WHEN LEARNER INQUIRIES ARISE: MARKING TEACHER COGNITION AS IT UNFOLDS “IN-THE-MOMENT”

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Abstract
With the understanding that teacher cognition itself is ever-emergent, originating and framed by engagement with social activities (Johnson & Golombek, 2011), the current study examines one expert English as a Second Language (ESL) teacher’s micro-analysis of her classroom practices when addressing learner inquiries in-the-moment, and how such analysis leads the teacher to alter her conscious awareness of what it means to teach language even at an advanced point in her career. Bridging the methodologies of conversation analysis and ethnographic analysis, two distinct practices were used by the teacher when addressing learner inquiries: doing answering and modeling exploration. Each practice is detailed with a focus on their varied constructions and the specific verbal and nonverbal communicative cues found to influence their uses. Numerous and simultaneous factors are shown to affect the teacher’s management of learner inquiries, factors both paralleling and contradicting her perceptions of teaching. The paper concludes with a discussion on how the findings not only connect to the current teacher cognition literature but also advocates for opening up the methodological tools used in SLTE to more fully understand teacher learning.

Keywords: Teacher cognition, teacher expertise, conversation analysis, ethnography, ESL

Introduction
Over the past three decades, second language teacher education (SLTE) researchers have sought to investigate factors influencing teacher learning and, in turn, its effects on language learning opportunities in classroom practices (Borg, 2011; Burns & Richards, 2009; Kubaniyova, 2014). In doing so, the field has focused much attention on teacher cognition, i.e., “what teachers think, know, believe, and do” (Borg, 2003, p. 81), with the understanding that cognition itself is ever-emergent, originating and framed by engagement with social activities (Johnson & Golombek, 2011). Given the dynamic nature of teacher cognition as understood within the SLTE literature, the current study illustrates how cognition itself unfolds moment-by-moment in the nuanced interactional work of teaching. Here, I investigate one expert English as a Second Language (ESL) teacher’s micro-analysis of her classroom practices when addressing learner inquiries in-the-moment, and how such analysis leads the teacher to alter her conscious awareness of what it means to teach language even at an advanced point in her career.

Background
At the center of understanding the dynamic relationship between teacher cognition and in-the-moment classroom practices are teachers’ belief systems about learning and instruction, knowledge gained in professional activities,¹ and perceived teaching expertise. Viewed as what teachers think should be

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done or what is preferable for learning, teacher beliefs have long been understood to be essential factors affecting teaching and its influence on students’ learning (Basturkmen, Loewen, & Ellis, 2004). Teachers’ beliefs are found to stem from their own experiences as learners in classrooms, i.e., their *apprenticeship of observation* (cf. Lortie, 1975), or from prior professional work and teacher education programs (cf. Basturkmen, 2012). From these, numerous studies have shown the direct effects of teacher beliefs on classroom practices (e.g., Borg, 2006; Li & Walsh, 2011; Ng & Farrell, 2003) while others have illustrated discrepancies between stated beliefs and classroom behaviors (e.g., Borg, 1998; Farrell & Bennis, 2013; Lee, 2009). Some have accounted for these inconsistencies by differentiating levels of core and peripheral teacher beliefs (Phipps & Borg, 2009), with the former outweighing the latter in terms of what ultimately affects teaching. Speer (2005), however, asserted that the crux of this issue was not solely differentiating the beliefs themselves but also the methodological tools used to get at teachers’ professed beliefs (i.e., what they state they believe) versus their attributed beliefs (i.e., what is reflected in actual practice); in other words, avoiding a conflation of methodologies to get at teacher’s perceptions of their beliefs and what beliefs actually surface in classroom practices.

Equally important to teacher beliefs is the knowledge gained in professional activities. Originating with Shulman (1986), the concept of teacher knowledge has been adapted and broadened in the SLTE field to include knowledge about the field of language learning with knowledge of how to teach (Freeman & Johnson, 1998; Richards, 2008). To a great extent, the latter category has become synonymous with an understanding of applied linguistics (Bartels, 2005), documenting the perceived influences of teachers’ knowledge of second language acquisition (e.g., Angelova, 2005; Busch, 2010) and linguistics (e.g., Belz, 2005; Riegelhaupt & Carrasco, 2005) on their instructional practices. Knowledge of how to teach has been vastly discussed, with a focus on how to present materials to learners that are at a suitable level depending on their individual needs (e.g., Hillocks, Jr., 1999), enable learners to work with one another in such a way that fosters learning (e.g., Long, 1985), assess learner knowledge and facilitate interaction through feedback (e.g., Ellis, 2007), and incorporate learners’ contributions into the lesson (e.g., Gatbonton, 2008). While varied, this work has often focused on knowledge gained from teacher education contexts, leading some scholars to caution against emphasizing the overreaching importance teacher education programs play in building teacher knowledge. The experienced teachers in Borg’s (2013) study, for example, identified how experiences in actual classrooms adapted their knowledge of teaching more so than professional development educational programs. In this respect, in-the-moment classroom interactions are viewed as a place for experimentation, where one gains knowledge on which types of methods and activities work best for a particular context (Allwright, 2005).

