

Questions That Get Answered: The Construction of Instructional Conversations on Online Asynchronous Discussion Boards

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Abstract

On online asynchronous discussion boards, instructor questions are considered a driving force in student engagement and learning. Yet, students can and do choose not to answer questions from instructors. In this paper, the authors report on a qualitative study in which they analyzed instructor–student interaction on an asynchronous discussion board in order to determine which instructor's questions students were more likely to answer and why. They found that students were more likely to answer those instructor questions that were authentic and exhibited uptake of students' comments. Moreover, the students' orientation to those features suggests that students actively choose to engage in – and construct – coherent instructional interactions that characterize conversation rather than recitation.

Keywords: coherence, instructor uptake, authentic questions, instructional conversation, interactive written discourse (IWD)

Introduction

According to social constructivist theory, learning is a process of actively constructing knowledge through social interaction with others (Vygotsky, 1978). For most institutions that offer online education, the asynchronous discussion board is where active, social, knowledge construction occurs ([Bradley, Thom, Hayes, & Hay, 2008](#); [Chan, Hew, & Cheung, 2009](#); [Cox & Cox, 2008](#); [Ferdig & Roehler, 2003](#); [Hewitt, 2005](#); [Lee & Tsai, 2011](#); [Littleton & Whitelock, 2005](#); [Meyer, 2003](#); [Rovai, 2007](#); [Zingaro & Oztok, 2012](#)). However, asynchronous discussion boards do not automatically promote knowledge construction ([Maurino, 2007](#); [Zingaro, 2012](#)). In order for active knowledge construction to occur, students first must be engaged in the discussion ([Williams & Humphrey, 2007](#); [Zingaro & Oztok, 2012](#)). In fact, a number of scholars have suggested that sustained discussion is a required condition for active knowledge construction ([Chan et al., 2009](#); [Haavind, 2007](#); [Hew & Cheung, 2012](#); [Hewitt, 2005](#)). Therefore, understanding the nature and quality of the interaction that takes place on asynchronous discussion boards is an important pedagogical issue.

Instructor activity is a significant influence on student engagement ([Cranney, Wallace, Alexander, & Alfano, 2011](#); [Jin, 2005](#); [Mandernach, Forrest, Babutzke, & Manker, 2009](#); [Mandernach, Gonzales, & Garrett, 2006](#); [Maurino, 2007](#); [Morris, Xu, & Finnegan, 2005](#); [Rovai, 2007](#)). Instructor questions to students, in particular, have been identified as a driving force in student engagement (e.g., [Bradley et al., 2008](#); [Littleton & Whitelock, 2004](#); [Williams & Humphrey, 2007](#)). Yet, as [Anagnostopoulos, Basmadjian, and McCrory \(2005\)](#) have pointed out, students can and do choose not to answer questions from instructors. In those cases, an instructional interaction does not grow and active knowledge construction does not appear in the text of the discussion. This suggests a need for further inquiry into the features of instructor questions that lead to student answers.

In this paper, the authors report on a study in which they analyzed instructor–student interaction on an asynchronous discussion board in order to determine which questions from instructors the students were more likely to answer and why. They found that students were more likely to answer those instructor questions that built coherence in the discussion thread by using the strategies of instructor uptake and authentic questions. They propose that the students' orientation to those features demonstrates that students actively choose to engage in – and construct – instructional interactions that characterize conversation rather than recitation.

Literature Review

Instructor Interactivity in Asynchronous Online Discussions

Scholars have identified *instructor interactivity* as the key to creating an engaged online classroom ([Cranney et al., 2011](#); [Jin, 2005](#); [Mandernach et al., 2006, 2009](#); [Morris et al., 2005](#); [Rovai, 2007](#)). [Mandernach et al. \(2006\)](#) defined instructor interactivity as *visible and active participation* in the asynchronous discussion. Attempts to quantify how active an instructor needs to be, however, have produced inconclusive results ([Cranney et al., 2011](#)). This suggests that, while active instructor participation is a necessary condition for student engagement, instructor activity alone is not a sufficient condition ([Mandernach et al., 2009](#); [Zingaro & Oztok, 2012](#)). As Cranney et al. concluded, it is not the number of posts to a discussion that indicates productive interactivity from an instructor, but the nature and quality of those posts.

Various scholars have pointed to the importance of the instructor's questions, in particular, for sustaining discussion and supporting knowledge construction. For example, [Littleton and Whitelock \(2004\)](#) found that the principal technique for eliciting knowledge was using questions to invite elaboration or contributions from students. [Williams and Humphrey \(2007\)](#) found that the presence of a direct question in a post was a "predictor of positive interactivity" (p. 137). [Bradley et al. \(2008\)](#) found that higher order thinking, word count of responses, and degree of answer completion were influenced by the type of question the instructor asked. [Chan et al. \(2009\)](#) found that, for student-facilitators, the use of questions always led to continuation of discussion threads. [Zingaro and Oztok \(2012\)](#) found that posts written earlier in the week, longer rather than shorter posts, and posts that asked at least one question, were more likely to receive replies.

