Chapter 7

E-Conferencing: Corpus and Discourse Insights

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1   Introduction

Over the past decade a new type of academic writing space has emerged online which features, not the polished prose of a journal article or essay, but a discourse still under negotiation, where goals and conventions are evolving and unstable (perhaps inherently so). Within this online space, the use of asynchronous electronic conferences (e-conferences) is growing in distance education and blended learning environments. Claims are made that this environment is suited to the building of learning communities and the exchange and negotiation of ideas (Andriessen, 2006; Andriessen et al., 2003; Cousin & Deepwell, 2005; Marttunen, 1997; Ravenscroft & Pilkington, 2000). These claims, however, are not uncontentious (Joiner & Jones, 2003).

A major focus in approaches to analysing academic writing has been on how writers negotiate their disciplinary knowledge claims (Bazerman, 1988; Chang & Swales, 1999; Hunston & Thompson 2000; Hyland, 1998, 2000; MacDonald, 1994; Myers, 2001). Citations, informal language, grammatical subjects, stance markers, pronouns, reporting verbs, genre patterns and politeness markers are among the features analysed with regard to how writers convey themselves in relation to their disciplines and how, in turn, their claims are received by their readers. A growing number of studies have looked at such features in student writing, much of it to inform pedagogy for international students (L2) studying in the medium of English (Coffin & Hewings, 2004; Hood, 2004; Swales, 1990; Tang & John, 1999), though increasingly also looking at the practices of first language English students (L1) (Berkenkotter et al., 1991; Charles, 2006; Drury, 2001; Harwood, 2005; Hewings, 2004; Hewings & Hewings, 2002; North, 2005). The language of e-conferencing has received relatively little detailed language-focused analysis. The collection of papers introduced by Androutsopoulos (2006) on sociolinguistic research into e-conferencing is possibly indicative of growing interest and some studies from a computer supported collaborative learning perspective have examined linguistic features such as qualifiers and intensifiers (Fahy, 2002; Jeong, 2006).

This chapter is a contribution to the exploration of e-conferencing using a linguistic lens. We report findings from a study[1] which used both a discourse and a corpus analysis framework to focus on interaction in e-conferencing within a group of Health and Social Care undergraduate students. The research questions addressed in this chapter are:

- What types of discourse moves are common in the e-conferences examined?
- Can corpus analysis support or extend these findings?
- What insights do the two approaches provide into student and tutor interaction in e-conferences?

Within many distance education programs e-conferencing has become a common means of creating a virtual learning community – bringing together students, otherwise separated by time and geography, to engage with course content at a time of their choosing. Interaction within an asynchronous environment consists of messages sent to all members of the e-conference which can be read, re-read and responded to by conference members at any time during a designated period. Discussions are often focused on articles, video or audio material or other course texts and are usually relevant to subsequent assessment. Much e-conferencing in higher education is based on groups working together in order to reach shared understandings or solutions or to create a product (Littleton et al., 2000; Wasson et al., 2003). In the social sciences and humanities e-conferencing is often used as a forum for students to exchange their views and perspectives on contentious issues and ideas, typically in response to a task set by their tutor. The discussions that may take place in e-conferences can be a particularly important form of collaboration, stimulating belief revision and conceptual change (Ravenscroft, 2000; Ravenscroft & Pilkington, 2000).

Experience has shown, however, that students are not necessarily eager participants in these exchanges, with concerns over how they present themselves and their opinions to people they may never have seen in a medium which preserves their contributions for all to see and reflect on (Hewings & Coffin, 2006). Students are developing ways of understanding and articulating disciplinary knowledge and knowledge-making practices. However, in communicating on an e-conference their thoughts, ideas and often personal beliefs are in a relatively public and lasting form which is available for scrutiny. Participants often take more time to plan and compose their contributions than would be the case in face-to-face encounters, resulting in more expansive turns than in casual conversation. However, there is no obligation to respond at all to any particular message – keeping silent is an option in e-conferencing that would be highly unusual in a face-to-face context and is open to negative interpretations. There is, therefore, considerable interpersonal risk involved; it is not

only the content discussions of e-conferencing that are worthy of investigation but also the personal investment in them by students.

Analysis of e-conferencing is located in different disciplines and draws on a variety of methodologies, many of which were originally developed to study other contexts. One such is discourse analysis, which has been adapted within psychology and applied to analyses of both e-learning and e-conferencing. Schrire (2006), for example, in addition to analysing cognition, also investigates interaction using a model of discourse analysis based on Wells' (1999) adaptation of Sinclair and Coulthard's (1975) approach to classroom discourse. This model involves a hierarchy of five levels – lesson, transaction, exchange, move and act – in which a typical exchange consists of initiating, responding and follow-up (or evaluating) moves. The focus in such studies is on the function of interaction rather than the identity and persona of the interactants.