SLTE research has also investigated the effects of language teacher expertise on classroom practices (Farrell, 2013). Stemming from cognitive psychology (cf. Sternberg, 1999), expert teachers are identified as ones who continuously reflect on different classroom management techniques both in-action (i.e., in the moment) and on-action (i.e., subsequent to the lesson) (cf. Schön, 1983), and who consider the long-term ramifications of their practices beyond the immediate instructional setting (Bereiter & Scardamalia, 1993). To do so, teachers must possess numerous domains of knowledge needed for language instruction and learning and systematically implement that information into their classroom practices in ways that address the needs of the learning context (Sarangi, 2013). Tsui (2005) noted, though, that deducing what teachers explicitly know is not sufficient in determining level of expertise; rather, how teachers put their knowledge into practice in-the-moment exemplifies where on the expertise spectrum teachers lie. Case in point is Tsui’s (2003) multiple case studies documenting language teachers’ development of expertise. Through a triangulation of data which included focus groups, journal writings, and glosses of classroom discourse, Tsui found that expert teachers were more adept at dealing with “the multidimensionality, immediacy, and unpredictability” of classroom interactions (p.
138), stating that they felt at ease responding to such unexpected events with automaticity.

Further exemplifying the potential relationship between teacher expertise and classroom interactions is how teachers address learner inquiries, defined as uninvited and, thus, unplanned contributions to the discourse where learners initiate new sequences-of-talk seeking information (Waring, 2011). While not highlighted in the SLTE literature, research on learner inquiries from the fields of classroom discourse and second language acquisition closely links such learner talk with the concept of learner agency and, in turn, the promotion of language learning opportunities in classroom interactions by allowing learners to verbalize their thoughts in connection to the topic at hand (van Lier, 2008). Prior work in these fields has focused on teachers choosing to address such learner turns based on whether the content of the inquiry connects in some way to the content of the talk, thus furthering the lesson along (e.g., Hawkins, 2007; Kahn, 2012; Richards, 2006). Others have focused not only on what the inquiry turn entails but where it surfaces in the interaction. Waring (2009) found in her single case analysis one teacher allowing the continuation of learner-initiated sequences at major sequential boundaries in the lesson, e.g., at the end of an activity when a question is asked regarding the correctness of a previously discussed answer. At other times, teachers bypass learner inquiries, “in effect interactionally delete[ing] the learner’s initiation of the topic” from the talk (He, 2004, p. 570). Such actions could take form as overt shut-downs of the inquiry, i.e., “not right now” (Jacknick, 2011) or as teacher-directed changes to the flow of the discourse, such as addressing an inquiry with a counter question, essentially altering the activity from being learner-centered to teacher-fronted (Markee, 1995). With these discursive findings, it would therefore be lucrative to investigate teacher cognition behind the in-the-moment addressing of learner inquiries insomuch as this management would directly affect the promotion of language learning opportunities in classroom discourse.

Overall, the research presented here documents various factors found to interconnect teacher cognition with classroom practices. As noted throughout the literature, most studies examining teacher beliefs, knowledge, and expertise draw from data concerning teachers’ perceptions of their practices (e.g., interviews, reflections, focus groups) or, at most, recalls of classroom practices based on glosses of classroom discourse (i.e., transcriptions of words heard) (cf. Barnard & Burns, 2013), thus failing to document the intricacies of the interaction and potential factors affecting the teachers’ in-the-moment decisions. The current study sets out to address this by doing a micro-analysis of one expert teacher’s management of learners’ inquiries as they arise in real-time and investigate how this analysis can help her further develop her own understanding of teaching.

**Data and Method**

The data come from a five-week summer session at an adult ESL community program in the United States. The teacher participant, Ann, was a master teacher in the program with 35 years of experience teaching languages across the United States and Europe; during the study, she was also receiving her doctorate in applied linguistics, enabling her to stay current on research and pedagogy. The course she taught was the highest proficiency level in the program and consisted of 11 students: six Japanese speakers from Japan, two Portuguese speakers from Brazil, two Korean speakers from South Korea, and one German speaker from Germany. As often found in such programs in the United States (U.S. Department of Education, 2007), the learners’ ages, educational backgrounds, professions, reasons for learning English, and reasons for being in the course varied.

Data were collected regarding Ann’s perceptions of her practices, the classroom interaction itself, and Ann’s thought-process undergirding her actual practices. A pre-semester semi-structured interview was conducted, video-recorded, and transcribed to get at Ann’s general perceptions of her teaching. The protocol focused on her educational background, entry into the field, development as a teacher, reflections on general teaching practices, and discussions of the current teaching context. To get at Ann’s classroom practices, each lesson was video-recorded. A total
of 26 hours of interaction were recorded using three cameras, one at the back of the classroom facing the whiteboard at all times, and two positioned at each front corner of the room facing back so as to encompass all interactions. Once specific management practices began to emerge from the classroom interaction data, stimulated recall sessions were conducted to allow Ann to describe and interpret her classroom practices in relation to the immediate context and overall perceptions of her teaching.

Data analysis consisted of bridging conversation analytic and ethnographic methods. Conversation analysis (CA) is a systematic method of studying the construction of naturally-occurring talk. The purpose of CA is to understand how interlocutors construct their own turns-at-talk based on how they orient to others’ prior turns; as such, CA addresses “why that now” (Scheglof & Sacks, 1973, p. 299). This occurs by first transcribing the interaction using a detailed transcription notation system created by Gail Jefferson which shows how each turn is verbally and non-verbally produced and understood by the participants as they construct their next turns-at-talk (Scheglof, 2007). Central to ensuring valid findings is the strict adherence to the transcripts, thus allowing researchers to examine the data from an emic perspective (i.e., how the interaction was constructed and oriented to by participants) as opposed to an etic one (i.e, researcher’s own interpretation of the discursive construction) (ten Have, 2007).

Given its micro-analytic nature, CA was utilized in the examination of Ann’s classroom practices. Each day’s video-recordings were transcribed using a modified version of Jefferson’s notation system (see appendix) (Waring, 2011). Following the transcription, reiterative line-by-line analyses were done from which specific classroom practices began to surface, including those showing Ann’s management of learner inquiries. Further line-by-line analyses were then conducted on the learner inquiry data set, from which distinct practices emerged and were separated from one another. A final discursive analysis was done to distinguish the varied forms in which the practices took shape and the specific interactional contexts where they were found.