What is interesting in these studies, however, is the underlying assumption that interaction begins with the instructor's question. That is, the studies focus on what follows the instructor's questions, but rarely on what precedes them. This approach to punctuating the interaction places significant emphasis on the instructor's influence on the discussions, but it obscures student influence. A meaningful examination of interactivity must account for both. As [Williams and Humphrey \(2007\)](#) have pointed out, a posting is not interactive, per se; what makes a posting interactive is how people reply to it and continue the discussion. That is, both students and instructors determine, through their interaction, whether communication is robust and learning occurs ([Mandernach et al., 2009](#); [Rovai, 2007](#)).

Interactivity: Questions and Answers in Context

The question–answer adjacency pair is one of the most important and most common features of conversation ([Wood & Kroger, 2000](#)). An adjacency pair is a pair of utterances that occur together, with the typical structure being that the first utterance type "demands" the second utterance type in the next turn ([Sacks, Schegloff, & Jefferson, 1974](#); [Wood & Kroger, 2000](#)). In ordinary conversation, a question demands an answer ([Schegloff, 2007](#); [Wood & Kroger, 2000](#)). In fact, failure to provide an answer to a question is considered a violation of the norms of conversation and requires an explanation ([Perakyla, 2005](#); [Wood & Kroger, 2000](#)).

The "demand-quality" of questions is even more pronounced in situations where there are inherent power asymmetries (Dickson & Hargie, 2006). Power asymmetry is typical of face-to-face (F2F) classroom discourse, where the instructor asks most of the questions, allocates turn-taking, and orchestrates the interaction (Nystrand, Wu, Gamoran, Zeiser, & Long, 2001). Thus, in a F2F classroom, instructors' questions tend to be answered.

However, the virtual classroom is organized by different turn-taking and sequencing rules than those found in the F2F classroom (Garcia & Jacobs, 1999; Lapadat, 2007). The norms that govern spoken conversation do not always apply to understanding and explaining computer-mediated discourse, which has "a combination of speech-like and written-like elements" for which the term *interactive written discourse* (IWD) was coined (Lapadat, 2007, p. 61). IWD is considered a newly emerging form of text-based discursive interaction for which users are negotiating and establishing their own "conventions of use" (Lapadat, 2007, p. 61).

Anagnostopoulos et al. (2005) identified one emerging convention of use for IWD when they demonstrated that students in online classrooms do not recognize the traditional markers of instructor power, including the demand-quality of questions. The authors identified what they called an *attenuation of teacher power* in the online classroom. They observed that students could – and did – choose not to answer the instructor's questions. This presents an anomaly: questions are an important strategy for instructors to use in order to foster student engagement, and yet questions are not necessarily followed by answers in the online classroom.

While the shift away from the traditional power-based positioning of instructor and student provides some explanation for the choice to not answer instructor questions (Anagnostopoulos et al., 2005), it also raises the question of what the shift is towards. Students are choosing to answer some questions, after all. If, freed of the power dynamics of a traditional classroom, online students can choose which questions to answer, then which questions do they choose, and why? The present study investigates this question by looking at both questions and answers in the context of the entire thread in which they appear.

Research Design

The authors conducted a case study of one undergraduate class in the School of Business at an accredited online university. Asynchronous threaded discussions are a hallmark of instructional design at the University. Although the instructional design of courses includes weekly assigned readings and written project assignments, participation in the discussion board is the primary locus for the active construction of knowledge through interaction with others.

Undergraduate courses run for an 8-week term, and during that term students are required to participate in 6 to 8 weekly asynchronous discussions, depending on the design of the course. Each weekly discussion begins with a "prompt" that is part of the course design. Students are required to post a response to this prompt that draws on the material in that unit. Students are also required to make a specified number of additional posts to the discussion, which can include questions, comments, and replies to their peers and to the instructor. Participation in the discussion is graded.

Upon approval of the research proposal by the University's institutional review board, University administration granted the authors access to its archive of past courses. Purposive sampling of courses in this archive was conducted in order to identify one course that provided numerous examples of question-answer interaction between the instructor and the students. The authors sampled only courses that were taught by "Gold Standard Instructors" – a designation that the University gives to instructors who are highly ranked in evaluations by students, peers, and administrators, and who therefore could be deemed competent. Any courses in which the authors were instructors were excluded. The authors looked for courses that showed visible and active participation by the instructor (Mandernach et al., 2006). Given the inconclusive research findings on the number of posts that constitute visible and active participation, the authors operationalized the concept for purposes of their study as at least six posts by the instructor per week (based on an assumption of at least one post per day for 6 "working" days per week).

When the authors had a number of courses that met their criterion for instructor activity, they focused on the instructor's use of questions. They defined questions as *requests for information*, which allowed them to include both explicit interrogatives and declarative statements that functioned implicitly as questions. They looked for courses in which more than half of the instructor's posts to the students were

questions. They finally selected a 2011 undergraduate course, *Introduction to Management*, to be the subject of this study. This course had 24 students at the beginning of the 8-week term and 19 students at the end. There were a total of 803 posts by both students and instructor to the discussion board over the 8-week period.

Every discussion thread in which the instructor asked questions of the students was identified. Those threads were transcribed onto a Microsoft Word document for analysis. In order to maximize readability, the grammar and spelling in the threads were "smoothed" where necessary. To preserve confidentiality, the names of the instructor and the students in the threads used were changed. The naming conventions that the participants in the course used, however, were preserved by substituting "Dr. A." for the instructor's name (because the students addressed her in this form), and by substituting first-name-only pseudonyms for the students (who posted and were addressed by their first names). Geographic and other references that could identify students or the instructor were deleted or masked. This transcription process yielded 96 threads for examination.

