Knowledge and learning claims in blog conversations: A discourse analysis in social psychology (DASP) perspective

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Abstract: This paper explores how discourse analysis in social psychology (DASP) can provide CSCL researchers with insights regarding how students perform knowing and learning. We investigated what counted as knowledge and learning as students in a large undergraduate lecture course shared their understandings of dietary supplements through blog conversations.

Introduction
The purpose of this paper is to illustrate the use of methods from discourse analysis in social psychology (DASP) to understand “how people in groups make sense of situations and of each other” (Suthers, 2006, p. 321). Barriers to engagement in meaningful, “critical” discourse in online environments have been explored in the CSCL literature (Rourke & Kanuka, 2007). While highly structuring discussions is often suggested as a way to promote critical discourse, this strategy can reinforce the idea that the instructor is the sole authority of knowledge, rather than providing space for students to co-construct new knowledge through dialogue. Such co-construction of knowledge is an underlying assumption of several learning theories, highlighting its importance in fostering effective learning environments (e.g. Suthers, 2006). Having knowledge construction as a goal of discussion, yet acting as though there is ‘one right way to discuss’ or ‘one right answer’ seem to be contradictory belief systems. Another barrier to learning is the role of prior beliefs. Vosniadou (1994) acknowledged that individuals’ epistemological and ontological assumptions often act to limit an individual perspective from undergoing conceptual change. Thus, when students incorporate new information received in educational settings without changing their underlying frameworks, misconceptions can develop. In order to know whether conceptual change has occurred, we must first understand how students are orienting to a learning environment – to the content, to their existing knowledge, and to their beliefs about learning. In an earlier study (Paulus, Payne, & Jahns, in press), we found that student blogging made visible what counted as sources of expert knowledge in the area of nutrition science. In our present study, we delve more deeply into how DASP can provide us with a greater understanding of how students perform knowing and learning in a formal learning environment. We investigated further what counted as knowledge and what counted as learning for participating undergraduate students as they discussed their understandings of nutrition science concepts through blogging. Our research questions were: (1) What counts as valid knowledge claims? and (2) What counts as learning or change?

Context
In this paper, we report findings from a study on a blended learning environment in which undergraduates in a large introductory lecture course in Nutrition (NTR100) engaged in blog conversations as part of their course requirements. NTR100 is required for the B.S. degree in exercise science, nutrition, and nursing and also fulfills an undergraduate general education science requirement. The course is taught in a traditional lecture and discussion section format at a large university in the southeastern region of the United States. The class met twice a week for approximately 50 minutes. Seven graduate teaching assistants (GTAs) were assigned to the course, each being responsible for a 50 minute discussion section per week (approximately 25 students per section). Early in the 2008 spring semester students engaged in blog conversations for two weeks through Blackboard. The 165 students were randomly assigned to one of two blog groups (n=9 to 15) within their discussion sections. The GTAs demonstrated how to use the tool and explained the requirements: (1) to make one post and comment on five posts about their experiences with and understandings of dietary supplements prior to attending the lecture; (2) to make a second post and comment on five additional posts after attending the lecture as to how their understandings of dietary supplements had changed. The GTAs and the course instructor monitored the blog conversations, identifying common student misconceptions, questions, and assumptions. The course instructor then incorporated these common questions and misconceptions into her lecture on the topic of dietary supplements. Seventy-eight percent (78%) of the students fulfilled the posting requirements (ranging from 60-92% of participants making the minimum
number of posts and comments), with 66.5 percent of the total participants being female. Posting by GTAs ranged from one to twelve posts across the fourteen blog groups.

Method

DASP assumes that meaning is constructed through language (Potter & Wetherall, 1987; Potter, 1996). In this analytic perspective, it is assumed that discourse constitutes the social world (Phillips & Hardy, 2002), with language seen as possessing a “performative quality” (Wood & Kroger, 2000, p. 5). Through the use of DASP, we can understand how people construct cognitive concepts through language and we used it to understand what our participants’ language was doing within a given blog interaction. We approached our analysis with an understanding that “talk creates the social world in a continuous ongoing way,” with each participant’s discourse standing as only one production among many possibilities (Wood & Kroger, 2000, p. 4). The overarching aim of the analysis process was to identify how the discourse was structured and organized to perform various functions. Our analysis involved “detailed and repeated readings of the discourse against the background of the discourse analytic perspective,” with three guiding questions serving to frame our analysis process: (1) Who has authority?; (2) What counts as knowledge?; and (3) How is “learning” constructed? (p. 95). After all of the blog transcripts (247 posts and 1,363 comments) were downloaded for analysis, each researcher read and reread the blog data in its entirety to become familiar with the overall conversation. After several readings of the transcripts, selected portions of the transcripts (based on the guiding questions) were iteratively analyzed. Initial analysis focused on studying the “order/organization/orderliness” of the social interaction of interest (Psathas, 1995, p. 2). We then analyzed each section with the following discourse analytic questions acting to sensitize the process: (1) What is the discourse doing?; (2) How is the discourse constructed to do this?; and (3) What resources are present and being used to perform this activity? (Potter, 2004). Finally, the selected sections were analyzed for what was not present in terms of content and form, as we examined the discourse “creatively in all of its multifarious aspects” in order to “entertain multiple possibilities” (p. 91).