While CA provides in-depth analyses into the moment-by-moment construction of interaction, ethnography reveals what CA alone cannot (Waring & Hruska, 2011); in this case, how Ann perceives and interprets her teaching. Following Bogdan and Biklen’s (2007) scheme for reiterative and inductive analyses of interview data, the first reading of the semi-structured interview transcript focused on noting recurring words, phrases, or stories. During the second review of the data, connections were made between recurring items that had shared characteristics or were often utilized in tandem by Ann. The third and final reading of the transcript allowed for generalizations to be formed about her perceptions. These findings were reviewed by Ann for accuracy and clarification. Once specific practices began emerging from the CA data, five stimulated recall sessions were conducted to elicit Ann’s perspectives on their uses. The first two sessions focused on examining apparent prototypical cases of the different practices found. Ann’s insights were then synthesized to formulate a generalization of the factors perceived as influencing her use of a particular practice. Beginning with the third stimulated recall session, Ann was also presented with variations of those practices as well as deviant cases. When viewing these, she was asked to compare them with their prototypical counterparts. This analysis was repeated for the fourth and fifth stimulated recall sessions as more interaction data was transcribed and analyzed. The process culminated with sets of factors reported by Ann as influencing her actual practices found in the CA analysis compared with her perceptions of her teaching found in the interview data.

Findings

Here, Ann’s general perceptions of her teaching are first presented, with a focus on the general themes that permeated throughout her pre-semester interview. This is followed by the CA data findings demonstrating her actual classroom practices when managing learner inquiries, and her discussion of those classroom practices in relation to the instructional context and her pre-conceived notions of her own teaching.
Perceptions of Teaching

Throughout the semi-structured interview, Ann emphasized two points that summarized her overall understanding of her teaching: constructing lessons organically based on perceptions of learners' needs and promoting learner autonomy throughout the lessons. While Ann never explicitly framed her teaching as such, it was evident over the course of the interview that these two points were intertwined.

As explained by Ann, her experiences working with varied academic contexts had led her to develop a philosophy of organically finalizing her lessons in-the-moment rather than having a fully set agenda or lesson plan pre-made. In working within contexts such as community language programs, she noted that “these students need actual practice with the language that they can utilize in real life…something they can grasp that would be useful for their jobs, families, or what-have-you while living here in the United States.” As opposed to her prior experiences working in English for Academic Purposes or English for Specific Purposes contexts, where curricula are set and learners are relatively homogenous in their course objectives, here she stated that there was more opportunity for adaptation in how to approach lessons, particularly with learners at an advanced proficiency level who have diverse reasons for taking the course. She enters the classroom with a general idea of what to discuss; activities are based on that general idea but are created fluidly to allow her to change their foci with ease depending on “how [she] feel[s] the learners are responding or how [she] view[s] their needs for that day based on discussions prior to the start of class or during the warm-up.” Ann noted that this is something which took time to develop, a combination of her work experiences and her own beliefs that language should be taught in context, thus enabling the students to better understand how it is used and why. She acknowledged that this is a bridge between her understanding of (1) Long’s (1996)3 focus-on-form approach to language, where language is contextualized, and (2) Vygotskian sociocultural theory (Lantolf, 2000) where, as she described it, activities are created and adapted to work within the learners’ individual zones of proximal development.

Along the lines of constructing lessons organically is the promotion of learner autonomy. As Ann attested, “I’m the teacher, but it’s important for [learners] to take initiative, speak their minds, get their thoughts out there…then they can work with language on their own terms.” Citing van Lier (1996) as a proponent of this, Ann stressed the need for teachers to view learners as equally viable classroom participants for changing the direction and content of the lesson. Case in point, Ann mentioned, is the promotion of learner initiatives in classroom interaction, such as inquiries or comments, which enable teachers to glimpse at what learners are thinking and use that information in subsequent lesson planning, i.e., organically change the flow of the intended lesson. Furthermore, Ann described the need to have learners respond to each other without the default reliance on the teacher to give an assessment or mediate the talk. In this regard, Ann perceived her teaching as mostly “hands off”, where she models for learners the first day of the semester how to respond to each other's language use, whether it be in response to a teacher elicitation or in response to another's initiative. For her, this is essential in promoting the learners as a unified group, particularly when working in a community language program where learners have varied backgrounds. Simultaneously, she has found that setting up learner-learner responsibility “makes them more reliant on others when checking their own language use, something which they will have to do outside of the classroom since [the teacher] will not always be available”. From this, Ann emphasized the importance of having learners respond to each other “so they can think more about language.”

Classroom Practices: Managing Learner Inquiries

Broadly speaking, an inquiry is defined as a sequence-initiating turn requesting information. As found in the CA data, such requests can be done explicitly, where learners overtly ask for information, or implicitly, where Ann orients to learner turns as requests...
for information without them being overtly constructed for that purpose. Furthermore, some inquiries appear easier to manage while others more problematic. As found in the conversation analytic examination of the interaction data, Ann manages such non-problematic and problematic inquiries by employing two practices respectively: (1) doing answering and (2) modeling exploration. Each practice will be presented in detail below; turns with learner inquiries are marked with \( \Rightarrow \) while Ann's management actions are marked with \( \Rightarrow \).

**Managing Non-problematic Inquiries: Doing Answering**

When managing learners' non-problematic inquiries, or those that can be addressed readily and straightforwardly, the practice of doing answering is utilized, where Ann either directly answers the inquiry herself or delegates the answering to another learner. In either case, the reply is produced within a very narrow window in relation to the inquiry turn.