Corpus analysis facilitates the investigation of groups of texts and as such is a promising approach for looking at the large amount of data generated by e-conferencing. Relatively little research so far has applied corpus analysis tools to investigating e-conferencing. Exceptions have been in the area of second language learning (Fitze, 2006; Montero et al., 2007). Corpus analysis, however, has been used in a number of studies to focus on the significance of pronominal reference and address the issue of how writers present themselves and their opinions. Such studies are particularly useful in highlighting aspects of authorial voice, an aspect of writing which has particular significance within the interactive setting of e-conferences. Most studies, however, have focused on published academic writing (Harwood, 2005; Hyland, 2000; Kuo, 1999) and traditional forms of student writing (Harwood, 2003; Hyland, 2002; Tang & John, 1999). Tang and John, for example, looked at essays written by Singaporean undergraduate students and constructed a typology of possible identities indicated through choice of pronouns. The most powerful authorial presence was described as '*I* as originator'. However, they found that students were more likely to assume less powerful authorial positions as they felt 'insecure about the validity of their claims, seeing themselves to be at one of the lowest rungs of the academic ladder' (Tang & John, 1999: S34). Hyland (2002), in a study of Hong Kong undergraduate students, had similar findings but attributed the unwillingness of students to take an authoritative stance to their cultural background, which discourages the promotion of an individual self. In a study of L1 postgraduate student master's dissertations in two discipline areas, Harwood (2003) found that the discipline itself was an important factor in how visible the writer's presence was, with relatively high uses of *I* and *we* in Computing Science dissertations as compared to Business and Management. In a study of pronouns in essays and e-conferencing by predominantly L1 masters students of Applied Linguistics, Hewings and Coffin (2007) found that a powerful authorial voice was often associated with the collective *we* which built upon shared professional knowledge.

The study described in this chapter combines corpus analysis with a specially developed discourse analysis framework for e-conferencing. The discourse analysis identifies the broad categories of interaction taking place as well as the moves within it. Corpus analysis techniques (Scott, 2004) are used to identify 'keywords', those words from the discourse which occur outstandingly frequently in comparison to some norm. Certain pronouns are highlighted by this means and are examined in the light of the research into authorial voice reported above; the findings are then compared to those from an analysis of pronouns in essays and e-conferencing in the field of Applied Linguistics. The corpus analysis findings are cross-referred to the results of the discourse analysis to facilitate greater understanding of the interaction taking place.

Below we outline the background to the development of our discourse analysis framework and the major move categories. For more detailed discussion see Hewings et al. (2006) and North et al. (2008).

2   The Discourse Analysis Framework

The discourse analysis framework developed for this research grew out of genre analysis (Martin, 1989) and developments in the analysis of casual conversation (Eggins & Slade, 1997), influenced by Sinclair and Coulthard's (1975) model of classroom discourse. The Eggins and Slade model of discourse structure analysis is similar to the exchange structure analysis of Sinclair and Coulthard in that it involves identifying the function of the various moves used by participants in a discussion. While Sinclair and Coulthard identified initiating, responding and follow-up moves in classrooms, Eggins and Slade distinguish opening and sustaining moves in casual conversation. Both models are relevant to the interactive exchange of views within a discussion, but require adaptation to deal with the different nature of asynchronous e-conferencing.

The discourse analysis framework was designed to contend with the particular characteristics of e-conferencing. Turns are often long and need to be segmented in order to identify different functions. This creates a problem in deciding on the unit of analysis. We use the t-unit, which consists of an independent clause together with clauses dependent on it. Once the text was segmented in this way, each t-unit was coded according to the functional move that it realized; where a move comprised more than one t-unit, coding was simply continued over all the relevant units. Messages in e-conferences are often not directly related to each other. A response message may be sent some time after the message to which it is responding and intervening messages may well have been sent. We have recorded the messages in the order that they were sent, in the knowledge that this is not necessarily the order in which participants viewed or responded to them. A numbering system (not discussed here) enables relationships between moves in the discussion to be tracked.

The type of interaction which is going on in e-conferencing has been subject to a variety of categorizations, distinguishing for example between task-related and non-task-related material (Schellens & Valcke, 2004), interpersonality and impersonality (Beuchot & Bullen, 2005), or between social, organizational and intellectual moves (Burnett, 2003). Since our initial focus in developing the framework was argumentation, we began by classifying argumentative moves as distinct from social, procedural and other instructional moves. The key criterion for identifying a move as argumentative was that it formed part of the negotiation of claims, either by proposing, supporting or challenging a position. However, making decisions about whether moves are claims or claim-related is not straightforward (Erduran et al., 2004) particularly as much reasoning is implicit. In the example below, the first two t-units constitute a claim and it is followed by reference to personal experience which is taken to be in support of the claim. While the reasoning in this case is implicit, the lexical signalling (*alternative, CAM, complementary orthodox medicine, medical model*) ties 1 and 2 with 3.