Findings

Our analysis resulted in two discursive constructs: (1) how students constructed valid knowledge claims, and (2) how students constructed learning. We examine both of these constructs in detail below.

Knowledge claims

We noted how students constructed their knowledge of dietary supplements prior to the lecture. Several claims counted as valid sources of knowledge, and students acknowledged sources of authority that acted to validate the knowledge. In many posts, knowledge was constructed by students as being derived from personal experience. We noted that knowledge claims included language constructs such as “It’s true because it worked for me, I tried X and Y happened,” as well as “I believe, I think, I heard, I feel” sentence constructions. The source of authority for these knowledge claims was one’s personal experience, with students making claims such as “you should listen to your own body” and “if it works for you, you should keep doing it.” This post by F005 explicitly identifies personal experience as the primary source of knowledge, claiming that “unless you have had an actual bad experience with them, then it is probably not your place to say they are bad.”

Personally, I do not know a whole lot about supplements, but I do know that if I am not well educated in an area, I am not going to go and nag people who do know a lot about it and tell them how I think it is a bad thing. I think it is ignorant when people complain about something when they do not even know enough about it themselves. So many people say, "I do not take supplements but I think they are bad." Well, unless you have had an actual bad experience with them, then it is probably not your place to say they are bad. Plus, if you take them right and do what it says to do on the bottle then usually they work. For instance, you can not expect a dietary supplement to help you lose weight if you just sit on the couch and hope that it burns all your fat away. Sorry, but it just is not that easy. Does anyone else get annoyed when people act like this? Sorry, not trying to be mean, its just annoying.

(F005)

In the absence of personal experience, students deferred to what others in their lives had experienced. Again, some type of experience was the primary authority for the knowledge claims. Language constructions include “I have no experience with supplements, but my mom takes X supplement and has Y outcome.” Students who were more
knowledgeable others were given authority by those who did not have direct experience. Mothers, grandparents, friends, coaches, trainers and significant others were referenced as sources of authority for these knowledge claims.

Below is an extended thread of conversation that illustrates what counts as knowledge, and how this is dynamically constructed through the conversation. This post and the comments that follow illustrate how despite some students having no personal experience with a given supplement, “a couple of friends” with experience count as a valid knowledge source.

I am a [university team] golfer and I used to take protein supplements before coming to college because I wanted to get stronger in order to hit the golf ball farther. I started working with a trainer and he recommended me to drink a protein smoothie every morning. I took it for about 4 months and it really did not make much difference to my body. Then I got told not to use them anymore . . . (F016)

I haven't taken any protein supplements before, but a couple of my friends have to try and increase their strength. I couldn't really tell a difference in them, but i think that it helped them mentally prepare for their workouts, to run harder or try more reps. (F018)

We identified personal experience as being the primary source of knowledge, with appeals to experts (trainers as doctors) as sources of authority as well. Additionally, many of the commenters relied on the experiences of others (friends) to ground their knowledge claims. At other times, students directly asked their more knowledgeable peers for advice as to what supplements they should be taking. Others responded with constructions such as *I suggest, I recommend*, or *I would*.

Other knowledge claims were grounded in the authority of “expert” sources such as medical doctor, professor or academic discourse. These claims included constructions such as: *My father is a doctor, and he says X about supplements; I am anemic and my doctor recommends I take Y; I am a nutrition major and X is true about supplements*. The post below explicitly illustrates doctors as a source of authority for this knowledge claim.

What if a Doctor gives you some sort of supplement to take? Like for instance don't some doctors prescribe (i dont know if that is the right word, it sounds kind of funny, so sorry if its not) :) steriods to help some people get over being sick. You probably won't know a whole lot about that either. I mean, when a doctor gives me medicine that is suppose to make me feel better, i usually just take it and don't ask any questions . . . but I guess my question is do doctor's prescribe supplements that help people and if so, are these good for you or are they harmful? (F074)

Comments which followed reinforced evoking doctors and coaches as sources of authority for knowledge claims.

There were many “common knowledge” claims made in which students constructed knowledge as general statements about society, campus life, and corporate America. Such claims were constructed as: *As a society we want Y; Americans today are X; Students today are Z*. Below participant F058 claims that Americans are lazy and only interested in quick fixes.

Diet pills seem to be all the craze nowadays. Watch any tv channel and more likely than not, you'll probably see an advertisement for Trimspa or Lipodissolve or some other random "lose-weight-fast" magical diet pill. I think this is the problem with Americans. We don't want to work for anything. We just want results, and we want them fast. (F058)

**Learning claims**

After students attended the class lecture on dietary supplements, we analyzed their post-lecture blog posts to understand how students constructed what it meant to learn. By far the most prominent way that learning was constructed was as a change in emotional state. Constructions such as *I was shocked, I was surprised, I am now curious about*, and *I am now skeptical* were prevalent, typically around two pieces of new information provided in the lecture: (1) that dietary supplements are not regulated by the government, and (2) that the NCAA closely monitors supplement use of its players. This evoked a knowledge claim that the government is responsible for our health and safety, and the realization that it does not, in fact, play this role in regards to dietary supplements seemed
to be quite disturbing to the students. Regarding the NCAA regulations, it was understood that the NCAA has the authority to determine what is acceptable, yet the students resisted that authority on the grounds that their regulations were too strict. In the example below we see an example of this “I was really surprised...It was interesting to see,” as well as a request for additional information on the topic.