In general, Ann directly answers inquiries when they concern classroom procedures, where she clearly has epistemic authority. Excerpt 1 illustrates such an instance. Here, the learners have just been handed a sheet entitled “Classic Mistakes” consisting of mistakes Ann has heard the learners say over the past week which coincide with common errors heard throughout her career. She is now giving the instructions for the activity:

**Excerpt 1: All of Them**

01 Ann: \((to all LL)\)- “okay.” take a look at the (0.2) sentences.
02 Maria: \( \Rightarrow \) are they the same ones? or, (0.4) are we writing about different ones.
03 Ann: \( \Rightarrow \) <no. you're gonna talk about (. ) all of them.
04 Maria: oh. okay.

As the instructions are being given (line 1), Maria inquires if the learners are to write down new sentences or just work with the incorrect ones on the sheet. As seen, Ann hurriedly takes the next turn in line 3 and clearly states “No. You're gonna talk about all of them.” Maria follows this answer by providing a minimal post-expansion composite of “Oh. Okay” showing simultaneous receipt and acceptance of Ann's information (Schegloff, 2007).

In addition to inquiries concerning classroom procedures, Ann directly answers when there is evidence in the interaction that other learners may not be able to respond, as found in excerpt 2. The class has been given a list of adjectives and must decide which prefixes (in-, -un-, dis-) are used to form their antonyms. Prior to beginning the main component of the activity, Ann is asking the learners to pronounce and provide a definition of each of the adjectives. The learners are now looking at the word “approachable”:

**Excerpt 2: All Senses of the Word**

01 Ann: approachable. do you know what this means?
02 (1.4)- ((Ann looks at LL; LL look at Ann))
03 \( \uparrow \) wh [ at does- ]
04 Ichiro: [someone-]
05 Ann: hm.
06 Ichiro: <who {(2.4) - ((appears to consider wording))} is easy to (1.8) <approach?>
07 Ann: ((smiles)) - exactly.
08 (0.6)- ((Ann looks at other LL))
09 i like that. ((nods to Ichiro))
10 Tetsu: \( \Rightarrow \) ((to Ann))- physically?
11 (0.4)- ((Ann looks from Ichiro to Tetsu))
12 Ann: physically and in all senses of the word.
13 Tetsu: oh.

After not receiving an answer to her original elicitation (line 2), Ann proceeds to restate her question when Ichiro, in overlap, responds (lines 4 & 6). Note that during his turn Ichiro struggles with constructing his response, as shown with his pausing, nonverbal conduct, and use of slow, increased intonation at the end of the turn signaling uncertainty (Couper-Kuhlen, 1992). Once he has provided a correct response, Ann gives an explicit positive assessment (Waring, 2008) and
ends the sequence (lines 7 & 9). In line 10, Tetsu seeks further specification of Ichiro’s definition. Although his eye gaze indicates that Ann is the recipient of his clarification request (Kendon, 1967), it would be feasible for Ann to delegate the role of answerer to Ichiro as it was his answer that needs clarification. In this case, Ichiro’s difficulty in producing the definition in line 6 may have provided Ann with some evidence for his potential inability to handle Tetsu’s inquiry, for after a brief 0.4-second gap where Ann changes her orientation from Ichiro to Tetsu, she directly answers the inquiry (line 12). The excerpt concludes with Tetsu signaling receipt of the information with a change-of-state token “oh” (Heritage, 1984).

Aside from directly answering the inquiries herself, Ann also delegates this to other learners when there is evidence in the interaction that they are able to successfully address the inquiry. In excerpt 3, the learners have been given a worksheet with common expressions that they could hear in everyday conversations. The class is now reviewing “monkey business”:

Excerpt 3: Monkey Business

01 Ann: {((looks at LL))- it’s monkey business. what do monkeys do.} {((points to Clara))- what do the monkeys do outside your house.}
02 LL: [hehehehe.]
03 Ichiro: [ climb. ]
04 Ann: {((to Ichiro))- yeah. they fly around? play around? goof around?}
05 Olga: <they’re silly.>
06 (0.4)- {((Ann looks at and points to Olga)}
07 (2.8)- {((Ann writes on board and sits back down; Clara nods))}
08 Ann: {((smiles towards Olga))- it’s just monkey business.}

((lines omitted- Ann gives an anecdote about her mother’s use of “monkey business” when she was a child))

09 Clara: ➔ {((to Ann))- how do you spell silly?}
10 (0.6)- {((Ann looks towards Clara)}
11 Ann: ➔ {((to Clara))- silly. good question.} {((to Olga))- how do you spell silly.}
12 {((walks to BB))-silly.}
13 Olga: s. i. l. y.
14 (2.8)- {((Ann writes on board and sits back down; Clara nods))}
15 (to Clara))- got it?

Although the excerpt begins with Ann nominating Clara to describe what monkeys do “outside [her] house”4, it is Ichiro in line 4 who first provides a response of “climb,” which Ann acknowledges and elaborates on. This is followed by Olga’s self-selected response “they’re silly” (line 6), to which Ann gives a positive assessment both nonverbally (line 7) and verbally (line 8). After a quick aside where Ann discusses her mother’s use of the expression, Clara brings the talk back to the word “silly” and inquires about its spelling (line 9). Given that Clara’s eye gaze marks Ann as the intended recipient of this inquiry, it would be feasible for Ann to directly answer the inquiry; instead, she delegates the answering to Olga, who brought the word “silly” to the talk and is thereby potentially knowledgeable about its spelling. As Olga spells the word, Ann writes it on the board; once this is done, Clara nonverbally acknowledges the response.

