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Exchanging and countering points of view: a linguistic perspective on school students' use of electronic conferencing

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Exchanging and countering points of view: a linguistic perspective on school students' use of electronic conferencing

Caroline Coffin

Sarah North

Dave Martin

The Open University, UK.

Abstract

The ability to argue is an important academic goal in secondary education. This paper reports on an exploratory study which investigated how asynchronous text-based conferencing provides a new site for school students to rehearse and develop their skills in argumentation. The study used linguistic tools of analysis to investigate two key questions:

How is argumentation structured in asynchronous text-based conferencing?

How do students use language to negotiate their position on an issue?

The originality of our study lies in the use of a functional linguistic method of analysis which provides unique insights into how students use language to argue, insights that can inform teaching and learning both in school history (the context for this paper) and more generally. Our interest in language is based on the premise that it is central to the learning process – a premise supported by work in socio-cultural psychology and systemic functional linguistics.

The most significant findings to emerge from the analysis were that a) counter-argumentation was rare and b) the more tentatively a claim is phrased the more likely it is that students will challenge or counter it.

Introduction

The ability to put forward a proposition supported by evidence and to engage with different points of view (in other words, the ability to argue) is an important academic goal in secondary education (Mitchell 1994, Andrews 1995, Mitchell & Riddle 2000). Within school history (the context for the research reported here) the ability to develop a complex, logical argument is particularly prized (Coffin 2006a). More broadly, from the perspective of socio-cultural theories on cognition and learning, argumentation in the form of 'learner-learner' or 'learner-expert' dialogue is perceived as a means of deepening learning. Following Vygotsky (1978), it is argued that, by internalising linguistic processes of argumentation as they occur in social dialogue, learners develop higher level mental processes such as critical reasoning and reflection (McAlister *et al.* 2004). In particular, following the socio-cognitive conflict theories of Piaget (1932/1965) and Doise et al. (1984), conflict (in the form of counter-claims and challenges) is seen as an important catalyst for cognitive change in the sense of modifying and revising one's position (see also Leitão 2000, 2001). Of concern, then, are the findings from a number of studies which show that students' argumentative skills are often under-developed (Kuhn 1991), and that, in particular, students tend not to engage in counter-argumentation (Simon *et al.* 2006, Coffin 2007b).

This paper reports on an ESRC-funded exploratory study [1] which set out to investigate how asynchronous text-based conferencing may provide a useful forum for school students to rehearse and develop their skills in argumentation. We focused in particular on the structure and language of argumentation in this relatively new teaching-learning site. Our aims were to find out:

a) how argument unfolds in an asynchronous electronic conference

b) whether there are particular patterns of language use in argumentative dialogue (within the context of asynchronous electronic conferences)

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[1] ESRC ref: RES-000-22-1453. A report of the study is available at www.esrcsocietytoday.ac.uk. This details all aspects of our investigation including analysis of argumentation in student essays. To find out more about the project and ongoing work visit: http://arguinginhistory.open.ac.uk/index.cfm.

Our interest in language is based on the premise that it is at the heart of the learning process – a premise supported by work in socio-cultural psychology (Mercer 2001), systemic functional linguistics (Halliday & Martin 1993, Christie & Martin 2007) and education (Wells 1994, 1999).

The pedagogic context for the research project

The setting for the research was two state secondary schools in Milton Keynes (a new city north of London, UK). We investigated two classes of Year 9 history students (38 students in all), one from each of the schools. We focused on the subject area of history because the ability to engage in logical and persuasive argumentation is particularly important to students' success in the subject (Voss & Wiley 2000, Coffin 2006a, b). In the UK, Year 9 is the last year in which all students study history.

Prior to taking part in the conference, each class in the two schools followed similar units of work relating to the rise of the Nazi Party. Using a variety of resources and materials, the students moved through the narrative of events, at the same time considering which factors were most important in explaining the Nazi rise to power. Towards the end of the unit the students were divided into five discussion groups, containing equal numbers from each school. The groups were each given access to a conference site which had been set up using Microsoft Share Portal, the software already in place in one of the schools. Neither of the two classes or teachers had previous experience of using text-based conferencing within history. However, they were interested in investigating its potential as a teaching-learning tool and already had well developed computer skills, with the majority of students having extensive experience in the use of MSN Messenger (a form of real-time communication based on typed text).