I was really surprised about how little the FDA regulated supplements. I was also surprised how much it takes to get a supplement pulled from the market. It seems the government would want to control something that can have major effects on the body. I also think that universities should be more aware of what supplement companies are using their studies for since the information can be misleading. It was interesting to see how many supplements are prohibited by the NCAA. I wish Dr. Smith had gone into more detail on how they go about testing for the supplements. Does anybody know any of the methods they use? (F059)

Other students constructed learning as a list of facts from the lecture that they remembered. In the following post learning is constructed with phrases such as “I learned,” “As we learned in lecture,” and “I will be aware.” This participant also noted that some of what was learned was “alarming,” and the commenters use the words “disturbing,” “scary,” “crazy,” and “ridiculous” to describe their responses to what was “learned.” Additionally, in the two final comments made by F055 and F056, we noted again the construction that everybody knows in the claims that people should “just work harder” and are “just lazy.”

I learned several things on Wednesday's lecture. The annual static of 18 billion dollars spent on supplements a year was astonishing to me. I also know of people who seem to take extra supplements in hope for increased results, but as we learned in lecture, there are certain absorption rates for each supplement. Therefore, increased usage at one time is not beneficial. Another alarming fact that we read was the certain affects of certain hormones. The fact that growth hormones can cause internal organs to grow uncontrollably. After class Wednesday, I will also be more aware of the USP labels on supplements (F054)

Intended or actual changes in behavior were articulated as valid ways to construct learning by other students. These changes included the intention to begin or to cease taking supplements, to check with a doctor and/or to do extensive research before taking supplements, and even to check up on what supplements family or friends are currently taking. These constructions included language such as I will now do X and I want to learn more about Y. What is interesting about the following two posts is that they indicate completely opposite changes in behavior. One indicated that she will keep taking supplements, while the other stated that she will stop taking them.

As I said in my last blog, I normally take a one a day vitamin for women. I take them on and off. After my last bottle, I kept forgetting to go get more so I didn't take them for about a month. Even now it is hard for me to remember everyday to take them. However, since the lecture on Wednesday I realized I need to keep taking them and take them regularly. (F001)

One of the most intriguing constructions of learning took the form of: I didn't learn anything...but. After making this claim, the students would go on to write about new understandings they had.

Well after the lecture on Wednesday I don't feel like I know any more about vitamins and minerals just how to shop for them, what to avoid, and what to look for. I guess I misunderstood what the lecture would be about, I was hoping it would be about the actual supplements, but it was still helpful. I was wondering since there have been so many of us that our parents have told us to take vitamins, is there anyone who's parents or someone close to them that has always told them not to take supplements, and why they shouldn’t? (M041)

Finally, some students resisted the information provided by the instructor during the lecture. Information that contradicted previously held beliefs was dealt with by drawing upon personal experience identified as a valid
knowledge source. In the below post, participant M023 evokes knowledge claims grounded in personal experience, acting to resist the instructor’s claims regarding a specific supplement.

During class on Wednesday, Dr. Smith told us that creatine has minimal effects on the body (strength gains, muscle mass, etc). She says that it produces, mostly, psychological effects. Or in other words, a placebo affect. I have been on creatine for about a month and a half and have seen considerable gains, and I know its not just mind over matter. What are y’alls opinions on this subject? (M023)

Particularly interesting about such resistive claims are that they question the very nature of learning, acting to privilege personal experience over “expert” claims presented as part of a formal university course. It is highly unlikely we would observe such resistance in a face-to-face course.

Conclusions
The persistence of blog conversations provides a rich source of data revealing students’ assumptions about the subject matter, as well as about what it means to know and to learn. Our findings suggested that personal experiences prevailed as a privileged source of knowledge. We as teachers may see ourselves as authoritative sources of knowledge, but students are not automatically convinced by the knowledge claims that we make. A solid understanding of what expectations learners and instructors are bringing to the learning environment is critical for an effective learning experience. Rourke and Kanuka (2007) argued that dialectical models have been prescribed as most appropriate for educational discussions. However, they also point out that such discussions rarely happen online. Perhaps we can re-orient our focus to understanding how dialogic models may be more appropriate for online conversations, and how findings from DASP analysis of such conversations can inform subsequent face-to-face conversations that target underlying assumptions and student beliefs about knowledge and learning. As CSCL researchers continue to search for ways to investigate intersubjective meaning-making, collaborative knowledge building, and related “cognitive” processes, DASP provides an alternative ontological and epistemological framework that many may find helpful to their work.

Endnotes
(1) All authors contributed equally to this study, with Dr. Paulus as primary author.

References