As shown in this first set of excerpts, Ann directly answers non-problematic inquiries, or those that can be readily addressed, when they relate to classroom procedures or where there is evidence in the interaction the learners appear not yet able to successfully answer. In cases where there is evidence the other learners can answer the inquiries, she delegates answering to them. Upon closer investigation of the excerpts, she stated that her overall goal in choosing whether or not to directly answer these inquiries is to ensure interactional flow in the activity. In cases where the inquiry concerned procedural matters, Ann directly answered so as to ensure clarity in the subsequent flow of the activities (e.g., excerpt 1). Secondly, as evidenced in excerpt 2, Ann did the answering when learners displayed difficulty in understanding the concept related to the given inquiry. While examining this excerpt’s video, Ann chose to focus on Ichiro’s eye gaze up to the
ceiling and his careful word choice in attempting to answer Ann’s original initiation, exclaiming, “that’s why I couldn’t go back to him; it looks like he would continue to struggle with [it].” She explained that her actions were done purposefully to prevent potential confusion or misinformation, ensuring that Tetsu received a successful response. Ann was quick to differentiate her actions in excerpt 2 with those in excerpt 3, focusing on Olga jumping in to the talk and initiating the word “silly” in the discourse. As Ann asserted, “it’s clear [Olga] had control of ‘silly’ so I wanted to make sure she maintained ownership of her own idea.”

When asked to summarize her insights into doing answering when managing learner inquiries, Ann exclaimed, “while it’s interesting to see how much I respond to the inquiries, I’m very surprised at how systematic I am, how organized my actions are.” In elaboration, Ann did not realize the importance she placed on interactional low, even at the expense of minimizing learners’ talk. After considering this comment for some time, she noted that even though learner interaction may be minimized at that particular moment, ensuring interactional flow and clarity in an activity helps to promote learner talk in subsequent interaction, a factor she “never thought about before… at least not consciously.”

**Managing Problematic Inquiries: Modeling Exploration**

When managing problematic inquiries, or those that cannot be readily addressed, Ann models exploration, where she displays her thought process when deciphering how to answer a learner’s inquiry. Excerpt 4 is a prototypical example of this practice. The class is in the middle of the prefix activity presented in excerpt 2, where learners are to decide which prefixes (un-, in-, dis-) are attached to different adjectives to form their antonyms. The definitions and uses of the words “communicative” and “assertive” have just been discussed in tandem, and the learners are now writing down the correct prefixes for each:

**Excerpt 4: Assertive Communication**

01  
02  (2.0)- ((Ann looks at LL while they write information))
03  Ichiro:  \(<can\ i\ say\ (0.4)\ assertive\ communication?\)
04  ⇒  (3.0)- ((Ann looks up, as if contemplating))
05  Ann:  \([\text{it\ was-}\ ]\)
06  Ichiro:  \(>i\ have\ [\text{heard}<\ this\ word.\)
07  (1.2)- ((Ann still contemplates))
08  Ann:  ⇒ \{((makes\ elongation\ gesture))\-\ i\ need\ a \}
09  \{([\text{nods})\-\ i\ think\ you\ probably\ could.\}
10  (0.4)
11  Ichiro:  \(<\text{okay.}\)
12  Ann:  \(<\text{i\ need\ to\ see\ a}\ \{((\text{makes\ elongation\ gesture}))\-\long\ sentence.}\)
13  (0.4)- ((Ann and Ichiro look at each other))
14  but\ yeah.\ i\ think\ that\ sounds\ like \}
15  \{([\text{a\ good\ combination.}\)
16  Ichiro:  \([\text{we}\cdots,]\ (0.8)\ we\)
17  sho- (0.4) we should have (. ) assertive communication.
18  (2.2)- ((Ann looks up as if contemplating))
19  Ann:  ⇒ assertive, (0.4) or >we should< have. = we should, ((looks at Tetsu))
20  Tetsu:  \(<\text{we\ study\ it.}\)
21  Ichiro:  \(<\text{yes.\ yeah.\ yeah.}\>)=
22  Ann:  \([\text{yes.\ we\ study\ it.}\]
23  Ichiro:  \([\text{i\ have\ heard\ that\ there.}\]
24  Ann:  \([\text{that\ is\ when\ we\ hear}\ assertive.}\)
25  Tetsu:  \([\text{the\ assertive\ (0.2)\ we\ just\ say}\ [\text{that.}\]
26  Ann:  \((to\ Tetsu)\-\ in\ business\ it’s\ a\ big\ thing.\ tch.\)
27  Ichiro:  \([\text{that\ is\ when\ we\ hear}\ assertive.}\)
28  Ann:  \((to\ Tetsu)\-\ business\ it’s\ a\ big\ thing.\ tch.\)
29  ((Ichiro)):  \((to\ Tetsu)\-\ assertive\ communication.\)

While the learners are writing down what they perceive to be the correct prefixes, Ichiro in line 2 asks Ann for confirmation of the phrase “assertive communication.” While Ann does not verbally
answer the inquiry in line 3, she models exploration by displaying a thinking stance during the 3.0-second silence. After Ichiro accounts for his inquiry as something he has heard (line 5), Ann further models exploration by again displaying a thinking stance before making explicit information needed in order for her to answer (line 7). While doing this, Ann, in latching, keeps open the possibility of “assertive communication” as an acceptable phrase (lines 7-8 & 10).