1. I have used the word alternative
2. but I also know for some people CAM can be used as complementary to orthodox medicine.
3. Many of my friends choose some form of CAM before visiting the doctor but still seem to need the reassurance of the medical model. (Julie 4/05)[2]

Such moves would be classified as Discussion, the major category within the discourse analysis framework, which also categorizes non-argument focused discourse under the headings: Social, Procedural and Other field-related. Since, as noted above, our original focus was the way that students argued in the e-conferences, we aimed to analyse moves in the 'Discussion' category exhaustively. Within the categories Social, Procedural and Other field-related we indicated only particularly salient types of move. The move categories within the framework as a whole can be seen in the Appendix. (See North et al., 2008, for detailed discussion of the argumentation framework).

Fourteen moves were classified as Discussion, relating to the topic under discussion in the e-conference and forming part of (or potentially contributing to) the on-topic argument. **Claim** moves, that is, contestable propositions, are central to the argumentation. For example:

Yes, I think GPs will have more confidence if there is either statutory or voluntary regulation. (Lucinda 4/05)

These can be challenged with moves such as **counterclaim** or **refute**. Alternatively, claims may be supported through **agreement** moves or **informing** moves. Informing, as a very large move category, is subdivided into

different types of information or reasoning that may be used to support a claim. Common informing moves used in support of claims were personal assertions, personal experience and professional experience. Also in the discussion category are moves such as **concessions**, which recognize the validity of alternative viewpoints, and **argument prompts**, such as the tasks given by the tutors.

Within Social are those moves which relate primarily to constructing or negotiating solidarity/community. Many e-conference participants used **salutations** such as '*Hi*' and **signing off** moves and **encouragement** moves were also common. For example:

> I'm glad you checked in with our conference, and thanks to Mary and Laura for your thoughtful support. (Julie 1/06)

Moves relating not to the discussion of the topic, but to establishing and maintaining the conditions which allow the discussion to take place are categorized as Procedural. These include both technical and organizational issues. **Problem** moves describe and/or ask for assistance usually relating to technical computing issues. These are responded to with **help** moves. For example:

> Instead of going to your tutor group you will see a column for OU Community Under that, click on Open University, then OU Students Association, then OUSA Signpost. (Lucinda 1/05)

Directives are moves in which participants are given instructions on how to carry out the e-conference task, usually by the tutor.

The final category is Other field-related, which covers moves that can be roughly classified as 'classroom talk', and cannot be classified under any of the other three categories as defined above. **Elicitation** moves include factual queries and responses not related to the intended topic of discussion, and **informing** moves provide background related to the wider educational contexts, but also not directly to the topic of discussion. For example:

> Did anyone else watch the programmes on BBC 2 about CAM? I thought they were excellent and provide some valuable insights and information. (Naomi 1/06)

3   Data Collection and Methods

3.1   Research context

The pedagogic setting was two cohorts of students following an undergraduate course *Perspectives on complementary and alternative medicine* (hereafter CAM)

in the Faculty of Heath and Social Care at the Open University, UK. The over-all aim of the course was to provide 'an accessible but rigorous introduction to complementary and alternative approaches to health' and 'to stimulate lively debates about this controversial and topical subject and to equip [students] with information and analytical frameworks with which to enter the debates' (www.open2.net/alternativemedicine/courses.html, accessed 14 March 2008).

We investigated 16 tutor groups in which participants were expected to participate in several e-conferences throughout the academic year. Our data shows that although there were between 15 and 20 students in each group the average number of active participants ranged from 2 to 13. The tutors attached to each tutor group had been given technical training in the use of the e-conferencing software (the commercially available *FirstClass* asynchron-ous system) but the extent of each tutor's experience in managing e-conference discussions was diverse. It was not possible to ascertain the extent of students' previous e-conferencing experience but based on interview and questionnaire data it appeared quite varied. Each conference lasted for approximately three weeks and was organized around different discussion tasks.

3.2   Data collection and preparation

Four tutors from the CAM course and two cohorts of their students were selected for analysis and their agreement obtained. Table 7.1 shows the data collected for two e-conferences for each tutor (one held at the beginning of the year and one held just after the half-way point of the course) and the assign-ments that related to the e-conferences. Questionnaire and interview data were also collected from the 2006 cohort. The main focus of the e-conference discussions concerned the assignment topics.

