ANALYZING STUDENTS’ CONVERSATIONS IN CHAT ROOM DISCUSSION GROUPS

Reagan Curtis

Abstract. When I turned to asynchronous delivery of content for a recent educational research and evaluation course, I wanted to supplement threaded discussions with social interactions to better support meaningful learning and allow students to make knowledge their own. I incorporated synchronous small group discussions among peers to replace some of what was lost by not meeting face-to-face. These discussions were to be opportunities for students to better understand the material by hearing others’ interpretations while sharing their own. In this article, I provide a qualitative content analysis of students’ conversations in these chat room discussions.

More and more courses are being offered for distance delivery in many disciplines (Roberson and Klotz 2001). Both the number of courses offered and the number of online degree programs doubled between 1995 and 1998 (Phillips 1999). Distance delivery includes synchronous formats, which require participants to be online at the same time, and asynchronous formats, which allow participants to work with more flexibility. When I turned to asynchronous delivery for an educational research and evaluation course, I found it difficult to provide social interactions that I considered crucial for deep meaningful learning (Roberson and Klotz 2001; Vygotsky 1978).

I struggled to find ways to provide social interactions within an asynchronous delivery format. I knew I would use threaded discussions, where students post messages for each other on asynchronous discussion boards, but I wanted to supplement them with more authentic social interactions to better support meaningful learning and allow students to construct knowledge on their own. I decided to incorporate synchronous small group discussions. I thought discussion among peers might replace much of what was lost in the absence of face-to-face meetings (Verba 1994).

I decided to use chat room discussion groups to make this happen (Sapone and Singh 2001). The BlackBoard Internet course delivery platform includes a Virtual Classroom component that is well suited for chat room discussions. I envisioned these groups as student support groups. Assignments consisted of discussion topics from the readings and students’ approaches to upcoming assignments. I wanted discussions to be opportunities for students to better understand the material by hearing others’ interpretations while sharing their own.

During the semester, students e-mailed copies of their discussions to me so that I could answer unresolved questions. Reading those discussions helped me gauge my students’ comprehension in ways similar to those available in face-to-face classrooms. They helped replace reading students’ faces, questions during lectures, and small group activities in class. They allowed me to modify my instruction, taking each class’s strengths and weaknesses into account. They allowed me to know my students as I could not have done otherwise.

By the end of the semester, my general impression was that most students found the discussion groups to be very beneficial.
The discussions let them get to know their peers, discuss the content in ways they had not done in other online courses, and get feedback from me for anything their peers could not help resolve. The analyses reported in this article are an effort to provide more disciplined evidence regarding these impressions. The analyses that I describe include preliminary efforts to develop a coding system and the results of applying that coding system to a subset of the discussion group data.

Method

Participants

Participants included eleven students (five men and six women) enrolled in an online educational research and evaluation course during the spring 2001 semester. They were all graduate students seeking master’s degrees in education. Participation was voluntary and had no effect on students’ grades in the course.

Chat Room Discussion Group Data

Students self-selected groups of between three and five members (all including both men and women). The data consisted of chat room conversations sent to me as text files during the spring 2001 semester. The analyses reported in this paper include four such conversations, one randomly selected from each of the four months of the spring semester (January through April). This allowed me to include a cross-section of discussions during the semester.

Analytical Framework and Coding Procedures

Qualitative analyses of these texts were undertaken to discover the ways in which peers interacted in their group discussions. This section elucidates the qualitative data reduction and interpretation process used in these analyses in an effort to make the research process more public (Anfara, Brown, and Mangione 2002). Following Berg (2001) and working from a symbolic interactionist perspective, it was expected that discussion group members would negotiate their own understandings of the course content through their interactions in the chat room. These understandings were considered latent content giving rise to what was actually in the text of discussions. This latent content was not expected to be directly observable in the text but had to be uncovered by an interpretation of the manifest content, or actual text, of group discussions.

Sets of guiding questions were developed for both latent and manifest content. The guiding questions for latent content served as long-range goals identifying the end to which content analyses were directed. The guiding questions for latent content were:

1. What evidence is there that the chat room promoted “more authentic social interactions to better support meaningful learning”?
2. What evidence is there that “students make knowledge their own”?
3. What evidence is there that “peers engaged each other and the content of the course”?

