

Do students learn in Collaborative Consultation? A Speech Act Theory perspective of the DFAQ

Dick Ng'ambi

University of Cape Town

dngambi@ched.uct.ac.za

ABSTRACT

While collaborative learning (CL) increases learning opportunities among participating members of a group, it is a non-trivial task for a teacher to know what kind of learning occurs. Proponents of CL claim that active exchange of ideas within small groups increases interest, promotes critical thinking, learning takes place. etc. However, there has been little empirical evidence to support the claims made.

My argument is that most case studies in favour of CL have based their observations on post-task reflective interviews of participants or experimental group results of a quasi-experimental design. The problem with these methodologies is that they tend to study perspectives on experience. My view is that the underpinning epistemology of CL is the view that knowledge is socially constructed and therefore knowledge needs to be captured during construction. However, the use of CL in a classroom is often hindered by a dominant metaphor of teaching in which learners are regarded as information seekers and teachers as information givers. This has created mindsets among students of expecting to receive information as opposed to giving information.

I argue that learning is a mental activity expressed through language and impossible to study without a dual process of seeking and giving information. We can therefore learn from messages exchanged among individuals while they collaborate on a task. I discuss a special purpose knowledge sharing space called a Dynamic Frequently Asked Questions (DFAQ) used by students for collaborative consultation. The DFAQ tracked the social construction of knowledge; the artefacts became knowledge resource to the class; and used as input into diagnosing learning using Speech Act Theory. The illocutionary acts of Speech Act Theory may thus provide a framework of analysing online consultative interactions and contribute to understanding CL from artefacts of socially constructed knowledge.

Keywords

Speech Act Theory, Dynamic Frequently Asked Questions, Collaborative Learning

INTRODUCTION

As a point of departure, I will distinguish between the question I have raised in the title “*Do students learn in collaborative consultation?*” and the question I address in this paper re *what type of knowledge do students share in collaborative consultation*. The former question depends on the later being answered. However, it is futile to ask the later question without first assuming the former. I will therefore assume as a given that students do learn in collaborative consultation with one another. I have therefore dealt with the question in the title through assumption. However, what I cannot assume is what students learn in collaborative consultation. Proponents of Collaborative Learning (CL) have claimed that active exchange of ideas within small groups increases interest, promotes critical thinking, learning takes place etc. However, there has not been much attention paid to the type of *knowledge* exchanged in collaborative consultation. Before I define what I mean by knowledge in this context, let me state that my view of collaborative consultation is a two-step process; seeking information through questioning and giving information through responding to questions. In the context of this paper, knowledge is an outcome of human interaction. Needless to say, traditional *ex cathedra* type of educational systems makes it difficult for knowledge creating human interaction to take place. The underlying assumption of this project is that students collaborate with peers informally outside the structures of set academic programme.

In this paper, students used an anonymous Web-based consultation environment, the dynamic frequently asked questions (Ng'ambi, 2002a; 2002b; 2002c; 2003; Ng'ambi and Hardman, 2004) to ask and respond to each others questions. Figure 1 depicts part of the DFAQ user interface.