All the text data from the students and tutors was anonymized. Assignment question wording, end references and tutor comments were removed manually from the essays, so that only the students' own words would be analysed. In the e-conferencing data the duplicate text associated with copying messages or parts of messages that were replied to was removed. For the purposes of corpus analysis, these cleaned-up texts were converted into plain text. Initial

Table 7.1   E-conference and assignment data collected

	2005	2006
Number of tutor groups analysed	4	4
Number of e-conferences analysed	8 (2 per tutor) (31,507 words)	8 (2 per tutor) (17,541 words)
Number of assignments analysed	118 (224,779 words)	139 (246,483 words)

Note: The number of words was calculated using *WordSmith Tools 4.0.* (Scott, 2004) corpus software after the data was prepared for analysis.

corpus analysis was carried out using *MonoConc Pro* (Barlow, 2002) and subsequently using *WordSmith Tools 4.0* (Scott, 2004). Analysis using the discourse framework was carried out by the project team on data from the first two tutorial conferences, and the coding categories were gradually agreed on through discussion. All the text data was then coded by a single researcher, to maximize consistency.

4   Findings and Discussion

4.1   Discourse analysis

The discourse analysis framework was used for looking at a variety of elements in the e-conferences but below we only report on the frequency of particular categories of moves and aspects of interactivity. Figure 7.1 shows that the highest number of moves occurred in the Discussion category. This indicates that participants were willing to express views on the topic under discussion and was in line with what students said they valued and tutors were aiming for in the e-conferences. Social moves, such as greetings and encouragement, were consistently the next most frequent, which shows a concern for interpersonal aspects of e-conferencing.

   A high number of Discussion moves is not necessarily indicative of interactivity; it is possible that claims are made but not picked up and discussed further. To capture the extent of the dialogic nature of the discussion we looked at whether and how claims were responded to. Figure 7.2 shows the percentage of claim moves which were responded to by the tutor or by other students, or which elicited no response at all, for all the e-conferences and for each tutor. It is noticeable that students make the most responses and that their rate of
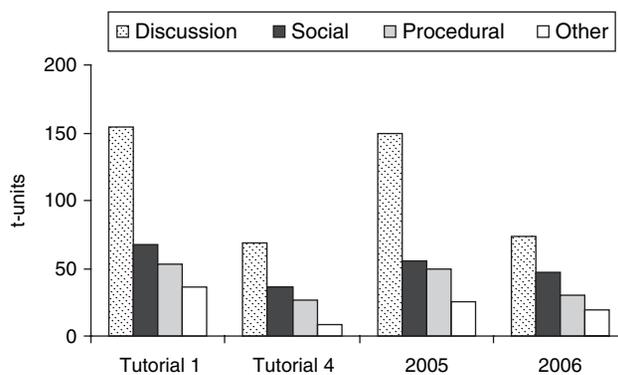

Figure 7.1   Frequency of moves in each category by tutorial conference and by year
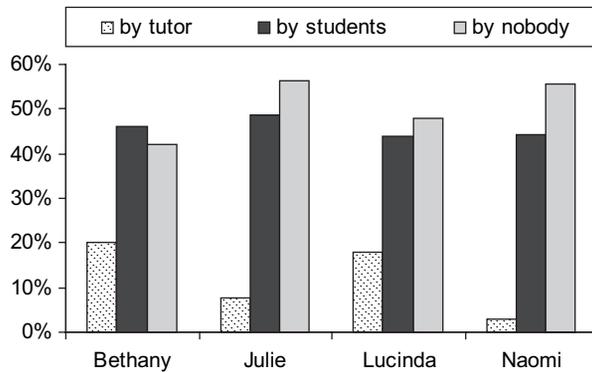
Figure 7.2 Responses to claims

Table 7.2 Agreements and challenges by tutorial and year

	Tutorial 1	**Tutorial 4**	**2005**	**2006**
Agreeing	64	41	92	13
Challenging	54	50	73	31

response is almost the same across the four different tutors (range 44.0–48.7%). Tutors, on the other hand, show greater variation. In groups where the tutor is more responsive, fewer claims go unresponded to. The student interviews suggest that receiving some form of response is important as some students may otherwise feel marginalized. Having summoned up the courage to put forward an opinion, one student clearly felt disconcerted by a lack of response:

> I think what upset me was most of the others would respond if you wrote anything in and I got no response, so at least at a face-to-face tutorial you would get a response, you know if what you were saying was right or wrong, I mean because nobody wrote back. Then I read what other people had written, but I sort of lost my confidence and I thought I haven't got anything valuable to say so I didn't write anything.

Figure 7.2 shows that this student's perception that only her postings failed to elicit a response is not borne out by the evidence. Unacknowledged posts clearly have the potential to undermine students' confidence in a medium which has no other feedback mechanisms.

The ways in which claims are responded to is also of significance in examining the ethos of the e-conferences. Two types of response are agreements and challenges. Table 7.2 shows that in 2005 there was slightly more agreeing than challenging, but that in 2006 there was a marked decrease in agreeing.

This decrease is set against an overall decline in activity in 2006. The higher number of challenging moves relative to agreeing moves accords with the 2006 cohort's positive views on the importance of challenging arguments, as reported in the questionnaire survey.