After Ichiro responds to the request for a sentence (lines 15-16), Ann for a third time displays a thinking stance, this time also verbalizing her thoughts as she repeats aloud Ichiro’s answer (lines 17-18). While doing this, she begins using another resource at her disposal: other learners. It is when she changes her gaze towards Tetsu that the latter confirms that “assertive communication” is a phrase used within the context of Business English. Once this is said, Ann immediately displays recognition and eventually answers Ichiro’s inquiry in lines 29 by stating “I like that.” Throughout the example, Ann neither shows reserve in making known her uncertainty nor attempts to shut down the sequence because of it. Instead, she manages the inquiry by modeling exploration in the form of displaying a thinking stance, making explicit the information needed in order for her to make a determination, and utilizing other resources available to her such as other learners; in so doing, it is made known to the learners in what context this language use is acceptable.

Excerpt 5 shows Ann modeling exploration when confronted with information unrelated to language use. Taking place on the first day of the course, the learners have just finished talking in small groups about different cultures’ stereotypes, including stereotypes about their own cultures. Ann is now asking learners to provide stereotypes about Americans:

Excerpt 5: It’s Not Allowed

01 Ann: {{(looks at Bae)}- okay = more stereotypes.}
02 Bae: all american (. ) have (. ) a gun.
03 Ann: yeah.
04 LL: hehehe[ hehehehehehe. ]
05 Ann: [that’s a stereotype. it is.]
06 Tetsu: yeah.
07 Ann: right. right.
08 Bae: <but in new york city (0.4) they’re not allowed.
09 ((looks around room))- what else.
10 (1.2)- {{Ann glances around room}}
11 ((Ann looks to Bae quizzes tally))
12 they’re not allowed.
13 (0.6)- {{Ann continues looking at Bae}}
14 ➔ is it right?
15 Ann: ⇒ what. that people don’t have,
16 Bae: >it is< not (.) allowed.
17 (0.6)- {{Ann continues looking at Bae}}
18 Maria: it’s not allow[ e d ].
19 Ann: [↑ah.] [ it’s not allowed.]
20 Bae: [ it’s not allowed.]
21 ⇒ (2.2)- {{Ann looks up as if contemplating}}
22 Ann: ⇒ ((to Bae)- i don’t know.
23 (0.2)
24 Ann: ⇒ .HH (0.2) {{(points to Bae)}- google.}
25 Bae: google.
26 LL: [ hehehehehehehe. ]
27 Ann: ⇒ [google it. that’s a very good question.]
28 (0.4)
29 and it’s such a good question that i want you to do some research.

After Bae provides an American stereotype (line 2), Ann positively assesses his response (lines 3, 5, 7) before signaling a close to the sequence (line 9). However, Bae in line 10 continues the topic by stating “But in New York City they’re not allowed.” Orienting to Ann’s silence in lines 11 and 13 as a potential negative assessment, Bae inquires whether this is correct (line 14). In response, Ann begins modeling exploration by first seeking from Bae some sort of clarification of his inquiry (line 15). After this is accomplished with the help of Maria, Ann, as was done in excerpt 4, first displays a thinking stance (line 21) before verbalizing her uncertainty (line 22). Unlike excerpt 4, though, she does not proceed with any further overt exploration but rather directs Bae to a resource he can use to find out his answer, i.e., Google (line 24). Perhaps because she cuts short the exploration, Ann not only affirms that
this is a “very good question” (line 27) but reaffirms it by stating “it’s such a good question that I want you to do some research” (line 29).

The next excerpt diverges from the patterns in the previous two in that Ann models exploration without reaching any sort of resolution (i.e., reaching an answer or suggesting a resource). The learners have been told to draw their English experiences on a life graph and incorporate vocabulary discussed in the previous week that is commonly associated with trends and graphs (e.g., increase, decrease, constant). They are now being asked to explain their life graphs to the other learners, who are to draw the graph based on the vocabulary words used in the description. The activity culminates with the learners comparing their graphs with that of the original speaker. Ichiro, who has volunteered to go first, is 22 seconds into his turn:

Excerpt 6: The Effect

01 Ichiro: then (0.6) it (0.4) my level of studying (1.2) was increase (1.4) increased rapidly.
02 (4.0)- ((Ichiro looks down; Ann looks from LL to Ichiro))
03 but in just for a month (3.2) it con- (1.0) it continued (5.0) until twenty years old.
04 (3.2)- ((Ichiro looks down; Ann looks around at LL))
05 ⇒ i mean, (2.8) the (3.0) ((starts looking at Ann))- effect?
06 (1.2)- ((Ichiro looks up completely; Ann looks from LL back to Ichiro))
07 ((looks to Ann))- continued?
08 Ann: ↑ah. the effect,
09 Ichiro: the [ e f f e c t . ]
10 Ann: ⇒ [(appears to contemplate)- >the effect?]<
11 ⇒ (1.0)- ((Ann looks up as if contemplating))
12 ⇒ the e- ((looks at Ichiro))- yeah. i see what you mean. and i- i- i don’t know if i would say it quite like that.= but- >good. good.< ((makes circular motion))- continue.]
13 (0.4)- ((Ann looks at Ichiro; Ichiro looks a paper))
14 “that’s good.” [[(points to Ichiro’s chart as a reminder)]]=
15 Ichiro: [↑since twenty years old-
16 (0.4) twenty-seven]=
17 Ann: =[ (nods) ]
18 Ichiro: =[years old,]
19 Ann: =mhmm?
20 Ichiro: <↑u:h, (1.2) it (2.0) it decreased (0.2) gradually.