To organize each thread for further study, each turn was numbered in the selected threads. Typically, the numbering process produced what [Chan et al. \(2009\)](#) call an *extended thread pattern*:

- Turn 1: Initial discussion prompt
- Turn 2: Student reply to discussion prompt
- Turn 3: Instructor question to student
- Turn 4: Student reply to instructor, if posted

Every thread that was selected for study had at least the first three turns. As the data was organized, the importance of the interaction between Turn 2 and Turn 3 became apparent. At Turn 2, the student responded to the weekly discussion prompt. This post was a monologue – the equivalent of an essay. However, because students want others to respond to their posts ([Rovai, 2007](#)), Turn 2 also functioned as a "dialogic bid" – an implicit offer to shift the interaction from a monologue to a dialogue ([Nystrand et al., 2001](#), p. 8). Thus, a response at Turn 3 had the power to determine whether dialogue would grow from monologue. As this pattern became clearer, it was noted that, in five of the 96 threads in the sample, the instructor posed a question to the entire class at Turn 2. Those five threads were dropped from consideration in order to keep the focus on the patterns that emerged when the student's post was at Turn 2 and the instructor's question was at Turn 3. This left 91 threads for examination.

Data Analysis

The constant comparative analysis method from grounded theory was used to analyze the data (Strauss & Corbin, 1990, 1994). The researchers worked inductively to discover patterns that emerged from the data, rather than imposing *a priori* codes and categories on the data. They also relied on analytical frameworks provided by conversation analysis (CA) and discourse analysis (DA). In both frameworks, the key analytical question is, "Why this utterance here?" ([Wetherell, 1998](#), pp. 388, 402). Because CA supports a micro-focus on each turn in the interaction, it is an appropriate framework for analyzing a threaded discussion, which "roughly aligns with the notion of conversational turn-taking" ([Hewitt, 2005](#), p. 568). CA emphasizes exploring the participants' perspectives and how they display their own understanding of "Why this utterance here?" in the interaction itself ([Schegloff, 1997](#)). DA supports a broader focus, asking "Why this utterance here?" from the analyst's perspective. Through DA, the authors connected the patterns that they found in the data to the broader literature on the discourse of teaching and learning (compare, [Clarke & Kinne, 2012](#)).

To keep their focus on interaction, the authors used the *exchange* as the unit of analysis. An exchange is "the smallest unit of communicative interaction ... a series or sequence of moves made by more than one speaker" ([Blanchette, 2009](#), p. 401). For each thread, they began with a study of the exchange that occurred between Turn 2 and Turn 3, and worked outward to examine each exchange in the thread. Guided by the principles of grounded theory, they compared exchanges in threads that contained instructor questions that students did answer with exchanges in threads that contained instructor questions that students did not answer. As they continued their comparisons, they reconstructed the implicit rules by which certain instructor questions were answered and others were not. They then used the CA and DA literature to further conceptualize and operationalize key findings.

As will be discussed more fully in the Findings section, the analysis was built around two noteworthy features that were observed in a number of the instructor's questions at Turn 3: questions with uptake and authentic questions. Using these features, four categories were created: (1) questions that exhibited uptake but were not authentic; (2) authentic questions that did not exhibit uptake; (3) questions that exhibited both uptake and authenticity; and (4) questions that exhibited neither uptake nor authenticity. The authors returned to the data and coded each thread into one of those categories. They conducted cross-checking and built inter-coder agreement through a consensus process. Finally, they employed descriptive statistics to develop a quantitative picture of the distribution of the patterns they found.

Findings

Table 1 displays the distribution of answered and unanswered questions in each module of the course, for the 91 threads that were examined.

Table 1. *Distribution of answered and unanswered instructor questions*

Module Number	Number of Questions Asked by Instructor	Number of Questions Answered	Number of Questions Not Answered
1	9	5	4
2	8	7	1
3	20	6	14
4	13	10	3
5	13	6	7
6	9	3	6
7	11	6	5
8	8	5	3
Total	91	48 (52.74%)	43 (47.26%)

Table 1 illustrates that nearly half of the instructor's questions (47.26%) went unanswered. Said another way, the likelihood that a student would answer the instructor's question was little more than chance (52.74%). From the analysis of the unfolding interactions, some insight can be offered on why this is. First, an overview of the findings will be given, including key vocabulary and concepts; then, more detailed discussion and illustration of each pattern found will be provided.

Overview of Categories, Patterns, and Key Concepts

The first observation made from reading through the exchanges in the various threads was that some threads had a jarring, disjointed quality while others had a more conversational quality. As exchanges in the threads that contained answered questions were compared with those that contained unanswered questions, this quality was framed as *coherence*. Coherence is a quality of an interaction (not a single turn). Coherence in a discourse episode usually depends on and is reflected in shared *topical content* (Koroliya & Linell, 1996). It was observed that most of the unanswered questions posted by the instructor at Turn 3 displayed a lack of *coherence* with the student's post at Turn 2. Instead, the instructor's questions often functioned as a *topic shift* – the introduction of a topic that had no readily apparent link with the topic of the preceding post by the student (Warren, 2006, p. 174).