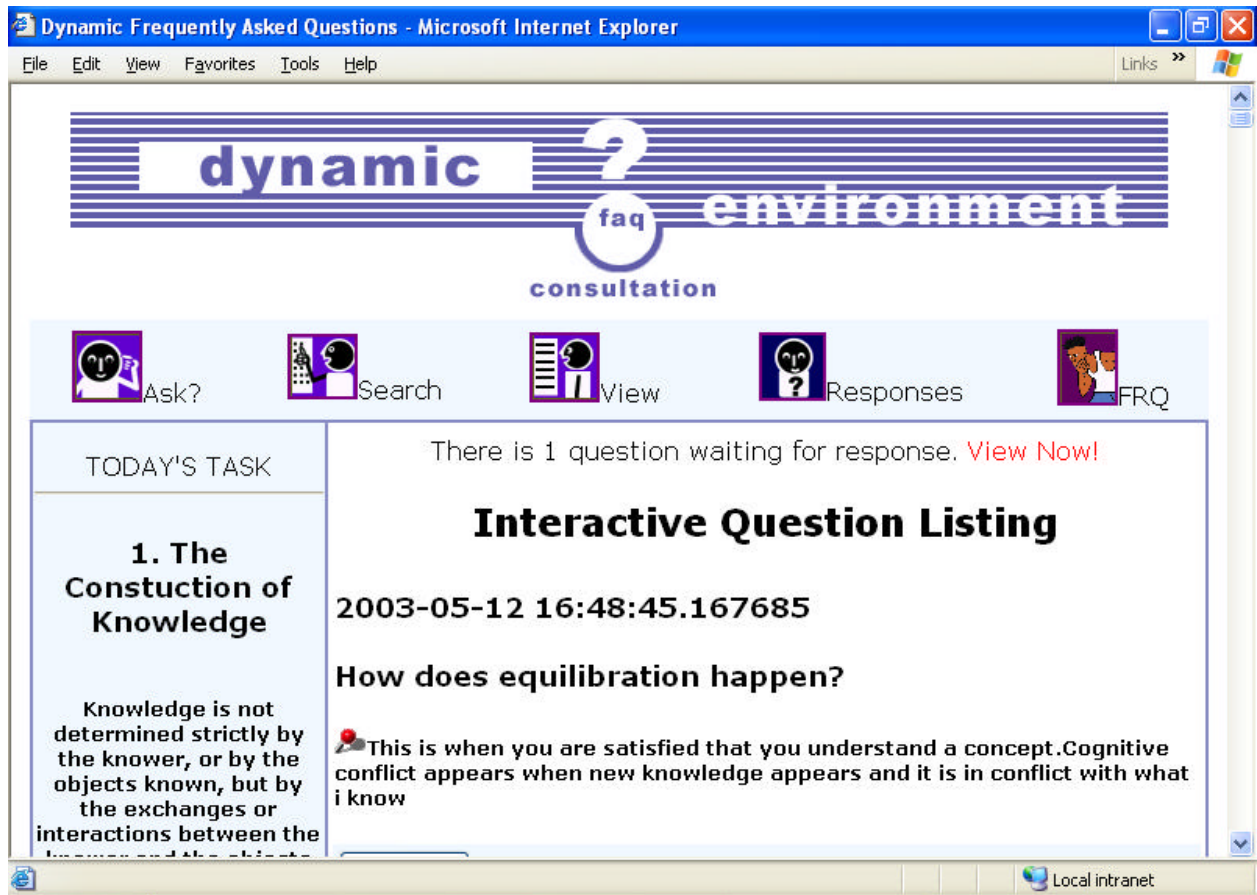


Figure 1: Part of the DFAQ user interface

The task on which students collaborated is shown on the left hand side of the screen, *Today's Task*. Students asked questions about the text e.g. how does equilibration happen? Both the questions and responses constituted artefacts which were analysed using Speech Act Theory in terms of model of transmitted knowledge, forms of argumentation and types of knowledge embodied in them.

The rest of the paper is organised as follows. The paper begins with a background to the project with a brief review of what motivated the project. I proceed to give the theoretical underpinnings of the project which provides a lens with which I view the phenomenon of human interaction. I then discuss the speech acts theory and my conceptualisation of knowledge in questions. The case study in which the DFAQ was used is described with a brief overview of its user interface. In the final part of the paper, I use the theoretical "lens" described earlier to analyse the DFAQ artefacts, discuss the results and conclude.

BACKGROUND

Anecdotal evidence shows that students informally collaborate with friends on academic tasks. It is therefore common sense that knowledge is exchanged among students during collaborative consultation. The challenge to which this paper attempts to contribute is on knowing the type of knowledge shared. My approach is to use Speech Act Theory to analyse the discursive practices of question based consultations.

Speech Act Theory has been the foundation of a number of theories and modelling approaches in the area of Information Systems (Van Reijswoud and Mulder, 1998). Reiss (1985) observes that Speech Act Theory is a study of “conversational sequencing and actors’ perception of meaning in conversational exchange.” (P. 14). The term conversational sequencing suggests a thread of conversation but this is not how it is used in this project. My view is that a unit of a conversational sequence in a collaborative consultation is a question and a response. Although a question could lead to other questions, I treat each question as deserving its own answer.