Guiding questions for manifest content were developed to move toward developing a coding system for content analyses. These questions focused on the surface structure of the discussion group texts as follows:

1. What statements show “opportunities for students to better understand the material by hearing others’ interpretations while sharing their own”?
2. What statements show students “getting to know their peers”?
3. What statements show students “requesting feedback from the instructor”?
4. What statements show students’ “group problem-solving strategies”?

These four questions were used to guide a period of open coding, in which the texts were read and reread, coded and recoded, trying out various categories and themes for the data reduction and interpretation necessary to begin answering the guiding questions for latent content.

This open coding process followed suggestions by both Strauss (1987) and Tesch (1990). After reading several times through the entire 86 discussion group texts (227 pages) to get a sense of the whole, the 4 sample discussions (22 pages) were selected to develop the coding system. One text from each month of the semester was selected because group discussion focused on different issues throughout the semester as students got to know each other and grappled with different content and assignments. A random selection of one discussion text from each month provided a cross-section across time of the shifting character of group interactions.

The guiding questions for manifest content served as a specific and consistent set of questions to ask as data were minutely analyzed (Strauss 1987). The Virtual Classroom software automatically segments discussions by preceding all statements between carriage returns with the “speaker”’s name. The unit of analysis was defined as all of the text between consecutive carriage returns, but a single unit could receive multiple codes referring to different portions of the text therein. The process of creating and applying codes in open coding often was halted to make theoretical notes about instances that did not fit the current coding system, alternate ideas for codes, insights into latent content, implications for online instruction, and so on. Several iterations of this continued, with one set of codes being abbreviated and then applied to the texts, only to be discarded and the process begun again (Tesch 1990). These iterations of preliminary analyses eventually led to the final set of codes. These codes were instantiated in three questions:

1. What kinds of feedback do students request?
2. How are requests for feedback answered and/or discussed?
3. What kinds of strategies do students offer?

Each of these questions was then subdivided into finer-grained categories, with each category being given a separate coding abbreviation (see appendix 1).

Requests for feedback were directed either to the instructor or to peers in the group. These requests ranged from not being related to the course at all to apparently trying to get to know each other better to coordinating group interaction and shared consensus to focusing on specific
assignments and course content to asking about how to work the chat room environment and other resources for the course. The ways in which these requests were answered or discussed provide interpretive context. Students offered various types of strategies. These were either appropriate for use by the entire group or by individual students and could be applied to specific assignments, to the course as a whole, to facilitating group discussions, or to using specific resources for the course.

Results and Discussion

The results and discussion are organized according to the first and third main questions in the final coding system. Each section includes a discussion of the codes, examples from the actual discussions, and insight on the guiding questions for latent content derived from applying these codes to the manifest content. The second question in the final coding system (“How are feedback requests answered and discussed?”) was also coded. Rather than breaking these codes down into subcategories for analysis, Answer and Discussion units were used holistically to provide context for interpreting feedback requests. Units with Answer and Discussion codes were a fertile ground for developing interpretations of latent content, interpretations that will be woven throughout this section and the next.

What Kinds of Feedback Do Students Request?

Feedback from the instructor. Students primarily asked for feedback from the instructor in e-mails and on the discussion board, rather than using chat room conversations. In fact, only 3 units out of the total 579 included instructor feedback requests. These three units included questions about how to present data in a research paper, how to design the student’s research study, and when the last week of the course would be. The paucity of feedback requested from the instructor could be interpreted in multiple ways. It could mean that students did not want to showcase their ignorance in front of their peers, although their willingness to do so when seeking feedback from peers argues against this. Another possibility is that this is evidence that students were engaging each other and embracing opportunities for peer interaction provided in the group discussions, rather than turning to the instructor.

Feedback from peers. There were 124 units (21 percent of the 579 total units) requesting feedback from peers. These requests fell into nine categories. The percentage of units in each subcategory is provided in table 1. Assignment (all three codes taken together), Coordination/Consensus-seeking, and Getting to Know Each Other were the main focus of most feedback requests from peers. Seventy-five percent of Feedback from Peers codes fell into one of these categories (see table 1).