Those questions posted by the instructor at Turn 3 that were answered by students were more likely to display coherence with the student's post at Turn 2. As these threads were analyzed further, it was found that the instructor used two discourse strategies in Turn 3, whether separately or together, in order to build coherence in the thread. First, the presence of instructor uptake in a number of those questions (Applebee, Langer, Nystrand, & Gamoran, 2003; Collins, 1982; Gamoran, Nystrand, Berends, & LePore, 1995) was noted. *Uptake* refers to the practice by which the instructor "takes up" part of the student's comment in the construction of the instructor's question (Applebee et al., 2003; Collins, 1982; Gamoran et al., 1995). A question with uptake is one that specifically incorporates or asks about something that the previous speaker has said (Applebee et al., 2003, p. 700; Nystrand et al., 2001, p. 15). Uptake "recognizes and envelops the importance of the student contribution" (Nystrand et al., 2001, p. 15). In an online environment, uptake allows the instructor to acknowledge what the student offered – to say, in effect, "I heard you."

Second, it was noted that the instructor's question was often *authentic* (Applebee et al., 2003; Gamoran et al., 1995). Authentic questions are questions to which the instructor does not already know the

answer (Nystrand et al., 2001, p. 8). Authentic questions are usually contrasted with *test* questions, which are questions to which the instructor does already know the answer (Applebee et al., 2003; Gamoran et al., 1995; see also Blanchette, 2001, p. 43, using the term *display questions* for essentially the same concept – that is, questions to which the instructor already knows the answer and by which the instructor is asking the student to display that knowledge). Authentic questions demonstrate genuine curiosity about the student's knowledge, experience, and interpretations. They have "an indeterminate number of acceptable answers" (Nystrand et al., 2001, p. 14). Authentic questions are said to contribute to coherence in instructional discourse by helping students relate their own concerns and interests with the content of instruction, and also relate new information that they are learning to their own knowledge and experiences (Gamoran et al., 1995, p. 692). This is important in online discussion because, as noted by Jin (2005), students are more engaged in asynchronous discussion when it is personally relevant to them and when they can apply their learning.

As mentioned earlier, four categories were constructed based on these two strategies, and the data were coded accordingly. The distribution of threads within the different categories and also the response rate for threads within each category were examined. It was found that instructor questions within each category produced different rates of response from students. Table 2 shows the distribution of instructor questions by category and the student response rates for each.

Table 2. *Distribution of instructor questions by category with student response rates*

Instructor's Questions by Category	Number of Questions Answered	Number of Questions Not Answered	Total	Rate of Response by Category
Questions with uptake (but not authentic)	1	0	1	100%
Authentic questions (but without uptake)	26	8	34	76.47%
Authentic questions with uptake	6	1	7	85.71%
Questions with neither uptake nor authenticity	15	34	49	30.61%
All questions asked	48	43	91	52.74%

The next sections present: (1) an example of a thread with an unanswered question that illustrates the lack of coherence produced when the instructor did not use uptake or ask an authentic question; (2) an example of a thread with an answered question that illustrates the coherence produced when the instructor did use uptake and ask an authentic question; and (3) an example of a thread in which a student answered the instructor's question despite the absence of uptake and an authentic question, and constructed uptake and authenticity on behalf of the instructor, which helps frame the importance of both uptake and authentic questions.

Unanswered Questions: Lack of Topical Coherence

As Table 2 illustrates, questions that lacked both uptake and authenticity were the least likely to be answered (30.61%). The example below illustrates a thread that contains such a question.

Example #1: An unanswered question

- Turn 1: Discussion prompt
 - 1) *Cite at least two examples of how management followed or did not follow the mission, vision, and the related organizational strategy where you have worked.*
 - 2) *For each example:*
 - a) *Explain how they excelled or how they failed.*
 - b) *Describe what you learned about management from them.*
 - c) *Describe how you will use these "lessons learned" to assist you in developing your own philosophy of management.*

- Turn 2: Student reply to discussion prompt

A few years ago I worked for [company] of [city] located in [state]. This company had several accounts for which they provided telemarketing services to help raise money. I was given the Breast Cancer and Soldiers in Iraq accounts. It worked just like any other telemarketing service – you call folks at home and convince them it's their duty to help the folks in need. But the sad thing about it was how management taught us to say anything to get folks to donate. For example, management told us when people ask, "What percentage of their donation will actually go to help the Breast Cancer patients/Soldiers?," we were told to tell them "80% of your donation will go to help the patients/Soldiers." In reality only 5% of their donation would go towards helping them. If we told them the truth they probably wouldn't donate a dime. Lying to the donors is clearly breaking one of the key values that the company has listed under their mission statement.

Another belief the company failed to uphold was "Treat each other with respect and dignity." When working in the telemarketing world, meeting your quota is serious business. So at [company], someone came up with the idea that in order to motivate the employees that didn't meet their given quota other employees should belittle them, which is supposed to make them do better. This is completely the opposite of treating someone with respect and dignity.

I continued to work there for a little over 5 months, and in that time I saw employees come and go. When I left it was a whole new staff. About a year later the company was all over the local news for being investigated. What I learned from [company] was something I already knew – "What happens in the dark will come to the light," meaning fraudulent business practices will catch up with a company sooner or later. I also learned when a company has a mission statement/values, they must make sure the managers they hire can and will uphold their vision and values. I plan on having a no-tolerance rule towards management and employees that are found to go against the company's vision and values.