While the communicative action is premised on language as a medium of coordinating social interactions, the Speech Act Theory treats language as action. The idea of treating language as action suggests that questions are not asked *de nova* the author has intentions of action which s/he wants to accomplish through a question. Speech Act Theory is important to organizational communication in that words or text perform actions through what is said. Van Reijswoud and Mulder argue “*Speech Act based modelling approaches provide an understanding of organizations that extend on information and document oriented modelling approaches. By focusing on the communication a richer understanding is obtained of the dynamics of an organization, and there with creates richer models.*” To view the production of text using a Speech Act Theory lens, allows me to think of the produced text as having action power and that interpretation of text involves unravelling the action behind text. I do not use Speech Act theory in Reijswoud and Mulder’s sense of modelling but rather as a medium for achieving understanding of the meaning of computer mediated informal knowledge sharing. My view is that there is a relationship between speech acts and *knowledge*.

THEORETICAL UNDERPINING

In order to understand Communicative Action from human interaction point of view, I will distinguish between rationality and knowledge. Although these two terms are closely related, “knowledge has a propositional structure; beliefs can be represented in the form of statements” (Habermas, 1984:8) while rationality “has less to do with the possession of knowledge than with how speaking and acting subjects *acquire and use knowledge*” Habermas (*ibid*). Knowledge is therefore subjective and unreliable. My use of speech acts to categorise knowledge is tantamount to analysing communicative rationality to determine types of knowledge.

Habermas (*ibid*) argues that, the close relation between knowledge and rationality suggests that the rationality of an expression depends on the reliability of the knowledge embodied in it. The significance of communicative rationality in the context of this research is that, the rationality of informal knowledge sharing is dependent on the reliability of the subject knowledge of students under discussion. According to Habermas,

“This concept of communicative rationality carries with it connotations based ultimately on the central experience of the unconstrained, unifying, consensus-bringing force of argumentative speech in which different participants overcome their merely subjective views. This is done through participants owing to the mutuality of rationality motivated by conviction and are assured of themselves both the unity of the objective world and the intersubjectivity of their world” (Habermas, 1984: P.10)

The argument Habermas (*loc. cit*) puts forward are fundamental in understanding knowledge construction from human interaction. To suggest a central experience in which “*unconstrained, unifying, consensus-*

bringing force of argumentative speech” presupposes an *ad infinitum* of constrain environment in which human beings are expressive of behavior which may be rationale to them but irrational to others. In as much as such environments are desirable, the reality is that human beings are always constrained (oscillate between what is rationale and irrational) and do not therefore speak their “minds”. My contention is that the term *argumentative speech* assumes that participants are unconstrained in their speaking and acting as Habermas (*ibid*) puts it, “argumentation makes possible behavior that counts as rational in a specific sense, namely learning from explicit mistakes” (P. 22). My point is that given that human speaking and acting is constrained, it should be possible to allow learning to happen from implicit mistakes (thoughts not expressed in words). According to Habermas (*op. cit*), “anyone who is so privatistic in his attitudes and evaluations that they cannot be explained and rendered plausible by appeal to standards of evaluation is not behaving rationally” (P.17). In the context of this research, the *privatistic* nature and other factors, makes it difficult for some students to ask questions in face-to-face forums but rather consult informally with peers.

KNOWLEDGE IN QUESTIONS

In the context of this paper, I define knowledge as an outcome of human activity motivated by information needs and interests. To view knowledge as such is to view it as a construction from human activity. In this project, human activity involves students engaged in informal knowledge sharing. I have already assumed that knowledge is shared in collaborative consultation, what I am question is the type of knowledge that is shared. Questions are expressions of an information need and the *knowledge* is embodied in them.

Table 1 shows the relationship between Speech Acts and Types of knowledge embodied in them.