If success in e-conferencing can be judged by participation, particularly in on-topic discussion, then agreeing moves appear to have significance. Overall participation in 2005 was considerably higher than in 2006 and agreeing moves were more frequent than challenges. This situation was reversed in 2006 with more challenges but less overall participation. Generally, agreeing moves appear to help create a collaborative ethos. They are frequently personalized, using *I* and building in the names of individuals (e.g. '**I** think **Abigail** has got a point in that regulation . . .'; '**I** also like the comment by **Chloe** about . . .'). Challenges also often include names, perhaps to make the interaction more personal but less threatening (e.g. '**Lucinda**, I'm not too sure about your predictions re. the NHS being in meltdown . . .'; 'What do you think they are saying, **Robert**?'). The frequency of naming may also be a by-product of the disruption of the turn taking sequence within an asynchronous environment. Naming may be a device that helps to identify not only *who*, but *what* is being agreed with or challenged.

The results presented here from the discourse analysis framework illustrate that most of the interaction in the computer conferences was on-topic discussion of the tasks set by the tutors, with social moves also proving significant. Students were prepared to put forward views and to support and challenge those of others. The framework allowed identification of claims that were not responded to. This was a common occurrence and interviews suggest that it was a factor in inhibiting participation.

4.2   Corpus analysis

Corpus tools were used to identify words and phrases within the e-conference discourse that were particularly salient, and to prompt further qualitative investigation and comparison with the discourse analysis framework. *WordSmith Tools 4.0* (Scott, 2004) was used to find out which words were 'key', that is occurred statistically more often in one wordlist when compared to another reference wordlist. We generated wordlists for each cohort for both the e-conferences and the assignments and compared them. This had the advantage of screening out those frequent words that were associated with the topics under discussion and instead focused on words which were significant only in the e-conferences. There were only 13 keywords in the 2005 e-conference corpus, of which only seven are of interest (Table 7.3). We have omitted *Subject, Re, tutorial, March* and *From*, which are words found in the message headers, along with *xquotex* which was used to replace text quoted from earlier messages. The pattern was similar for 2006 though only seven words in total were found to be key.

The keyness of these words across the different files within the e-conference corpora was checked using *WordSmith Tools'* key keyword function. This is a

Table 7.3 Top keywords measured by log likelihood (p=0.0000001) for e-conferences

	2005		2006	
	Keyness	**Raw frequency**	**Keyness**	**Raw frequency**
I	1,333	560	1,064	372
you	842	274	411	136
think	388	127		
my	318	124	336	96
your	272	106		
me	261	83		
Hi	214	51	365	74

Table 7.4 Keywords and their associates in the e-conferences

I	You	Your	Think	My
think	re	re	you	subject
your	think	think	re	tutorial
I'm	your	you	your	you
hi	I'm	message	tutorial	me
message	hi	I	I	I'm
my	message	subject	subject	I
from	my	tutorial	hi	your
re	from	from	I'm	hi
#	it's	thanks	#	re
agree	thanks	hi	from	am
am	xquotex	my	xquotex	get
get	#	I'm	message	think
its	agree	get	my	#
me	get	me	do	from
thanks	me	xquotex	agree	xquotex
xquotex	tutorial	don't	get	but
bit	do	#	it's	conference
do	don't	agree	me	first
don't	am	am	thanks	just
click	click	click	conference	do

'statistical measure of the "spread" of keywords across a corpus' which consists of a number of files (Baker, 2006: 142–143). It avoids the danger of considering as key a word that occurs multiple times but only in one file.

An analysis of the keywords and their associates (Table 7.4) highlights the verbs *think*, as well as forms of *be, do(not)*, *agree, get* and *click*. *Think* and *agree* are the most frequent lexical verbs and both convey mental processes (Halliday, 1994). Common clusters with *think* are *do you think, I think the, what do you, I think I,* and *I think that.* The question form occurs in both tutor and student messages. In the tutor messages it is a common strategy for prompting students to think more deeply. The example below from a tutor came in response

to a message on regulation of complementary and alternative medicine.

> Yes, I think GPs will have more confidence if there is either statutory or voluntary regulation. But **do you think** it will make any difference to the public? (Lucinda 4/05)

In the student messages it is frequently used at the end of messages to make claims less potentially face-threatening and to open up the discussion to others, as in the following example.

> We are going back to a pre-modernity plural health market which sounds good to me.
> What do you think?
> In a hurry.
> Bye for now. (Lucinda 4/06)

I think is typically followed by *that*, a noun or pronoun or *the* followed mostly by an abstract noun. It is often integral to the discussion, associated with giving an opinion or supporting points made by someone else.