The excerpt begins with Ann changing her gaze between Ichiro and the other learners (lines 3 & 6). While Ichiro articulates his graph, numerous long pauses, along with his gaze shifting between Ann and the drawing, indicate his struggle; this is further exemplified in his self-initiated repair with “I mean…” (Schegloff, Jefferson, & Sacks, 1977). In lines 7 and 9, it becomes apparent that the repair is Ichiro’s attempt at providing a referent for the “it” stated in line 4, which he calls “the effect.” After signaling receipt of this (line 10), Ann begins modeling exploration by first displaying thinking verbally (line 13) and nonverbally (line 14). It is in lines 15-16 where Ann shows both affiliation with what Ichiro is saying but also uncertainty in how to say it. Up to now, her actions parallel those in the previous two excerpts. From this point forward, though, Ann aborts modeling exploration; rather, she acknowledges his attempt and prompts him to continue with his English life graph (lines 16-17, 19, 21).

As exemplified in these three excerpts, modeling exploration was used when managing learners’ problematic inquiries. This practice typically entailed displaying a thinking stance during silence, verbalizing thought processes, and searching for, utilizing, or suggesting resources for reaching an answer. In reviewing these excerpts, Ann called attention to two factors influencing the use of this practice. Similar to the findings in the pre-semester interview, she emphasized her priority in promoting learners as knowledge-holders in the classroom, where learners’ ideas should be deemed as equally important to the
progression of the lesson as the teacher’s ideas, if not more so because the teacher can now have a glimpse into the learner’s thought-process. Also important in modeling exploration is demonstrating for the learners how to work through unplanned or unknown inquiries. Ann noted that doing this modeling when addressing problematic inquiries is in line with what learners commonly experience on a daily basis: addressing others’ inquiries that they may not readily have an answer to.

Ann further provided two additional factors influencing her construction of this practice. This included the nature of the inquiry being asked. When the inquiry concerned language use (e.g., excerpt 4), she was more apt to take longer amounts of time and utilize more actions in order to reach a definitive answer. This was in part due to the emphasis on language use in the classroom, and in part due to Ann being more readily able to ultimately answer such an inquiry. This was not necessarily the case when the problematic inquiry was not language related, as found in excerpt 5. There, Ann acknowledged that she did not know the answer concerning the gun laws in New York City; furthermore, she stated that this inquiry, though tangentially connected to the activity, was not pertinent to the continuation of the lesson for the other learners.

In keeping with the importance of promoting learners as knowledge-holders, Ann did some modeling in the class but ultimately directed Bae to a resource that could more readily answer his inquiry.

Most surprising for Ann were her actions in excerpt 6, with a particular focus on her eye contact between Ichiro and the other learners in the class which, she believed, was a sign of her multitasking. Ann focused on the three turns she took to address Ichiro’s inquiry as a way of acknowledging and valuing his inquiry as important and something he should continue doing in the future. However, she noted that this also sidetracked from the other learners’ priority on the activity or, as she put it, the “flow of the activity.” Given that she did not have a readily available answer for Ichiro and that he had already struggled with producing his output, Ann chose to positively acknowledge his attempt but also further him along.

From this data set, Ann acknowledged that she had not previously explicitly considered “the importance of looking at the nonverbal, the pausing.” By looking at her own teaching so intricately, Ann described how she could see what she prioritized much more clearly, as was the case where her focus was on ensuring that the individual learner’s contribution to the discourse is recognized and addressed, but only as much as it pertains to furthering the activity at hand and “the greater good for the other learners.” When that is not the case, Ann continued recognizing the learner inquiry but not fully addressing it to ensure interactional flow for the others.

**Conclusion**

With the larger aim of examining how teacher cognition unfolds moment-by-moment in the nuanced interactional work of teaching, the purpose of this study was to investigate at a microanalytic level one teacher’s, Ann’s, classroom practices when addressing learner inquiries, and how such analysis lead to a reformulation of how Ann understood her teaching. She initially perceived her teaching as “hands off”, with lessons evolving organically as opposed to being regimented, where learner autonomy in the form of learner initiatives and peer assessment and mediation were highly valued. In doing a microanalysis of Ann’s actual management of learner inquiries, a more in-depth understanding of her cognition emerged. If the inquiries were oriented to as non-problematic, she would either directly answer them herself or delegate other learners to do so if she perceived it would not disrupt interactional flow. When managing problematic inquiries, or those that could not be readily answered, Ann would model exploration, i.e., make known her thought process as she deciphered the answers vis-à-vis displaying a thinking stance during silence, verbalizing her thought processes, and searching for, utilizing, or locating resources to determine the answer. For Ann, modeling exploration showed the learners how to work through potential language issues in the future, thus promoting autonomy beyond the classroom. At the same time, she emphasized the importance of doing
this when she perceived it as beneficial not only for the inquirer but for the promotion of the activity and other learners’ engagement.

At the crux of these micro-analytic findings is how Ann chose to attend to a constellation of factors underlying her decision-making process. Indeed, learner autonomy played an integral role in her instruction, though as she deduced in the final stimulated recall session there was an apparent “hierarchy to how [she] prioritize[s] autonomy in her classroom” depending on the perceived needs of the immediate context, i.e., focusing on promoting the autonomy of the individual inquirer in the moment and/or promoting autonomous opportunities for more learners in subsequent interactions. Ann’s management was therefore systematically determined by taking into account the nature of the individual contribution and the nature and purpose of the activity in which the contribution occurs, as well as utilizing management practices that retain current interactional flow and are used to help circumvent future interactional breakdown. In other words, her management of learner inquiries addressed the need of the individual inquirer and engaged peers in ways appropriate for their perceived levels of competency, and accounted for immediate interaction opportunities and established potential ones for the future. In Ann’s own words:

I never thought about looking at my teaching so intricately: the nonverbal, the pausing, all of it. And I really had no idea that I was so systematic or that I could be systematic and organic at the same time. Teaching depends on context, I’ve always believed that, but making sure that there is interactional flow and weighing the importance of promoting interaction with one [learner] immediately or subsequently with more learners, that seems to be a deeply rooted belief I never realized….I need to explore my own understandings of what it means to teach and reconsider what learner autonomy means to me…I’m glad to know that there are still things I’m learning about myself.