During a three week period, the students discussed the following question which was deliberately phrased to elicit an argumentative response:

> The most important reason why the Nazis came to power in 1933 was that they had Hitler as a leader. Do you agree?

The conference data (comprising a total of 8,368 words) was collected and anonymised by creating pseudonyms for both students and conference moderators/teachers. Teachers, IT network managers and 20 students were interviewed before and after they

had taken part in the conference. This additional data enabled us to provide some measure of triangulation by combining qualitative data with quantitative data derived from linguistic analysis (see Table 1 for a summary).

INSERT TABLE 1 HERE

Text-based conferencing: prior research

The developing use in secondary education of asynchronous electronic conferences or message boards for students, either individually or in groups, provides a new site for the development of argument skills. However, to date, there has been little research into the pedagogic effectiveness of this technology within school contexts and an almost complete absence of studies investigating online argumentation and history. There are, nevertheless, several practitioner-oriented published reports that provide some interesting observations. But the claims made need to be treated with some caution in that they are often based on anecdotal evidence rather than systematic data analysis.

Wilson and Scott's (2003) report on email exchange between two Year 9 classes in two different schools, for example, claimed that whole class collaborative composition of arguments was motivating for students. The authors were, however, careful to point out that the benefits lie not in the mechanics of the technology but in the reflection, manipulation or discussion that the technology facilitates. They argued that students were engaged with the task because of the competition with another class. Thompson and Cole (2003) also claimed that using a message board had positive effects, this time on small groups of history sixth formers collaboratively composing the messages. They concluded that, based upon history assessment criteria, the quality of the students' argument improved, and that message boards had contributed to this alongside the full range of teaching strategies. Their observations pointed to the following benefits: students selected evidence to support their contentions more carefully in online conferences than in face-to-face oral discussion; more reticent students became involved; the message board allowed time to think before replying and it gave the chance for teacher intervention to stretch the thinking of students.

Aside from studies relating to the use of conferencing and argumentation in school history, there has been some limited work in other school subjects. In a study run by the Geographical Association (http://www.geography.org.uk/projects/whyargue) the researchers found their work was frustrated by problems of access to reliable software,

reflecting the fact that, in general, conferencing is in the early stages of adoption by schools.

Other studies investigating learning and discussion in electronic environments have tended to focus on tertiary rather than secondary education (Hakkarainen *et al.* 1998, Lipponen 2000, Marttunen & Laurinen 2001, van der Meij & Boersma 2002, Hakkarainen & Palonen 2003). Of particular relevance to our project are studies focusing on collaborative argumentation (Kanselaar *et al.* 2002, Andriessen *et al.* 2003, Arnseth 2004, McAlister *et al.* 2004). Scholars within this tradition hold the theoretical position that argumentation is a process that facilitates reflection and knowledge restructuring (Andriessen *et al.* 2003). They argue that text-based and time-delayed communication supports the argumentation process by allowing learners to keep track of complex questions or problems under discussion. Andriessen (2006: 198) describes it as a 'slow discussion', offering students considerable time for reflection and pondering (unlike in face-to-face discussion). However, as commented on earlier, one common trend which has emerged across a number of studies and which appears to be characteristic of both face-to-face and online environments is students' frequent avoidance of confrontation, preferring to support rather than challenge each others' points of views (Baker *et al.* 2002, Jeong & Joung 2007). This trend in relation to electronic conferencing may in part be explained by students' desire to create interpersonal harmony. In virtual communities where students may never have face-to-face contact this desire appears to be particularly pertinent (Painter *et al.* 2003).