> **I think that professionalism** is changing (and should do) in response to public expectations (Naomi 4/06)
> One of the main reasons **I think hospital doctors and nurses** would be good is . . . (Bethany 1/05)
> **I think I** would have to agree with the comments on the subject of informed consent. As long as it is done well . . . (Bethany 4/05)
> **I think the same principle** applies with CAM. You try and find out about it but it is very hard to get accurate information as everyone is trying to sell you something. (Lucinda 1/05)

Agree is also used to show support either for points made or towards the individuals making the points. It typically occurs in the clusters *I agree with*, *I agree that* and *I do agree*. It is also frequently strengthened with boosters such as *totally*, *strongly*, *have to*. The example below illustrates how both the person being agreed with and the point they are making may be combined. It is then elaborated by a new claim relating to religion.

> Hi Connor,
> **I do agree** that people may be using CAM for the spiritual side as well. My main theory is that this could do with the decrease in religious following.
> I also believe that Medicine has a down falling . . . (Bethany 1/05)

As *I* and *you* are the most strongly key items in the e-conferences, and pronouns have been associated with authorial visibility, we investigated their use and relationship to the wider discourse. Table 7.5 shows all discourse analysis

Table 7.5   Occurrences of 'you' and 'I' in discourse moves

	I (%)		You (%)	
	Tutors	**Students**	**Tutors**	**Students**
DISCUSSION				
Thesis				
Claim		5	2	1
Claim/Support				
Subclaim				
Recommendation				
Counterclaim				1
Informing				
recount		1		
professional recount				
personal recount				
procedure		2		
description		4		
counterfactual explanation				
other explanation		3		4
personal assertion		10		1
professional experience		1		2
personal experience		8		
other exemplification			1	1
other information	2	4		2
Agreement		12		5
Refute		3		
Concession		3		
Argument Prompt		1	4	2
Information Prompt			4	1
Issue				
Preview		3		1
Summary				
Sub-totals	**2**	**60**	**11**	**21**
SOCIAL				
Encouragement		2	5	
Teasing				1
Deferring		1		1
Salutation				
Signing off				
Other	2	7		3
Sub-totals	**2**	**10**	**5**	**5**
PROCEDURAL				
Problem	1	3		
Help	2		3	5
Directive			25	
Other	6	5	6	3
Sub-totals	**9**	**8**	**34**	**8**

Continued

Table 7.5   Continued

	I (%)		You (%)	
	Tutors	**Students**	**Tutors**	**Students**
OTHER FIELD-RELATED				
Elicitation				2
Informing	1	2	3	7
Other	2	2	4	
Sub-totals	**3**	**4**	**6**	**9**
UNCLASSIFIED	1	1	1	
Totals	**17**	**83**	**57**	**43**

Table 7.6   Focus of address in the use of 'you' in e-conferences

	Tutors (%)	**Students (%)**	**Total (%)**
Generic	4	8	12
Individual	2	10	12
Group	51	25	76
Total	57	43	100

categories and the uses of *I* and *you* by tutors and students. *I* is used predominately by students with 60 per cent of the uses coming in Discussion moves. The majority form part of informing moves which are information or reasoning put forward as part of the on-topic discussion. Personal experience (e.g. *Just after I had my daughter 6 years ago I was diagnosed with hypertension*) and personal assertion (e.g. *I do not want to be associated with this practice*) figure highly. The pattern *I think* is almost exclusively found in the Discussion categories used by students: claim, informing (mostly personal experience or assertion), agree, refute, and concession. Tutor uses of *I* were predominantly Procedural, often relating to technical or organizational considerations (e.g. *I should like to divide this tutorial into 3 streams*). 10 per cent of student uses of *I* were related to predominantly Social moves but only 2 per cent of tutor uses.

In contrast to the findings for *I*, the keyword *you* is used more frequently by tutors (57%) than students (43%). Table 7.6 indicates that the tutors' focus of address is largely the student group as a whole (51%).

The high figure for addressing the group by the tutors corresponds to the most frequently used move, which is Directive, in which the tutor typically instructs students how to carry out the task, often using imperative verb forms (e.g. *Think about the choices **you** have made in relation to your own health or well-being and the interaction **you** have had with health practitioners.*

Then look at the case study presented for TMA01 in the assignment booklet.) Group address is also used in the tutor Discussion moves, which are mainly prompts and often questions (e.g. *I like the pluralist approaches to treatment suggested so far! would **you** be wanting to know what the conventional treatment is, how effective it is and what the side effects are or would **you** trust your doctor's judgement?*). Most of the prompts using *you* in Table 7.6 are from one tutor. Examination of the discourse analysis results shows that she used information prompt moves more frequently than any of the other tutors. Students also used *you* to address the whole group using a variety of move types (e.g. *If **you** take the example of Louise in the course book; I know I'm WAY behind before **you** all shout!!*), but they also made frequent addresses to individuals, often in response to and particularly agreeing with earlier messages (e.g. ***Elizabeth**, I think **you** have made an interesting comment here*).