- Turn 3: Instructor question to student

Gina,

Your insight is appreciated.

Why is there not a perfect match-up between realized and intended strategies?

Regards,

Dr. A

- Turn 4: Reply (by another student)

I'm not sure what you mean??

Thanks, Jessica

What is most striking about this interaction is the lack of coherence in the exchange between Turn 2 and Turn 3. The student did not use the term "realized and intended strategies" in her post. If the instructor believed the student raised these concepts, she did not make this link explicit by drawing a connection to something the student said, which created a sense of disconnect. Had this exchange occurred in F2F communication, it likely would have been perceived as jarring.

The reasons for the lack of coherence lie in the instructor's question. First, the instructor's question did not display uptake: the instructor did not "take up" any part of the student's preceding comment in the construction of her question ([Applebee et al., 2003](#); [Collins, 1982](#); [Gamoran et al., 1995](#)). Without uptake, the student's post and the instructor's question were not connected in a way that made sense. (Hence, note the question by the second student at Turn 4, which indicated that the preceding exchange did not make sense to her.) While there is an argument that the instructor's post was connected to the general subject matter of the lesson, it was not connected to the specific contribution made by this student. In fact, the instructor shifted the topic from the topics raised in the student's post. A *topic shift* (Greatbatch, 1992; [Warren, 2006](#)) is considered a power move in an interaction. The instructor's topic shift asserted the instructor's power to define the subject of discussion. However, as [Anagnostopoulos et](#)

al. (2005) found, instructor power is attenuated in online classroom discourse, and this student chose not to answer the question. There is a second feature of this question that may also explain why the student did not answer: it is a test question, that is, a question that seeks a predetermined answer (Applebee et al., 2003; Gamoran et al., 1995). The question did not exhibit genuine curiosity about the student's knowledge, experience, or interpretations, nor did it have an indeterminate number of possible answers. The student risks a loss of face by answering a test question, if the answer provided does not pass the test (compare, Williams & Humphrey, 2007).

The significance of a lack of uptake and the failure to ask authentic questions is illustrated on Table 2. Of the 43 unanswered questions in the data, 42 (97.7%) lacked uptake and 34 (79%) were not authentic questions.

Answered Questions: Uptake and Authenticity

As Table 2 illustrates, the instructor questions most likely to be answered exhibited coherence with the student's preceding post through the use of either uptake alone (100%), authenticity alone (76.47%), or a combination of both strategies (85.71%). The following example illustrates a thread that contains both instructor uptake and an authentic question.

Example #2: An answered question

- Turn 1: Discussion prompt
 - 1) *Cite at least two examples of the management of organizational change where you have worked.*
 - 2) *For each example:*
 - a) *Describe why they were beneficial or why they were detrimental.*
 - b) *Explain what you learned about management from your experience.*
 - c) *Illustrate how you will use these "lessons learned" to assist you in developing your own philosophy of management.*
- Turn 2: Student reply to discussion prompt

Dr. A and Class,

In this paper we will look at a couple of examples from my past where I have gone through management organizational change. One of the situations will be a positive and one a negative. I will also relate what I was able to learn about management in general from both of these experiences.

The first situation that we will look at will be one from when I ran my own company. As I have referenced in prior assignments, I was a drywall contractor for a little over nine years and in that time I was able to complete more than five thousand jobs. When I started the company, I never intended for it to grow as it did. In the early years I was able to control every facet of the company with relative ease. All decisions went through me and me alone. As the company grew, I realized that in order to continue to remain successful, I was going to have to bring on people to help make some of the decisions. I basically broke my operations up into six primary subdivisions with five division heads including myself. Now my employees had to get used to taking orders from someone new and I must say, the transition wasn't without its problems; mostly minor however. Once we got these minor issues ironed out, things proceeded to run very smoothly; however, my employees still knew that they could come to me for anything they ever needed.

The next situation comes from my days with [company]. In 2007, [company] decided that they needed to make some cutbacks to remain competitive in a struggling market. Home office looked at many different areas that they could cut and decided that the best area to cut was in the Human Resources department. Up until that point, every store had a human resources manager as part of the management team. In the late summer early fall of 2007 all that changed. The HR managers were taken out of the stores, some were moved into open assistant manager positions, and the rest were terminated. This

organizational change hurt the employees greatly because we no longer had that person in the store to go to that we could discuss our problems with. I truly believe that it hurt the overall morale and productivity of the company simply because it was like a sucker punch to the gut of most of the regular employees. This move also hurt the management teams in the stores as well, because now they had to take up their valuable time to handle issues once handled by HR.

As far as what I have learned from these situations, with the first I would just say that, as you make changes to the corporate structure, keep your employee in the loop and informed. Make sure that they always have an open channel to the top. With the second scenario, I would have to say that these large corporations need to think before they act sometimes. [Company] might have been better served in taking cuts in logistics rather than cutting off the employee's voice inside the store. A corporation that large, I am quite sure, could have found better alternatives.

- Turn 3: Instructor question to student

Will,

I appreciate you sharing your experience on this topic.