Speech Acts	Types of Knowledge Embodied	Forms of Argumentation	Model of Transmitted Knowledge
IMPERATIVES	Technically and strategically useful knowledge	Theoretical discourse	Technologies Strategies
CONSTATIVES	Empirical-theoretical knowledge	Theoretical discourse	Theories
NORMATIVES	Moral-practical knowledge	Practical discourse	Legal and moral representations
EXPRESSIVES	Aesthetic practical knowledge	Therapeutic and aesthetic critique	Works of art

Table 1: Aspects of the Rationality of Action (Adapted from: Habermas 1984: P. 334)

In the context of this research, all students are capable of rationale action. In other words, all students are capable of speaking and acting in ways that allows them to acquire and use knowledge. Depending on how they speak / act, they acquire and use different types of knowledge. It follows that an analysis of the discursive practices of “how questions are asked” it should be possible to uncover the type of knowledge for which questions represent. I will stress that a question is a speech act and within it is some form of knowledge. I am not talking about knowledge as in the responses to questions but knowledge in questions independent of a response.

A student or speaker (S) may have an information need (desired state) for which they want someone to bring it about. Let us suppose that this desired state is in the objective world, which means the need is definitive in terms of truth e.g., *what time is the event starting?* The purpose of the question (speaking) is to want the hearer to bring about the desired of state of *time*. This type of action called an *imperative* is only questionable

when the hearer (H) cannot fail to find connection with conditions of satisfaction. For example, if the H does not know about the event, will not be able help S reach a desired state. The action of S is Teleological (the theory that events and developments fulfil a purpose and must happen because of that) and “*the rules of action embody technically and strategically useful knowledge, which can be criticized in reference to truth claims and can be improved through a feedback relation with the growth of empirical-theoretical knowledge*” (Habermas 1984:333). This knowledge is both technically and strategically useful and to this end, it is stored in the form of technologies and strategies.

The other type of speech is where a speaker desires to represent to the hearer (H) a state of affairs. A speaker may refer to something in the objective world, and want to cause H to act on it e.g., *is it not too cold to play tennis today?* The speaker represents a state of affairs about the weather, and desires that (H) act on whether to play tennis or not. This type of speech act, *constative speech acts*, makes conversations possible. H, for example, may contest the validity claim raised by S for the proposition stated. The action is oriented towards (S) and (H) reaching understanding. With constative speech acts, truth of statements are subjective, for instance, at which temperature is it too cold to play tennis? When do we say the weather is cold? According to Habermas (1984) the “*when discursive examination loses its ad hoc character and empirical knowledge is systematically placed in question, when quasi-natural learning processes are guided through the sluices of argumentation, there results a cumulative effect – this knowledge is stored in the form of theories*” (P. 333).

Unlike the constative speech acts, which refers to something in the objective world, the *regulative speech acts* refers to something in a common social world in such a way that he would like to establish an interpersonal relation recognized as legitimate. For example, *do you think music piracy is wrong?* To respond to this question (H) needs to contest the normative rightness claimed by S for his action. Habermas (1984) suggests that, “*the type of knowledge embodied in normative regulated speech acts is moral-practical in nature. In moral-practical argumentation, participants can test both the rightness of a given action in relation to a given norm, and at the next level, the rightness of such a norm itself*” (P. 326).

Instead of referring to something in a social world, a speaker may sometimes refer to something in his subjective world. In this type of speech act, *expressive*, the speaker refers to something in his subjective world, and in such a way that he would like to reveal to a public. The intention of (S) is to let the public know something about an experience to which he has privileged access. For example, *I am lost and confused. Will you please help?* In this case, (S) reveals to the public his state of mind to which only he is privileged. It is not possible to know whether (S) is truthful, but H *may doubt* the claim to sincerity of self-representation raised by S. H can criticize S as being untruthful or reject as deception or self-deception. Self-deceptions require therapeutic dialogue to resolve and aesthetic practical knowledge is an outcome of such dialogue.

DESCRIPTION OF CASE STUDY

The study was conducted at that University of Cape Town in South Africa. The University of Cape Town strives to be an outstanding teaching and research university, educating for life and addressing the challenges facing our society. One of the University’s mission statements is “*critical enquiry in the form of the search for new knowledge and better understanding*”. This particular mission is important to this research for two reasons; firstly, my view of critical enquiry is that it is a process of continuous questioning; secondly, the search for new knowledge is a quest to find answers to questions. In view of this argument, it should be clear that the University’s realization of this mission requires that we address the need for questioning skills among scholars.