The corpus findings on key pronouns show both similarities and differences to those of an earlier study of e-conferencing (Hewings and Coffin, 2007). The students in that study were using the same e-conferencing system, but were studying a masters module in TESOL. *I* and *you* were keywords in the e-conference, but so too was *we*, which did not figure as differentiating the interaction on the e-conferences from the individually written assignments in the CAM data. *We* as a proportion of the TESOL e-conferences occurred twice as frequently as it did in the CAM e-conferences. The categorization from that research identified *we* as most commonly associated with an inclusive address. Sixty-six percent of occurrences referred to the writer and the others taking part in the conference. In contrast, only 32 per cent were inclusive in the CAM e-conference. The other major difference was in the number of uses of generic *we*. Only 4 per cent of occurrences in the TESOL e-conferences were of this type, whereas they accounted for 44 per cent in the CAM data. This seems to indicate that there is a lack of a group identity to call upon. Within the TESOL e-conferences the interactants were all teachers and *we* frequently invoked a sense of solidarity around 'we as teacher', which allowed students to link to the wider group thereby making their arguments less easy to challenge. There was also a shared professional background with the tutors which might indicate a less hierarchical context. Although the CAM course was aimed at CAM practitioners and interested others, there was much less evidence of a practice-based understanding or identity either among students or between students and tutors. Tutors were able to invoke an exclusive group identity linking them to other CAM practitioners (e.g. *in the society I am registered with **we** have excelling training . . .*). In contrast, the only group invoked by any of the students was other orthodox healthcare practitioners, usually nurses (e.g. *as nurses the registration **we** have gives us some protection . . .*). These differences suggest that an analysis of pronoun use can indicate how aspects of interaction are differently constructed

in e-conferences with greater or lesser degrees of field or disciplinary homogeneity among the participants.

The corpus analysis has identified the significance of personal pronouns and mental processes (Halliday, 1994) such as *think* and *agree*. Comparison with the assignments corpus found only a small number of words to be key and these were words associated with the interactive, interpersonal nature of discussions in e-conferencing. A comparative analysis with e-conferencing in a TESOL course where the pronoun *we* was also key, indicated a possible disciplinary aspect to the construction of claims based on whether or not students and tutors shared disciplinary or professional backgrounds.

5   Conclusion

Academic writing in e-conferences is still relatively new and under-researched. This chapter has outlined two language-based approaches to examining the interaction taking place. The discourse analysis framework was designed to account for the characteristics of asynchronous discussions and particularly focused on how students and tutors engaged in argumentation. In answer to our initial research question, the discourse moves found to be most common in the e-conferencing were those concerned with on-topic discussion and secondarily moves designed to construct social solidarity and community. Results suggested that a significant factor in encouraging debate was responses; qualitative findings that a large number of claims went unresponded to were supported by analysis of discourse moves. Agreeing moves appeared to be interpersonally significant in building up a collaborative and supportive ethos and were also associated with greater on-topic discussion.

Our second research question focused on whether corpus analysis could support or extend these findings. Keywords were identified in the e-conferences of the two student cohorts, predominantly personal pronouns with *I* and *you* being most key. *Think* was the only verb to be key for both cohorts. Analysis of key keywords revealed that the verb *agree* was strongly associated with *I, you, your* and *think*. Cluster analysis of the two verbs showed their use in Discussion moves in putting forward modalized claims and support for the claims of others. Extension beyond the findings of the discourse analysis framework came through a comparison of the keyword findings with an earlier study of e-conferencing. This suggested that concordance analysis of key pronouns is indicative of areas of difference in the way knowledge claims are made. In particular the use of *we* indicated a shared practice- or disciplinary-based background and could be exploited to make knowledge claims more inclusive of the group and less open to challenge. In the CAM data analysed here, similar strategies were followed by tutors, invoking the CAM profession, and by orthodox health professionals, invoking their peers and professional bodies.

However, the result was exclusive rather than inclusive as there was a much weaker shared identity within the e-conference groups.

Analysis of concordance lines allowed occurrences of *I* and *you* to be mapped against the discourse analysis framework. The combined analysis indicated that the uses made by tutors and students differ. *I* was common in student moves, particularly those relating to the on-topic discussion. Tutors made greater use of *you* particularly in directives, telling students what to do. These were associated with imperative verb forms. Of the Social moves examined, students used *I* and *you* to encourage, tease, and defer, whereas tutors mostly encouraged. The tutor moves highlighted by this analysis show tutors as rarely personalizing their Discussion moves. They do not tend to preface claims or other Discussion moves with '*I think*', an interpersonal marker often associated with hedging. The absence of tutors from the analysis of Discussion moves relating to *I* and *you* reflects the lower overall number of claims made by tutors, though this did vary depending on the tutor and their views on the purposes of e-conferencing. The tutor's pedagogic role was apparent in the use of directives. The focus of address when using *you* was predominantly on the group, though students also made use of individual address.