Not surprisingly, Getting to Know Each Other codes were much more prevalent when participants had not previously interacted with each other. Getting to Know Each Other included asking about others’ programs of study, location, and employment. As the semester proceeded, peers were more likely to ask each other about recent experiences or activities. What may seem like relatively unimportant discourse in this category allowed students to connect with each other and build up online personalities that may have helped compensate for not having face-to-face classmates with whom they could “shoot the breeze.” In fact, it may make sense to combine this category with the Non-Course-related codes, although these were more prevalent later in the semester.

Non-Course-related codes included questions about what Easter celebrations are like in Germany (where one student lived), what a “Cohiba” is (Fidel Castro’s brand of cigar), and the meaning of “Vocatus atque non vocatus, deus aderet” (“Bidden or unbidden, God abides”). The Non-Course-related codes may have been indicative of Getting to Know Each Other better after students knew the basics about each other.

Coordination and Consensus-seeking was the single most prevalent type of request from peers (see table 1). These requests often were a way of getting discussions started (“I know Dr. Curtis says that we may want to discuss the text or notes, any comments?”), moving the discussion along (“Should we get started with the answers or wait a few more minutes?”), or approaching the end of the group meeting (“Shall we call it a night?”; “Same time next week?”). At other times, they seemed to be a way of negotiating responsibilities (“You want to do the archive? Or me?”) or ensuring that everyone was on the same page (“Do you have your book with you?”). These types of requests were important ways of negotiating the interactions in which students engaged.

Requests for feedback related to assignments were divided into three types. Combining these three categories accounted for 34 percent of all requests from peers (see table 1). A small minority of these involved asking whether their peers had received feedback from the instructor on specific assignments. Most were focused on either the general characteristics of assignments (“So the whole thing is 15–20 pages?”; “Are we supposed to review an actual study?”) or what their peers were doing on those assignments (“How is everyone doing on their paper?”; “What are your topics?”; “What does your paper look like?”);

![TABLE 1. Percent in Various “Feedback from Peers” Subcategories](image)
“Have you had much luck finding research on this area?”; and, one of my personal favorites, “Has anyone actually read Chapter 14?”). As evidenced by the related answers and discussions, these requests allowed students to check their understanding of assignments against their peers and to avoid referring back to the syllabus one more time on their own. They also allowed students to sound out their peers to hear how they were progressing on assignments, elicit strategies that others found useful, and, often, commiserate on how much work there was to do. These are all functions of interactions that students get from their classmates in face-to-face classes but miss in some online courses.

The last three categories (Course Content Questions, Navigating the Virtual Classroom, and Resources) all had fairly low incidences but seemed to serve very important functions. Course Content Questions actually occurred mostly when groups were preparing for an upcoming quiz or test. Students would pose potential quiz or test questions they had made up ("Other than providing answers to the research questions, the research design should _______:") and then discuss what each thought the answer should be. The strategy codes will show that students considered this an extremely effective method of studying. Navigating the Virtual Classroom consisted of helping each other learn how to use the technology ("Ok, how do I work this white board?!!!!"). Having this peer guidance available seemed to stave off considerable frustration and anxiety for students. The final category of peer requests, Resources, emerged more clearly in the strategies codes but did appear in requests such as, “Have you looked at the Northwestern page Dr. C posted?” , “Do you have the password and info in front of you?”, and “Which database?”. The importance of resource-related statements will be discussed related to strategy codes in the next section.

What Kinds of Strategies Do Students Offer?

Strategies codes were divided into two large categories, those useful for individuals and those useful for the group as a whole. Taken together, there were 52 units coded as Strategies (9 percent of the total 579 units). Within this division, each strategy offered was also coded as applying to specific assignments, the course as a whole, discussion in the groups, or as related to resources.

Individual strategies. There were a few individual strategies that included individual approaches to the course (“I go week to week with this class.”; “I didn’t understand it on the first reading, I printed it out to pore over later.”). Individual strategies most often focused on specific assignments ("As far as my paper goes I have been going over my review of Draft #1 and deciding on when to go and do my search of literature as well as review it.”; "It’s [a quiz] not bad, but be familiar with your notes.”) and sometimes also included references to resources for completing assignments, such as the following excerpt (participants’ names have been replaced with fictitious initials to protect confidentiality):

AR > Have you looked at the Northwestern page Dr. C posted?
AR > It’s good.
KL > The library one?
AR > yes
KL > Which one do you go to?
AR > the database has a ton of resources once you get into it.
AR > Yes.
KL > Which database?
AR > It’s still on the announcements page. then ...
AR > go to the library site, resources, databases.
AR > I looked at the educational databases.
KL > I’ll have to try it.
AR > There was one called webspirs, or maybe they are all called that. . . anyway it was useful.
AR > The ones in the [Louisiana Parish Library] site for my topic were more like articles than research.
KL > Mine too.
AR > They didn’t have any data or anything.
KL > I know.
AR > Yeah, you need to look at this other site.