METHODOLOGY

The nature of the study and complexities it imposes on methodology has been rightly put by Taylor and Trujillo (2001) who points, “*the increasing use of computer-mediated communication (CMC) and virtual reality systems among members affords researchers new opportunities to study the re-mapping of*

communicative codes and conventions from face-to-face onto mediated cultural realms. Researchers who engage in text-based qualitative research will need to understand how multimedia and hypertext technologies complicate and destabilize the notion of the organizational 'text'." P. 185

The communicative codes I am concerned about in this paper are questions and responses. Taylor and Trujillo (*loc. cit*) cautions that communicative codes that happen in a face to face are different from technology mediated communicative codes. According to the Taylor and Trujillo CMC complicates and destabilizes the notion of text. My experience with DFAQ mediated consultation however, shows that questioning became easier and students relaxed when using the DFAQ was anonymous (Ng'ambi, 2003).

The research paradigm used in this study was interpretive. Some of the assumptions I have made in this study, are therefore those commonly shared among interpretive theorists and these are outlined by Candy (1991:432) [cited in Garrick, 2000:208]


- The aim of inquiry is to develop an understanding of individual cases rather than universal laws or (predictive) generalizations.
- Causes and effects are mutually interdependent and any event or action is explainable in terms of multiple interacting factors, events and processes.
- The social world is not objective – there is an extreme difficulty in attaining complete objectivity, especially in observing human subjects who may confuse or make sense of events based in their individual systems of meaning.
- The world is made up of tangible and intangible multifaceted realities best studied as a *whole* rather than being fragmented into dependent and independent variables. This recognizes the significance of the context in which experience occurs.
- The recognition that inquiry is always value-laden and that such values inevitably influence the framing, focusing and conduct of research.

These assumptions let me think of an interpretive paradigm as being about shared individual experiences or judgment of experience. My argument is that organizational communication happens through individuals acting as agents of an organization and therefore it is these individuals' judgment of their own experiences that becomes a learning resource for an organization.

DATA ANALYSIS AND DISCUSSION

The objective of this analysis is to move towards understanding the type of knowledge exchanged among students through informal consultation. Hearer [H] responds to questions asked by Speaker [S]. The roles of both S and H are temporal in that H becomes S and vice versa. Note that the text is **unedited** to show the challenges of using a foreign language as a medium of information sharing.

[S1] What is meant by *the term* 'object of permanence'?

[H1]  *The term 'object permanence' refers to the fact that a child begins to perceive that objects continue to exist even when they are no longer visible; that is, objects have an existence that is separate from the child's perception. This generally tends to happen towards the end of the sensori-motor stage.*


The speaker's desired state for which they want the hearer to bring about is the meaning of is being asked. The facts that [S1] asks about "what is meant" indicates an orientation towards understanding. The '*object of permanence?*' is a reference to an objective world.

A student or speaker [S1] may have an information need (desired state of reaching an understanding of what a term means) for which they want someone to bring it about. In responding to [S1], the hearer [H1] acknowledges that s/he has taken up the message with the words, "the term [*in question*] refers to". In using the term, "this generally tends to..." is indicative of [H1] asserting themselves. The question poised by [S1] is

strategic in that understanding the meaning is not an end but a means to understand the passage in which the terms “*object of permanence*” are used. The action of [S1] is therefore oriented towards success and is **Teleological**. The speech act is that of *imperative* and the knowledge embodied is **technically and strategically useful**.

In the next extract, I discuss a slightly complex question in that it makes truth claims about something referred to in an objective world.

[S2] If equilibration never achieve even a temporary stopping point, how then is it attainable? *If it is attainable* then must achieve even a *momentary stopping point -temporary*.