Framework of linguistic analysis

Educational conferencing has generally been analysed from a psychology rather than linguistic perspective, using quantitative content analysis to investigate knowledge construction, collaborative learning or critical thinking (Erduran *et al.* 2004). Few studies have examined conferencing from a linguistics perspective. We drew on a functional linguistic framework of analysis which we had developed and successfully applied in previous research investigating conferencing in higher education (Coffin & Hewings 2005, Coffin *et al.* 2005a, Coffin *et al.* 2005b). We adapted and extended it as necessary to fit the needs of the secondary school study.

Preliminary investigations of the conference data suggested that it would be best regarded as a form of informal 'chat' with interactional aspects made prominent, rather than as a structured piece of writing (cf. Harrison 1998). Our earlier work in higher education settings had focussed on analysing the relationships between ideational meanings in the conference messages (i.e. meanings concerned with representing the field, activity or topic) primarily because the students in that context had tended to produce relatively lengthy messages with many of the characteristics of formal writing. The secondary school students in contrast had a more informal conversational style, most likely influenced by their experience of MSN messaging. Many of them used textese, making use of common abbreviations (e.g. *lol* for *laugh out loud*) and other forms of shorthand (such as *coz* instead of *because*, *dis* instead of *this* etc.)

We expanded our framework of analysis to account for the way that participants interacted with one another, aware, however, that the multiparty nature of conferencing makes the interaction very different from that found in face-to-face conversation. By tracking the topic of the claims, as well as who proposes, supports or challenges them, the framework was designed to capture the negotiation of interpersonal relationships and rhetorical alignment as well as the co-construction of new knowledge and positions. It thus responds to Leitão's call for a dialogical perspective on argumentation, one that can reveal 'both the proponent's and opponent's active and interrelated roles in the course of a dialectical weighing up of supporting and opposing elements in social contexts' (Leitão 2000: 339).

In essence our framework analyses conference data in terms of functional 'moves' such as whether a student/teacher is agreeing with, or challenging, another participant (*agreement* and *refutation* moves respectively):

Move

agreement	i agree that hitler used tha propaganda to get votes! it did play a big part in the election thing!! (William, Conference 3)
refutation	but if hitler was not the leader of the nazis and the wall st crash had happened i don't think the nazis would have got into power ether (John, Conference 2)

Not all moves necessarily respond to, or invite, moves from other participants. A student might put forward a position on an issue through a *claim* move and then support it him/herself through, for example, a *recount* or *explanation* move. Megan does this in the following extract:

Move

claim	Hitler and the nazi party played a big part in the electoral success
explanation	because he used the the wall st crash and all of the other opportunities to his advantage

'Move' analysis mainly draws on the traditions of exchange structure analysis (Sinclair & Coulthard 1975) and functional linguistic conversational analysis (Eggins & Slade 1997). However some of the more ideationally oriented moves (such as *explanation, recount*) are derived from genre analysis and description (Martin 1997, Coffin 2006a). All these forms of linguistic analysis are concerned with the structure of discourse, the nature of linguistic realization and their relationship with meaning and the social and cultural context.

Process of linguistic analysis

The first stage of analysis involved segmenting the conference data into t-units and entering these into Excel spreadsheets. The t-unit is a grammatically-defined unit consisting of an independent clause together with any dependent clauses, and was used because it can be identified reliably without overlapping boundaries, thus avoiding the types of segmentation problem identified by Strijbos et al. (2006). Each t-unit was then coded according to the functional move it realised. Where a move comprised more than one t-unit, coding was continued over all the relevant units.

Initially we classified argumentative talk separately from social, procedural, and other instructional talk. This distinction, however, proved difficult to maintain. The key criterion for identifying a move as argumentative was that it formed part of the negotiation of claims, yet in naturally occurring discussions claims are not always easily identified. Where logical relationships were left implicit, it was difficult to be certain whether or not a piece of information was intended to be taken as evidence for or against a particular claim, and it seemed better to regard this type of material as contributing to a gradually expanding pool of data which participants could draw on in

building arguments, whether with explicit or implicit reasoning. Rather than trying to maintain a clear distinction between 'argument' and other moves, we therefore created a looser category of 'discussion' that incorporates such potentially argumentative moves together with those that are unambiguously argumentative.