Your drywall company implemented many changes in the quest to have the company stay afloat with the wealth of new business. Very often these changes are not agreeable to employees. You seem to have weathered the change very well. Overall, do you feel the employees were amicable to these changes? Did you feel any changes that the company executed were excessive and unnecessary?

Best,

Dr. A

- Turn 4: Student reply

Dr. A,

In answer to your question, as my business grew I realized that the only way that I was going to stay on top of it and keep it running smoothly was to implement a management team. The business had gotten to the point where one person could no longer do everything that needed to be done. I think my employees were a bit confused at first, since they were used to seeing me do everything, but they adapted well to the change and I never heard any complaints. As far as whether the changes were excessive or unnecessary, I think at first I questioned whether some of the changes really needed to be made but in the long run, when I look back at things now I would say that the changes were exactly the right moves to make at that time.

Sincerely,

Will

- Turn 5: Instructor reply

Will,

Thank you for your response. I think that is great that your changes worked well for your company. I think it is human nature to second-guess every move we make, especially when it involves our finances.

Best,

Dr. A

This example illustrates a progression of topical coherence-building. Focusing on just the exchanges involving the instructor's question at Turn 3, it can be seen that she used both uptake and authenticity in the construction of her question. Uptake in her prefatory comments linked her question in a meaningful way to the topics raised by the student, and the authentic question moved the discussion forward on

topics relevant to the student's post. The thread does not display the jarring quality noted in Example 1; it is more conversational.

While authentic questions with uptake did not appear frequently in the data (only seven of the 91 questions examined), it is worth noting that the rate of response for these questions was 85.71% (compared to a 52.74% rate of response for all questions, and a 30.61% rate of response for questions that lacked uptake and were not authentic). Of the 48 answered questions, 33 (68.75%) exhibited the features of uptake, authenticity, or both.

Answered Questions, Take 2: Absence of Uptake and Authenticity

Of the 49 instructor questions that demonstrated neither uptake nor authenticity, 15 were answered (30.61%). An interesting pattern appeared in six of those 15 questions (40%): the student created coherence in the interaction by constructing uptake and authenticity *on behalf of* the instructor. The extract that follows illustrates this pattern.

Example #3: Student constructs uptake and authenticity on behalf of instructor

- Turn 1: Discussion prompt
 - 1) *Cite at least two examples of how management followed or did not follow the mission, vision, and the related organizational strategy where you have worked.*
 - 2) *For each example:*
 - a) *Explain how they excelled or how they failed.*
 - b) *Describe what you learned about management from them.*
 - c) *Describe how you will use these "lessons learned" to assist you in developing your own philosophy of management*
- Turn 2: Student reply to discussion prompt

To Dr. A and Class

Example 1:

The company I worked for was A Uniform Company in [city, state]. It was a great company and I worked for them for six years. They had a vision to change uniforms from the boring institutional styles to fashionable garments that harmonized with whatever theme the business had.

A Uniform Company started out in 1878 with one seamstress who made a unique chef's uniform for her chef husband, [name]. The style and uniqueness of it caught on so well that he quit his chef's job and established the A Uniform Co. All through the years he and the family members after him always were in the forefront of uniform style and durability. The major change A Uniform Co. made in the 1940s was to design and manufacture patient gowns, surgical wear for doctors and nurses, and linens for improved care and procedures in the hospitals.

When I worked for them in the late 70s they were taking their vision one step further and designing uniforms for [two theme parks], and various restaurants and businesses that had unique themes. Also they designed and manufactured coverall suits for handling hazardous materials. The hospital garments and linens were the backbone of the company and still are. The core of their philosophy is "to help medical professionals enhance the level of care to patients and improve patient and staff satisfaction, image and morale."

It was a challenging and exciting time to work for this company. They fully planned their mission to break new ground in the uniform business and had the vision to continue to search for more new ways to be a force to be reckoned within the garment industry.

I learned from them, and the text reading assignment, that when a company sets up an organizational strategy in the right way, everyone, from the boardroom to the clerk,

becomes motivated to make it happen. A Corporation's ideas were unique, feasible, and made a successful business a lot better.

As a manager I would do my homework and involve the employees and stockholders in the planning any new strategy in the company. When everyone is involved, a manager gets a full picture of the pros and cons of any business strategy and can plan a feasible mission statement and vision statement.

Example 2:

A few years ago I worked for a hearing aid business. The hearing aid business was started by a husband and wife team. He was an Otologist (ear doctor) and she was his receptionist and bookkeeper. They specialized in hearing aids and ear problems. Their business grew and they branched out to another part of the city.

When I came to work for them, both businesses were well established with a hearing aid tester and technician in each office, and the doctor spent alternate days in each one. Their business plan was to establish two more branches, and a couple of years ago one was established in our capitol city and another across the sound. They are still being supported by the other two clinics but are showing promise. The doctor died earlier this year of a heart attack but he did get to see his goal of four branches for his hearing aid business established. I believe it would have happened a few years sooner if it had not been for the slump in the economy. They were very careful in their plans to not overextend, and they had an excellent manager who was able to steer the businesses into financially safe waters.

I did not know any of the details of their business mission and vision during the year and half that I worked for them. But, I saw evidence of their sacrifice and dedication to continue learning and improving their service and equipment for their customers.