Here is another excerpt focused on quiz and test preparation strategies:

For the last quiz, I downloaded the study guide, read the chapter, then made notes for the page #s that matched. It worked for me. Also, I discovered the GLOSSARY, which lists all the definitions alphabetically.

The strategy units are, in many ways, the most exciting for an instructor to see. These show students sharing with their peers the strategies they have used. The power of peer interaction comes through most clearly in these conversations.

Group strategies. Group strategies were focused on what the groups would do during their chat room time. They were sometimes general strategies (“You might want to click on ‘Whiteboard’ and make the font smaller. Mine is on 10.”). Other times they were associated with specific assignments:

RT > I’m thinking that on the next quiz . . .
let’s assign just a couple of people to make out the practice quiz . . . e-mail it to all of you and then meet in the VC to go over the answers. I’ll tell you though, I liked making out the questions. I really think it has helped me clarify the information in the chapter. There still a lot I DON’T KNOW . . . but it does seem to have helped me.

This last excerpt was coded as a group strategy for the first portion and as an individual strategy for the italicized portion. The group negotiated what they considered the most effective way of preparing for quizzes and tests by assigning roles to create study questions. The italicized portion indicates what discussions showed to be the general consensus for this strategy. Students found it very beneficial and appeared to really enjoy the discussions that involved sharing questions and answers. This is yet another example of the power of peer interaction in supporting student learning.

Guiding Questions for Latent Content

Content analyses of manifest content focused on students’ requests for feedback, answers and discussions related to those requests, and strategies offered to their peers have shown students getting to know their peers, using group problem-solving strategies, and sharing interpretations of the course material. Focus now turns to the guiding questions for latent content:

1. What evidence is there that the chat room promoted “more authentic social
interactions to better support meaningful learning”?

2. What evidence is there that “students make knowledge their own”?

3. What evidence is there that “peers engaged each other and the content of the course”?

The best examples of these types of evidence come from students sharing strategies and resources. Excerpts provided above show students telling each other how they study for exams and describing electronic databases that were useful for locating research studies. To these, I add the following excerpts from a discussion group preparing for an upcoming quiz:

TY > There. That’s my 14 questions! I decided that perhaps we could just assign one or two people each time to come up with questions instead of everyone. What do you think?

GJ > I think that is a great idea. I am looking for the answers. These are awesome and well thought out.

TY > I do think I learned MORE by having to come up with questions.

TY > Also . . . . I want to say at the beginning of this (not necessarily to you specifically) but to ALL of us as we enter here to take practice quizzes . . . . IF SOMEONE HAS ALREADY TAKEN THE QUIZ, YOU REALLY NEED TO EXCUSE YOURSELF FROM THIS EXERCISE

GJ > I agree. I am also thankful for whoever thought to do this because it will be very helpful to me. I am on a library computer for an hour, so I hope we get through before the hour is up.

RP > Let’s go with the answers. I say more for one, and variance for two.

GJ > I agree with RP and I say zero variance says there is no variance—the scores are identical.

RP > unsure for 3, b for four

TY > Very good. You are both correct. Question number 3 is found on page 64 in the “box.” 4 IS b.

GJ > 7 is confounding. Is 6 randomization?

RP > I agree on 78, poor

RP > excuse, should have had a comma after 7

TY > 6 is randomization, 7 confounding, 8, poor. Any takers for 6. Often the problem with those fill-in-the-blank is you have to find the “exact” place it was used. Don’t forget to look in the lecture notes.

TY > I’m sorry, I didn’t mean 6 . . . . I meant any takers for number 5.

GJ > better interpretation?

TY > Good guess. . . . keep looking . . . (hint: lecture notes!)