The system that we finally developed involves identifying moves within one of the following categories:

- Discussion: moves which form part of (or potentially contribute to) the on-topic argument;

- Social: moves primarily concerned to construct or negotiate solidarity/community;

- Procedural: moves establishing and maintaining the conditions which allow the discussion to take place (including both IT and organisational issues);

- Other field-related: moves that can be loosely classified as 'classroom talk', and cannot be classified under any of the three categories defined above.

Since our focus was on student argumentation, we aimed to analyse 'discussion' moves exhaustively, but within the other three categories, we identified only particularly salient types of move. The framework of analysis for the discussion moves is shown in Appendix 1 (for the complete framework, see Coffin 2007a). There are parallels with Toulmin's argument model (Toulmin 1958, Toulmin *et al.* 1984), but a key difference is that our approach aims to capture how claims are supported by moves particular to historical discourse rather than Toulmin's more general categories of *data, warrant* and *backing*.

Central to our analysis of the discussion moves is the *claim*, or contestable proposition (including *thesis, recommendation* and *counterclaim* moves). Each *claim* move is coded with an identifying number, and moves relating to that claim are given the same reference number, making it possible to track the way that a claim, once put forward, is either advanced, challenged or ignored by other participants. In analysing student argumentation, there is a danger that the analyst may infer relationships that were not intended by the participant, creating an idealised interpretation that represents not what participants actually did, but what they should or could have done. To avoid over-interpretation, we coded all moves for function regardless of whether or not they might be related to a particular claim. The numbering system, however, allows us to

distinguish those moves which are clearly related to a claim, and therefore argumentative, from those where the relationship is no more than a weak inference; we term these 'integrated' and 'unintegrated' moves. In addition, in order to account for the way in which one claim often 'drifted' into another, the coding system allows for a new claim to be related to a previous claim. This system enabled us to track the gradually developing network of relationships between claims and supporting or challenging moves.

Data from the first two tutorial conferences was analysed, and the coding categories were gradually agreed on through discussion of the data. The remaining data was then coded by a single researcher, to maximise consistency (for detailed discussion concerning coding and other methodological issues, see North et. al, forthcoming). To enhance the quantitative data derivable from the spreadsheets, information was also transferred to summary charts providing a diagrammatic display of the argumentation across time. As the simplified extract in Figure 1 illustrates, these charts enable us to see not only how many moves of each type occurred overall in a particular tutorial conference, but also how they were distributed across the participants and across the claims. Each claim is numbered along the top, and moves relating to that claim are shown in the column below, in the order that they occurred in the discussion. Participants are indicated by initials on the left. The summary charts thus provide an original way to represent the overall pattern of the argumentation, and also suggest aspects that merit further qualitative analysis.

FIGURE 1 HERE

Interview Data

While the linguistic analysis of the conference data was a central focus, the information it provided about the outcomes of the conferencing was supplemented by interviews with teachers and students both before and after the conferencing. They enabled us to compare the way the participants' views had (or had not) been changed by the experience of conferencing.

The interviews were semi-structured, with the same questions posed in both schools, but with follow-up questions to explore responses in more detail. History teachers and ICT network managers were interviewed individually for about 45 minutes, while students were interviewed in groups of two or three for about 30 minutes. Group interviews were

used to help students feel comfortable and to encourage them to speak. All interviews were digitally recorded and transcribed in full.

Findings

The structure of argumentation in electronic conferencing: overall patterns

Based on the analysis of the five conferences, we can make a number of observations about the way the argumentation unfolded within the environment of asynchronous text-based conferencing.