I learned that whether starting your own business or managing for someone else, you must know those that you work for and those that you manage. If there is not a clear mission statement, establish one with the input of investors, executive branch and employees. Find out what the goal is for the business and talk about it, post statements about it on the bulletin board. Find ways to use it to motivate your employees.

- Turn 3: Instructor question to student:

Beth,

Nice post.

Why is it important to understand the difference between intended and realized strategies?

Best,

Dr. A

- Turn 4: Reply from student:

To Dr. A

The difference between intended and realized strategies is – Intended strategy is a strategy that is planned by different persons and groups in the organization; it is a plan not yet fulfilled. But realized strategy "is the actual strategy that is implemented" (Carpenter, Bauer, & Erdogan). So the realized strategy was the one that overcame all the difficulties, and through planning and effort became a reality.

Thanks

Beth

This example was from the same module as the first example; the discussion prompt was the same. The instructor's question was similar to the question she asked in the first example. The question was not coherent with the student's post; it did not contain uptake or an authentic question. Nonetheless, the

student answered it. The initial segment of the answer was a recitation of book knowledge, complete with a reference to the text, which showed that the student understood the question as a test question. In her final sentence, though, the student went beyond recitation, and created a connection that tied together her initial post, the instructor's question, and this reply, by applying the book knowledge to the facts of her situation. The student constructed her reply as if both uptake and an authentic question were in the instructor's post. This discourse strategy by students is noteworthy for two reasons. First, it demonstrates that as students try to make sense of the instructor's question in a thread, they ask themselves, "Why this utterance here?". Second, it suggests that students "prefer" coherence in their interactions. The concept of "preference" here is used in the sense that it is used in CA: not as an indication of the psychological state of a participant in an interaction, but as an indication that certain forms of behavior are treated as normative and appropriate ([Robinson & Bolden, 2010](#)). When the student perceived in the instructor's question a violation of the norm of coherence, the student repaired the violation on behalf of the instructor and thereby created coherence in the thread.

Summary Across the Data

While exchanges that exhibited instructor uptake and authentic questions were not found in a large number of threads, their impact was nonetheless significant. As Table 2 illustrates, instructor uptake appeared in only eight of the 91 threads studied. Of these eight threads, students answered in seven, which is a response rate of 87.5% for questions that contained uptake. Similarly, only 41 questions of the total of 91 questions asked by the instructor were authentic questions. Of these 41 questions, 32 were answered, giving authentic questions a response rate of 78%. Students answered authentic questions at a higher rate even in the absence of uptake: while 34 of the 41 authentic questions did not contain uptake, 26 of these questions were answered nonetheless (76.5%). For questions that were both authentic *and* demonstrated uptake, the response rate was 85.71%. Each of these response rates represents an improvement over the response rate of 52.74% for all questions asked as well as an improvement over the response rate of 30.61% for questions that lacked both uptake and authenticity.

Discussion

In undertaking the present study, the authors set out to answer a research question about which instructor questions on an asynchronous discussion board students were more likely to answer and why. Their research shows that instructors' questions are more likely to be answered by students if they build coherence with the student's post. Coherence has long been identified in F2F classrooms as a feature of high-quality instructional discourse ([Gamoran et al., 1995](#)). This study demonstrates the importance of coherence in IWD.

This study also identifies and illustrates two specific discourse strategies that are part of building coherence in IWD: the instructor's question will demonstrate uptake of some part of the preceding post by the student and the instructor's question will be an authentic question. While each strategy is meaningful on its own, the combination of strategies is also important. It is consistent with what [Koroliya and Linell \(1996\)](#) have called, in F2F discourse, a resolution of two competing needs: "that of staying on topic and that of renewing topics" (p. 799). In other words, for a conversation to progress in a coherent way, a turn must connect to what has gone before and also provide an opportunity to go further. By using uptake, the instructor builds a link to the preceding post; by using an authentic question, the instructor moves the conversation forward. Thus, this study suggests that instructors who facilitate IWD can think of their task as creating coherent instructional conversations by drawing connections, both to what has come before and to what will be discussed next.

It was noted that most of the threads that included unanswered questions contained test questions. In the context of F2F classroom instruction, the pattern of interaction fostered by such questions has been called *recitation* ([Applebee et al., 2003](#); Nystrand & Gamoran, 1991; [Nystrand et al., 2001](#)). This pattern emphasizes student recitation of knowledge as defined by the instructor and the textbook rather than the creation of knowledge through student exploration ([Applebee et al., 2003](#), p. 689). In a F2F classroom, an instructor structures the recitation pattern by the way he or she asks questions. In an online classroom, a student can resist the recitation pattern by refusing to answer the questions asked. In this study, evidence had been found that students prefer a different pattern, and both create and reinforce that pattern through the questions they choose to answer. They are more likely to answer questions that are authentic and/or include instructor uptake. Scholars in F2F classroom instruction have used the term *instructional conversation* to denote a discourse pattern that includes building coherence through

instructor uptake and the use of authentic questions (Nystrand & Gamoran, 1991; [Nystrand et al., 2001](#)). Based on the present study's findings, this term can be imported and applied to IWD.