GJ > sorry—they’re at home. :)

GJ > I was helping a neighbor get ready for a ball and I left the house in a hurry.

TY > It may lead to better interpretation also . . . . again, one of those problems with not REALLY knowing the material.

RP > This was in Dr. Clark’s notes?

TY > Dr. Curtis? 1st page, under Purpose. We are talking about question 5, right?

RP > Mais, VALID RESULTS!!!

GJ > Is #9 c—complicate the research design?

TY > Yeaa . . . yea . . . Good for you! This is what I found with the first quiz. It wasn’t that it was so hard. . . . it was finding the right place to look.

RP > WHEN ALL ELSE FAILS, ASK THE PROF!

TY > You got it!

RP > I had c for 9 also

TY > c is correct for 9

GJ > constant for #10?

RP > constant

TY > Correct.

TY > 11 should have an “e” in removes and should be an “effect” rather than “affect”

GJ > I have no idea what the answer for 11 is, but I believe #12 is a-when research is being developed.

TY > Do you have your book with you, GJ?

GJ > Yes

RP > randomization?

TY > Look on page 89.

TY > You, too, RP.

GJ > statistical control-duh!! Thirty minutes is not long enough . . . . haha

TY > Again, this may well be a design flaw. Randomization may work there as well.

RP > That would have been my second guess. actually, it was my first, but I quailed.

DG has entered. [ 09:37:12 AM ]

TY > I suppose all four of those methods would effect the control variable to some degree. Usually fill-in-the-blank are very specific!

TY > Hi, DG. We’re going through the questions I posted on the whiteboard.

RP > Yo, DG!

DG > Hello All. On what question are we?

RP > You’re missing all the fun. TY’s got us up and thinking!

TY > We are on question 13! You may want to go to the top of the whiteboard and work your way through!

DG > Learning Styles, Right?

This excerpt shows the potential that synchronous online chat room discussions have for replacing small group activities in face-to-face classrooms. Students are engaging each other and the content of the course in an authentic social interaction guided by a common goal. They are negotiating their own understandings of the course material in a way that supports meaningful learning. They are even having fun while they do it!

Key words: distance learning, online courses

APPENDIX 1. Coding Questions and Categories

1. What kind of feedback do students request? (fkb) From instructor or peers (-i or -p) Non-course-related (-nc) Getting to know each other (-gk) Coordination/Consensus-seeking (-cc) Assignments (-a) General characteristics of (-gc) Peers’ approach to and progress in (-pa) Instructor feedback on (-if) Course content question (-cq) Navigating the Virtual Classroom (-ve) Resources (-r)

2. How are feedback requests answered and/or discussed? (ans or dis)

3. What kinds of strategies do students offer? (stg) Individual or group (-i or -g) Assignments (-a) Discussion format (-d) Course (-c) Resources (-r)

Note: Letters in parentheses are coding abbreviations.
College Teaching, a unique, cross-disciplinary journal, focuses on how teachers can improve student learning. Each issue includes practical ideas and new strategies for successful teaching. New and veteran faculty appreciate the scope of CT’s rigorously refereed articles on classroom research, student assessment, diversity, student-centered instruction, and accountability within the academy. An especially popular page, The Quick Fix, presents easy-to-implement techniques and tips that work. Special sections integrate the best and latest scholarship on teaching such subjects as writing, science, and mathematics. For teachers and administrators determined to enliven the teaching/learning process, CT brings inspiration to college teaching.

Subscribe today!
Quarterly; ISSN 8756-7555
Individual Rate $47 • Institutional Rate $93 • Add $14 for postage outside the U.S.

Heldref Publications
1319 Eighteenth Street, NW, Washington, DC 20036-1802 • Phone: (800) 365-9753 • Fax: (202) 293-6130

www.heldref.org

Libraries may order through subscription agents.

HELDREF PUBLICATIONS
Good thinking.
TITLE: Analyzing Students’ Conversations in Chat Room Discussion Groups
SOURCE: Coll Teach 52 no4 Fall 2004
WN: 0429703828005

The magazine publisher is the copyright holder of this article and it is reproduced with permission. Further reproduction of this article in violation of the copyright is prohibited. To contact the publisher: http://www.heldref.org/html/body_vend.html

Copyright 1982-2004 The H.W. Wilson Company. All rights reserved.