Message headers and threads

Overall students spent much of the conference – an average 55.2% of all t-units – in on-topic discussion. However, the use of message headers could give a misleading impression of coherence as within the same message thread students often discussed several different claims, or put forward information that was not directly integrated into the argumentation. Sarah, for example, posted the following claim using the message header *Hitler And Communists:*

> i tink hitler used every bad opportunity n turned it into a gd one 4 example the wall street crash, he said to people dat he would give them food n jobs if dey vote 4 me

Clearly, the header had been inherited from a previous set of messages and did not reflect the new argument strand that Sarah was putting forward (i.e. that Hitler used to his advantage potentially negative situations). Similarly, students might contribute relevant information or ideas to a thread with a particular message header but without integrating these into the argument itself (i.e. non-integrated informing moves). Rather than indicating how argumentation typically unfolds in conferencing, this misleading use of message headers may, of course, be connected to our particular sample of students and/or their stage of development or experience of conferencing. However, it seems to us that the software design is generally vulnerable to this type of 'misuse'.

Complexity of argument strands

Overall, it emerged that conferencing was marked by a complexity of argument strands (i.e. chains of moves relating to a particular claim) simultaneously unfolding in relation to different sub-topics. The tendency, in all five conferences, for argument strands to disperse rather than build towards an overall position suggests that this may be what makes conferencing a distinctive medium. With little pressure to establish a stable or overarching point of view, students can explore a range of different viewpoints which may in turn trigger new lines of thinking.

Social sequences

A further finding was that, interweaving with the argument strands, were frequent, though usually short, sequences more concerned with developing and maintaining social relations than with building ideational meaning. Across the five groups, an average 18.6% of total t-units was given over to social interaction, with students encouraging or teasing each other rather than discussing the question. This ties in with previous research which similarly found that students place a great deal of emphasis on developing positive interpersonal relations (Painter *et al.* 2003). Significantly, the group with the lowest proportion of social interaction also had the least focussed debate, as shown by the high proportion of on-topic information that was not integrated into the argument.

Development within argument strands

The length and composition of argument strands varied considerably both within and across each group. Figure 1 provides one example, showing how nine different strands unfolded in parallel during a conference. Some of these failed to develop in that claims were left unsupported, and none reached an overall conclusion (in the form of a thesis move) in relation to the general topic under debate. The data showed several different ways in which argument strands might develop:

- cumulative support for a position i.e. build up of support moves by different students in relation to a particular claim;

- successful dialogic exchange involving challenges, shifts and fine-tuning of positions;

- unsuccessful dialogic exchange where students are beginning to engage with other positions but without fully understanding or connecting with them;

- empty trading of claims;

- undeveloped strands where claims are left unsupported.

Almost half the argument strands are of the first type, cumulative support, reflecting current history-teaching practice – students learning to make a point and supporting it with evidence. A comment from Michelle's interview typifies how students and teachers described argument: *You need evidence to back up what you are saying*. Interestingly, however, more than half the new claims (56%) were not supported by their proposer, suggesting that not all students felt it necessary to support their position. Also interesting is over half of all supporting moves involved explanation of cause and effect. Counter-factual reasoning, exemplification, and historical recount occurred infrequently.

Whilst the results of our analysis pointed to students' success in collaboratively strengthening claims, this was not true of all claims. Out of the 67 claims made, 29 received no response, indicating that not all students were able or motivated to engage in sustained argumentative dialogue. It also suggests that not replying to a message in a conference may not break the norms of interaction as starkly as it might in a face-to-face conversation. Nevertheless, for at least some students, the silence can be de-motivating. Danielle for example was concerned about the lack of response in her conference (Conference 4). She commented that some of the messages seemed 'lonely' whereas "if you was standing out talking then they would reply to you straight away".

The role of counter-argumentation

One of the most significant findings to emerge was that, although in their interviews students reported that they enjoyed arguing, particularly challenging and being challenged, in practice, refutation and counterclaim moves were uncommon across all conferences, with an average of 1.2 *refutation* moves and 1.4 *counterclaim* moves. This finding is consistent with previous studies which have found similar trends in both face-to-face and virtual contexts (Simon *et al*. 2006, Coffin 2007a). Given that conflict and confrontation are such key elements of the argumentation process (as discussed earlier)

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it also raises the question of whether asynchronous conferencing supports the argumentation process. Alternatively, it may simply be the case that the pedagogies and practices associated with text-based discussions need to be improved.