Theoretically and methodologically, the current paper demonstrates how different components of teacher cognition interconnect and surface in microanalytic examinations of the discourse. Instead of gathering data on teachers’ perceptions of what influences their practices, this project provides tools to extract from authentic classroom interaction how these interconnected factors affect teachers’ moment-by-moment actions, from which patterns can be formulated showing how teacher cognition affects and is affected by general classroom practices. Furthermore, the current study highlights how the use of CA as a methodological tool in SLTE research informs ethnographic data. The bridging of CA with ethnographic methods provides insight into the complementary and contradictory nature of a teacher’s declarative and procedural knowledge (Fagan, 2012). Shown here is how CA findings juxtaposed with interview data helped focus the stimulated recall sessions to elaborate on the similarities between the two and clarify contradictory findings that Ann may not have been aware of during the interview. In doing so, she could provide a richer analysis of her management of learner inquiries and begin to reformulate her own perceptions of language teaching.

Pedagogically, the study shows the need for promoting critical thinking among teachers at all levels of their career. Taken from this is the importance for teachers to be aware of any evidence, whether it be verbal or nonverbal, that may be influencing their practices regardless of what they think they are doing. Depending on the nature of the talk, it may be more beneficial for the progression of the lesson and for (future) learning opportunities to keep learner interaction at a minimum in-the-moment rather than having interaction for interaction’s sake. As such, when reflecting on one’s own teaching or asking another person about their teaching practices, it should be emphasized that teacher explicit thought processes do not provide a complete picture of the actualities of classroom teaching. It is here that teachers must consider various factors that influence management decisions in real-time classroom interactions, for it is those decisions that play an ultimate role in promoting or hindering language learning opportunities in the classroom.
Acknowledgements

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Notes

1. “Professional activities” encompasses prior classroom experiences as learner and teacher, as well as educational experiences.
2. All names are pseudonyms.
3. All references in this section were noted directly by Ann in her interview from her two Master’s programs and her doctoral work.
4. This is in reference to how Clara described her childhood home on the first day of class.

References


Tsui, A.B.M. (2003). Understanding expertise in teaching:
Case studies of ESL teachers. New York: Cambridge University Press.


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**APPENDIX: TRANSCRIPTION CONVENTION** (adapted from Waring, 2011)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>.</td>
<td>(period) falling intonation.</td>
</tr>
<tr>
<td>?</td>
<td>(question mark) rising intonation.</td>
</tr>
<tr>
<td>,</td>
<td>(comma) continuing intonation.</td>
</tr>
<tr>
<td>-</td>
<td>(hyphen) abrupt cut-off.</td>
</tr>
<tr>
<td>::</td>
<td>(colon(s)) elongation of sound.</td>
</tr>
<tr>
<td><em>word</em></td>
<td>(underlining) stress.</td>
</tr>
<tr>
<td>word</td>
<td>The more underlining, the greater the stress.</td>
</tr>
<tr>
<td>WORD</td>
<td>(all caps) loud speech.</td>
</tr>
<tr>
<td>°word°</td>
<td>(degree symbols) quiet speech.</td>
</tr>
<tr>
<td>↑word</td>
<td>(upward arrow) raised pitch.</td>
</tr>
<tr>
<td>↓word</td>
<td>(downward arrow) lowered pitch.</td>
</tr>
<tr>
<td>&gt;word&lt;</td>
<td>(more than and less than) quicker speech.</td>
</tr>
<tr>
<td>&lt;word&gt;</td>
<td>(less than &amp; more than) slowed speech.</td>
</tr>
<tr>
<td>&lt;</td>
<td>(less than) jump start or rushed start.</td>
</tr>
<tr>
<td>hh</td>
<td>(series of h's) aspiration or laughter.</td>
</tr>
<tr>
<td>.hh</td>
<td>(h's preceded by dot) inhalation.</td>
</tr>
<tr>
<td>(hh)</td>
<td>(h's in parentheses) inside word boundaries.</td>
</tr>
<tr>
<td>[ ]</td>
<td>(brackets) simultaneous or overlapping speech.</td>
</tr>
<tr>
<td>=</td>
<td>(equal sign) latch or contiguous utterances of the same speaker.</td>
</tr>
<tr>
<td>(2.4)</td>
<td>(number in parentheses) length of a silence in 10ths of a second.</td>
</tr>
<tr>
<td>()</td>
<td>(period in parentheses) micro-pause, 0.2 second or less.</td>
</tr>
<tr>
<td>( )</td>
<td>(empty parentheses) non-transcribable segment of talk.</td>
</tr>
<tr>
<td>((gazing toward the ceiling))</td>
<td>(double parentheses, italics) non-speech activity.</td>
</tr>
<tr>
<td>{ }</td>
<td>Simultaneous verbal and nonverbal conduct</td>
</tr>
<tr>
<td>(try 1)/(try 2)</td>
<td>(two parentheses separated by a slash) alternative hearings.</td>
</tr>
<tr>
<td>$word$</td>
<td>(dollar or pound signs) smiley voice.</td>
</tr>
<tr>
<td>#word#</td>
<td>(number signs) squeaky voice.</td>
</tr>
<tr>
<td>LL</td>
<td>Double Ls- more than one learner</td>
</tr>
</tbody>
</table>