The combined analyses presented here have illustrated ways in which interaction and particularly the discussion of ideas can be observed to occur in e-conferencing. The discourse analysis framework enabled quantities and patterns of moves to be categorized and tracked through the unfolding of the e-conferences. The corpus analysis highlighted the significance of personal reference within these moves. Concordance analysis combined with the discourse categories indicated the personalized nature of many of the moves and also the differences between the moves of the tutors and students. *I* was much more commonly used by students, particularly in combination with *think*. This enabled claims to be made more tentatively and the discourse analysis framework revealed that such claims were more likely to be taken up and discussed. The tutors made relatively little use of *I* except in Procedural moves relating to technical or organizational matters, though *you* was much more common and used mostly to instruct or direct students. The picture emerging is of a relatively hierarchical pattern of interaction, with tutors directing and being less personal in their Discussion moves. An alternative interpretation would be that tutors were trying to set up the tasks and then either taking a back seat in order for students to interact together and/or couching their Discussion moves in less personal and more abstract or theoretical terms as models of academic discussion for students. Further analysis of tutor Discussion moves and their linguistic realizations is necessary to explore these interpretations. Corpus analysis of keywords in the assignments corpus could also be the foundation for examining what is more salient in a traditional written genre and which discourse moves this was associated with. The implication of the analysis presented here is that claims

in assignments are less personalized, so the question remaining is what strategies are employed and have these built upon any strategies rehearsed in the e-conference discussions.

Appendix

Discussion

(The first five all involve contestable propositions that may be challenged/supported)

Claim
A contestable proposition relating to how things are (analytic)

Thesis
An overall position on an issue (at a higher level of generality than a claim) is put forward (i.e. a thesis statement)

Recommendation
A contestable proposition relating to how things should be (hortatory)

Counterclaim
A claim which takes an alternative position to a previous claim

Claim/Support
A claim which includes supporting evidence or reasoning in the same move

Informing
Information or reasoning which is put forward as part of the on-topic discussion; these moves may be either integrated (used to support a claim) or unintegrated (not linked to any particular claim, but available as potential support for a claim)

- *recount*: A recount of a series of actions or events
- *procedure*: Information about how a procedure is being/has been/will be carried out
- *description*: Information about the nature or condition of a person, place, object or concept
- *counterfactual explanation*: Reasoning that speculates on what might have happened
- *other explanation*: Other logical reasoning, involving explicit causal relationships
- *personal assertion*: A comment related to the on-topic discussion which describes the writer's affective response and is therefore not open to challenge
- *professional experience*: Reference is made to professional experience provided by the writer
- *personal experience*: Reference is made to personal experience provided by the writer
- *other exemplification*: One or more specific examples of a general point

- *other information:* Any other material which is part of the specified on-topic discussion, but does not fall into one of the above categories

Agreement
A previous claim is confirmed by a participant agreeing with it

Refute
A questioning or criticism of an argument or claim made in a previous turn, (or in a forum outside the conference such as a text book, academic article etc.) No new claim is made, unlike Counterclaim

Concession
Recognizes the validity of an alternative viewpoint expressed in a previous turn. This move is subsidiary to a claim being put forward by the writer

Argument Prompt
A question designed to stimulate and prompt participants' views on an issue

Information Prompt
A question designed to stimulate participants to provide information as part of the on-topic discussion

Issue
The overall issue to be debated is identified (without indication of the stance or approach to be taken by the writer)

Preview
The direction of the forthcoming discussion or section of discussion is explicitly introduced

Summary
Preceding discussion points are explicitly summarized or completed

Social

Encouragement
Participants motivate and encourage each other

Teasing
Participants denigrate each other or each others' contributions, playfully or otherwise (opposite of Encourage)

Deferring
Participant minimizes own contribution and/or seeks reassurance from others

Salutation
Participants open contributions with a greeting

Signing off
Participants close contributions

Other

Procedural

Problem
Describes and/or asks for assistance with a procedural problem (relating to technical issues or other conditions that affect the ability to carry out the task)

Help
Provides information intended to help with procedural matters

Directive
Moves in which a participant (normally the tutor) instructs participants how to carry out the task

Other

Other field-related

Elicitation
Any move intended to elicit factual information which is related to the wider educational field but not part of the specified on-topic discussion itself

Informing
Any move providing factual information which is related to the wider educational field but not part of the specified on-topic discussion itself

Other
Includes explicit teacher evaluation of student contributions, or student evaluations in same style

Notes

1 This study was funded by the Higher Education Academy, UK and the project report is available at www.heacademy.ac.uk/ourwork/research (accessed 12 May 2009).

2 E-conference examples are referenced by the tutor's pseudonym, the conference number and the year.

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