How argumentation varied across conferences

Whilst the move analysis revealed general trends and patterns across all five conferences, it also pointed to considerable variation across student groups. Conferences 1 and 2, in particular, differed quite markedly. The total number of messages posted to Conference 1 was 33 whereas Conference 2 had nearly twice as many (62). In Conference 2 there were twice as many claims as Conference 1, and whereas Conference 1 had no counterclaim or refute moves, Conference 2 had three of each. Table 2 sets out these and other differences.

INSERT TABLE 2 HERE

The figures in Table 2 show that Conference 2 students were successfully exchanging points of view and engaging in more sustained argumentation than those in Conference 1. In order to establish possible explanations for this difference, we decided to focus on the type of claims being put forward in the two conferences – both their particular topic or angle and the way they were phrased. We focused in particular on claims which generated more than two follow-up moves and found that those concerning the Wall St. Crash led to sustained engagement across both conferences. This led us to speculate whether students were more interested in, or motivated by, particular angles on the issue under discussion or whether they were able to engage in some more than others (such as the *Wall St. Crash*) because of background knowledge. On closer examination, however, it appeared that Conference 2 students did not put forward different, more provocative or more familiar aspects of the central argumentative issue*)*. The effectiveness of Hitler as a leader and in particular his ability to make speeches were dimensions that sparked interest in Conference 2 but claims covering identical or similar ground did not encourage students in Conference 1 to add support or make counterclaims.

We therefore decided to look at the language of claims to see if this might influence the different degree of interest and engagement. Significantly, the majority of claims in Conference 2 (10 out of 16) were tentatively framed leaving space for disagreement.

The examples below illustrate this point. The words in italics highlight the linguistic choices that express varying degrees of certainty whereas the words in bold highlight the finely tuned degrees of causation that the students incorporated into their claims.

> wel *i tink* dat da nazis cumin in 2 power was **mostly** due 2 avin such a gd leader init. (Raeesah)

> *I think* the nazis got into power becouse they had **a bit of** luck with the wall street crash.(John)

> *i think* if the wall st crash did not happen the nazis *might* not have got into power **as fast**..(Ryan)

> *i fink* dat da wall st crash had a **major** impact on Hitler (Amanda)

In Conference 1, in contrast, the majority of students' claims were categorical. There were few uses of *I think* or other modal resources such as *probably, may, might* to open up their position for debate. In addition the absence of measures of causation further reduced the scope for respondents to take up different positions. The samples below show their more definitive stance.

> Hitlers rise to power was well asisted by the nazis groups support in political meetings (Andrew)

> Hitler was lucky he was there at the right place at the right time this was luck.(Emily)

> He blamed them for the Reighstag burning down so he got lots of votes from the Germans. (Joshua)

We would suggest that it is partly the wording of claims that encouraged students in Conference 2 to engage in authentic negotiation. It may of course be that, although like Conference 1, Conference 2 was a mixed ability group, its particular combination of students may have been more adept at using provisional language than those in Conference 2. Either way, the more open the statement, the more likely students were to consider alternative perspectives. The more closed the statement, the more there is at stake. We recognize, of course, that other factors may also play a role. For example, the extensive use of textese in Conference 1 may have helped to create a relatively informal 'atmosphere', one in which students may have felt more at ease in challenging each other. We also noted that in Conference 1 the teacher/moderator, Mr. Lambert, did not intervene to stimulate students' thinking. In the interview data, he commented that the

type of students in his conference meant that his intervention would not have been appropriate:

> (they) weren't the sort that would continue a conversation on with other people you know, they would have gone on, logged on, made their comment and logged off...So I think maybe if I was moderating a different conference, a different discussion maybe it would have been different, but I felt that it suited the level that that conference was at maybe.

However, at a later point he observed that one of the reasons for some groups not working as well as others was because they

> hadn't got people in there that would engender discussion, you know they hadn't got people who would go, 'right this is what I think, blah blah blah', and they hadn't got anyone to provoke that discussion, I think that was what was missing.

