postings. Are there other outcome variables that you'd think one needs to look for, particularly as regards possible correlation with evaluation? How could such coding be operationalized (using what linguistic indicators)?

3. *Evaluation* is argued to be an indicator of social presence, because of its role as resource for interpersonal meanings. What are other ways in which people might indicate that they are experiencing the interaction in a forum as a real conversation? How could those be detected?

4. What are other research questions that could be asked using similar techniques for data collection (response to media in forums), coding (linguistic coding of forum postings), and analysis (hierarchical linear modeling where postings are nested in individuals or alternatively where postings are nested in conversations)?

5. What special affordances do you think the media (e.g., animations or videos) brings to this research, that might make it special within the larger universe of teacher-to-teacher discussions, online or offline?