In the work of [Nystrand et al. \(2001\)](#), instructional conversation is referred to as *dialogic* discourse and recitation is referred to as *monologic* discourse (pp. 3-4; see also [Applebee et al., 2003](#)). The importance of dialogic discourse cannot be underestimated. Nystrand et al.'s contention is that there is "a strong and statistically significant association between student achievement and the extent of dialogic discourse in the classroom" (p. 5, citing Nystrand & Gamoran, 1991). Moreover, if sustained discussion is important for fostering student engagement and the active construction of knowledge on asynchronous discussion boards ([Chan et al., 2009](#); [Hew & Cheung, 2012](#); [Hewitt, 2005](#)), the present study's findings indicate a way to sustain discussion and encourage dialogue: asking questions that get answered.

The results obtained in this study support the finding by [Anagnostopoulos et al. \(2005\)](#) that students in online classrooms decide which instructor questions they will and will not answer. The results also suggest that this is not just an artifact of the attenuation of teacher power in the online classroom, but an active decision that students base in critical thinking and evaluation of the questions asked in light of their own social and educational goals. Students showed a preference for coherence in their online conversations, and were more likely to respond to instructor questions that were authentic and exhibited uptake. Moreover, the student preference for coherence appeared to be sufficiently strong that, when students did answer instructor questions that lacked coherence with a preceding post, some students would construct coherence in their responses on behalf of the instructor. In the process of evaluating and choosing the questions they would answer, students demonstrated a preference for, and co-created, a particular social and instructional space: instructional conversation rather than recitation. They also actively participated in creating the conventions for the emerging form of discourse known as IWD.

It must be recognized that some of the data could also be explained by saying that students answer authentic questions more often because they are easier to answer than test questions. While that possibility should not necessarily be discounted, it can be argued that such an explanation contains the fundamental attribution error: placing undue emphasis on internal or inherent qualities of an actor rather than the features of the situation or circumstances in which the actor finds himself or herself. The study reported in this paper provides an explanation for the choices that students make about which questions to answer that is based on the situation or circumstances of the student – specifically, the quality of the interaction in the discussion thread. Perhaps students are not lazy, but are looking for meaningful and engaging conversation. In any case, an unanswered question, no matter how challenging, fails when it does not promote student engagement and active knowledge construction.

Limitations, Implications, and Future Research

This study has a number of limitations that are deserving of mention. First, because of the case study strategy, purposive sampling was used rather than random sampling. Thus, the conclusions drawn from this case cannot be generalized to a population of such cases. Second, only the discourse of the asynchronous discussion board was examined, and within that discourse, only question–answer interactions were examined. There are other aspects of instructor–student interaction that may have affected what transpired on the discussion board, such as comments in the grade book, that were not taken into consideration ([Morris et al., 2005](#)). Finally, no inquiries were made of the instructor and students with regard to their experiences in the course. None of these limitations, however, detract from what the study offers: identification of unique discourse patterns of IWD and how those patterns relate to the rate at which students respond to an instructor's questions. The goal of the study was to add to the knowledge base about the nature and quality of interactivity on asynchronous discussion boards, particularly with respect to instructor questions and student answers, and that goal has been met. The significance of the study does not lie in generalizability, but in offering previously unavailable insights on interactivity in IWD.

There are implications for instructors in the findings of this study. Note that the instructor for the case under study was a well-rated instructor, and that she was working very hard to be active in her class. She used questions (studied here) and other communication strategies (not studied here) to foster learning in her classroom. Despite her efforts, only about half of the questions that she asked were answered. This study suggests specific communication strategies that an instructor can use to increase

the rate at which students answer questions: building coherence in the discussion threads through the use of uptake and authentic questions.

Furthermore, the study has implications for administrators of online education. First, administrators who supervise online instructors can use the findings of this study to conduct assessments of interactivity. This study supports the conclusion of [Cranney et al. \(2011\)](#) that it is not the number of posts to a discussion that indicates productive interactivity from an instructor, but the nature and quality of those posts. The patterns identified in this study provide administrators with a way to assess the quality of instructor posts. Second, administrators can use the findings of this study in instructor training and remediation because the strategies can be taught. Finally, this study suggests ways that an instructor can engage students in meaningful discussion, which would seem to bode well for issues of student persistence and retention that often concern administrators.

The findings of this study also have implications for instructional design. The results suggest that students have a preference for conversation over recitation, and dialogue over monologue, which can be taken into account in course design. For example, in the discussion prompt, students could be encouraged to not only post their thoughts in response to the prompt, but also to frame a question to the class or instructor. In doing so, students would be making the implicit dialogic bid at Turn 2 into an explicit dialogic bid, and students would also be actively contributing to building conversational coherence rather than passively waiting for the instructor to shift their comments from monologue to dialogue.

In closing, some suggestions for future research can be offered. First, further study is needed of coherence building on asynchronous discussion boards through the use of instructor uptake and authentic questions. Follow-up studies are needed to see if the patterns identified in the present study appear in other courses. Second, although the study addressed the nature and quality of instructor questions that contribute to interactivity, it did not examine the cognitive level of the questions asked or the cognitive level of students' answers. Previous research suggests that these are questions worth exploring ([Blanchette, 2001](#); [Zingaro, 2012](#)). This would also shed light on the question of whether students answer authentic questions more often because they are simply easier to answer than test questions. Finally, future studies can explore what instructors and students themselves might have to say about the importance of building coherence in instructional conversations through the use of instructor uptake and authentic questions.

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