Later on again, he commented:

> Well maybe – maybe it would have been down to us to go, 'what about this, what about this', but then again I kind of feel that we do a lot of that in the classroom and a lot of prodding and a lot of kind of coaching in the classroom and I kind of felt that this should be something that they should take onboard and do themselves, this is what it is for after all, so you know I consciously didn't do it because I thought to myself, lets see what they come up with, you know and again I suppose, I don't know, maybe I should have done, but you would post a comment and they could quite easily put – I agree, you know it doesn't necessarily mean that you are going to get a response from it, they tend to respond to their peers in some respects because it is a question of workmanship.

Mr. Lambert's comments are an indication of the difficulty he experienced in achieving balance between allowing students autonomy and retaining control, a tension also noted in Thompson & Cole's (2003) study. Unsurprisingly, given that electronic conferencing is new pedagogic territory, he was unsure about best practice as a conference moderator. Perhaps of particular significance is that an early intervention was to reprimand a student for posting an inappropriate message. This appeared to upset the interpersonal dynamics of the conference and reduced student participation, tying in with other research on the importance of the interpersonal (Beuchot & Bullen 2005).

In Conference 2, on the contrary, Mr. Thomas (a more experienced history teacher and consultant and one of the researchers on the project) pushed students to re-think their position through a series of argument prompts (5 in total) such as:

Which do you think would gain the support of most German people and why?

Is it that the Nazi promises were more important than Hitler's role as a leader?

This modelling of how to question and probe a claim seems to have encouraged students to adopt similar techniques in their own messages. This is exemplified in the following dialogic sequence of moves where Elizabeth pushes Ryan to reflect on and refine his position. The shifts may be small but in our view they suggest that by being prompted to re-think their position through dialogue, a student may develop new understanding of an historical issue.

Elizabeth

i fink yur totally rite but, is it more of luck or action?

Ryan

i think they still would have had a chance because maby someone else could have used the luck of the wall streert crash to there advantage but he might not have been able to use the technique of speech that hitlar had.

Elizabeth

do you think that if anyone else woz the leader of the nazi's that they wud of got the support and the attention of the german public?

Ryan

not really because if hitlar did not have the speech he had he might not have got as far as he did

i fink that if someone had to do his job they might not have got as far!!!!!!!!!!!!!!

Ryan

i fink that if it was someone else they could have do the sane as hitlar and they might have differant abilaties than just havin the ability to convince people with speech

Certainly, in the interview data, when asked if the process of conferencing had changed their viewpoint, a number of students said that it had:

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Yeah because I said like I thought it was only like Hitler, it wasn't down to Hitler, but a lot of other people said it was, things like that – I thought it was just because like what Germany like the troubles Germany had at the time, but it has opened my mind a bit more. (Paul)

At the start I thought it was because you know Hitler was a great leader and all that but now I think it is just the situation that he was in and how lucky he was to get in power, like all the events that surrounded him. (Thomas)

Conclusion

In general, it would seem that conferencing lends itself to the collective combining of diverse sources of information and ideas. What seems particularly significant is that, unlike in spoken argumentation, the medium provides the potential for students and teachers to more easily pick and choose which sub-topics they feel better informed or motivated to engage with, to track shifting points of view, to reflect on the accuracy and strength of the claims and the support put forward and, if they so wish, to question and challenge such claims. In addition, there is the potential for bringing together diverse argument strands to reach a collective position/s on an issue.

In the exploratory study reported on here we used an innovatory method of linguistic analysis to track in detail the unfolding discussion moves occurring in 5 secondary school history conferences. One of the most significant findings was that, whilst students collectively accumulated evidence to strengthen a particular position on an issue, refutation and counterclaim moves were uncommon across all conferences. Given the importance of these moves to the argumentation process (as discussed in the introduction) we would argue that the potential of the conferencing technology was therefore inadequately exploited.

The 'birds eye' maps of the argumentation process that the analysis generated also enabled us to compare patterns across different conferences and to focus in on significant differences. As a result we examined in detail students' use of language to put forward claims and whether this influenced subsequent take-up. Our findings suggest that the more open the statement, the more likely students are to respond with alternative perspectives. The more closed the statement, the less likely.