[H2]  *Think of the example we used of climbing stairs; we are continually equilibrating. So, you need to think of equilibration as a dynamic force, a motor which drives our learning.*

The speaker [S2] makes a validity claim of truth by referring to an objective world of *equilibration* to formulate an argument. In this question, [S2] presents the state of affairs and based on truth claims yet is oriented towards wanting to reach understanding. In making these statements [S2] invites [H2] to have dialogue. This type of speech acts are **constatives**. We see that [H2] instead of engaging in an argument points [S2] to a metaphor of climbing stairs. A conversation based on [S2] leads to theoretical arguments / discourse and “*this knowledge is stored in the form of theories*” (Habermas (1984: 333). The type of knowledge embodied in constatives is **empirical-theoretical knowledge**.

The next speech act is similar in that it is also oriented towards reaching understanding. It is different in that [S] refers to a social world and therefore makes validity of claims of rightness.


[S3] Is the knower the teacher?

[H3] *Goodness, if ONLY we WERE the knowers of everything:-) No, actually, anyone who is acting on the world and constructing knowledge is in the process of becoming a knower; what Piaget refers to here as the knower, is the child. But all of us are in the process of becoming knowers.*

In the above extract, [S3] refers to something in a common social world, *teacher*, in such a way that s/he wants to establish as legitimate a claim that a *knower is the teacher*. To respond to [S3] the hearer [H3] is conscious of the normative rightness claimed of the actions of [S3]. For instance, [S3] may desire to establish the claim so that s/he holds a teacher both morally and legally accountable when they do not know something. These speech acts, referred to as *normatives* leads to practical discourse. In other words, the response of [H3] is that, “*Goodness, if ONLY we WERE the knowers of everything:-)*” suggesting that it is not practical for teachers to be knowers of everything. The type of knowledge embodied in the normative regulated speech acts is “**moral-practical in nature**” (Habermas, 1984: 326).

The final speech act I will discuss is also oriented towards reaching understanding but is different to those discussed so far because it refers to a subjective world.

[S4] I understand *equilibration* to be a balance between *assimilation* and *equilibration*. So how do or can a person proof whether cognitive development never took place or rather developed slowly?

[H4]  *Ok, first of all, NOTE that equilibration is a balance between ASSIMILATION AND ACCOMMODATION; second, we cannot ever say that cognitive development does NOT take place; of course it always does. It is not exactly clear what you mean, in the second part of your question; whether cognitive development happens quickly or slowly doesnt effect HOW it happens, i.e. through accommodation, assimilation and equilibration.*

The speaker [S4], as the only one privileged to her/his subjective world of understanding reveals this world to the public. [S4] makes validity claims of *truthness* through a declaration of what the word “*equilibration*” meant. The reference to self “*I*” is important in that [S4] makes a self-representation. In doing so, [S4] is not only wanting to let the public know about an experience to which he/she alone is privileged but wants to reach

understanding. The motives of [S4] could include wanting the public to appreciate the “style or tastes”, the “inner beauty” of his/her subjective world. To this end, an expressive speech act embodies **aesthetic practical knowledge**. However, [H4] noticed that [S4] had misunderstood the concept for which [S4] claims to understand. The correction is therapeutic in that it “cures” the misunderstanding. It follows that expressive acts are therapeutic and aesthetic in nature.

LIMITATIONS OF STUDY

The study is based on student collaboration to understand an academic text. My view is that questions that arise from interrogating text (critically engaging with a text) may be different from questions asked when solving non-text problems. This study is therefore limited in that it does not demonstrate whether the knowledge embodied in problem solving questions would be different from the questions handled in this paper. In (Ng’ambi, 2002a) I report that meanings of questions changed as the academic term progressed. The use of speech acts on questions does not take into account the changing meanings of questions from the speakers’ perspective.

CONCLUSION

In this paper, I have discussed a project that sought to answer the question; *what type of knowledge do students share in collaborative consultation*. I began the paper with an assumption that knowledge was exchanged in collaborative consultation. I wish to state that I have not answered whether or not student learn in collaborative consultation. What I have succeeded in doing is to show that question speech acts are embodied with knowledge. I want to assume that if such knowledge is what is shared through questions, then learning could possibly be taking place. I have shown that four types of knowledge are associated with questions; technically and strategically useful knowledge; empirical-theoretical knowledge; moral-practical knowledge; and aesthetic-practical knowledge.

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