In conclusion, we would argue that, whilst it is claimed that asynchronous conferencing facilitates the discussion process, the potential of the technology may not always be used to maximum advantage. Although we would agree with Wilson and Scott (2003) that the benefits lie not in the mechanics of the technology but in the reflection, manipulation or discussion that the technology facilitates, it seems to us that equally important are the new pedagogic practices that the moderator/teacher pioneers in the conferencing environment. One major advantage of the technology is its facility to freeze for close inspection the language of argumentation. Our small scale study has shown that the language used by participants seems to influence the argument process. It would seem pedagogically valuable therefore, for teachers and students to examine and reflect on the different moves involved in argumentation and develop their understanding of the potential impact of the wording of claims. In this way, they may, in the future, more readily engage in 'constructive conflict'.

References

Andrews, R. (1995) *Teaching and Learning Argument*. Cassell, London.

Andriessen, J. (2006) Collaboration in computer conferencing. In *Collaborative Learning, Reasoning and Technology* (O'Donnell, A. M., Hmelo-Silver, C. E. & Erkens, G.), Lawrence Erlbaum Associates, New Jersey, pp. 197-231.

Andriessen, J., Baker, M. & Suthers, D. (2003) Argumentation, computer support, and the educational context of confronting cognitions. In *Arguing to Learn: Confronting Cognitions in Computer-Supported Collaborative Learning Environments* (Andriessen, J., Baker, M. J. & Suthers, D.), Kluwer Academic Publishers, Dordrecht, pp. 1-25.

Arnseth, H. C. (2004) *Discourse and artefacts in learning to argue: analysing the practical management of computer-supported collaborative learning.* Ph.D. thesis, University of Oslo.

Baker, M. J., Quignard, M., Lund, K. & van Amelsvoort, M. (2002) In *Fifth International Conference of the International Society for the Study of Argumentation (ISSA 2002)*Sic Sat Publications, Amsterdam.

Beuchot, A. & Bullen, M. (2005) Interaction and interpersonality in online discussion forums. *Distance Education, **26,** 67-87.

Christie, F. & Martin, J. R. (2007) *Language, Knowledge and Pedagogy: Functional Linguistic and Sociological Perspectives*. Continuum., London.

Coffin, C. (2006a) *Historical Discourse: The language of time, cause and evaluation*. Continuum, London.

Coffin, C. (2006b) Learning the language of school history: the role of linguistics in mapping the writing demands of the secondary school curriculum. *Journal of Curriculum Studies, **38,** 413-29.

Coffin, C. (2007a) In *ESRC Society Today*ESRC.

Coffin, C. (2007b) *The language and discourse of argumentation in computer conferencing and essays: Full Research Report.* ESRC End of Award Report, RES-000-22-1453. ESRC, Swindon.

Coffin, C. & Hewings, A. (2005) Engaging electronically: using CMC to develop students' argumentation skills in higher education. *Language and Education,* **19,** 32-49.

Coffin, C., Painter, C. & Hewings, A. (2005a) Argumentation in a multi-party asynchronous computer mediated conference: a generic analysis. *Australian Review of Applied Linguistics***,** 41-63.

Coffin, C., Painter, C. & Hewings, A. (2005b) Patterns of debate in tertiary level asynchronous electronic conferencing. *International Journal of Educational Research,* **43,** 464-480.

Doise, W., Mugny, G., St. James, A. & Emler, N. (1984) *The social development of the intellect*. Pergamon Press, Oxford.

Eggins, S. & Slade, D. (1997) *Analysing Casual Conversation*. Cassell, London.

Erduran, S., Simon, S. & Osborne, J. (2004) TAPping into argumentation: developments in the application of Toulmin's Argument Pattern for studying science discourse. *Science Education,* **88,** 915-933.

Hakkarainen, K., Jaervelae, S., Lipponen, L. & Lehtinen, E. (1998) Culture of collaboration in computer-supported learning: a Finnish perspective. *Journal of Interactive Learning Research,* **9,** 271-288.

Hakkarainen, K. & Palonen, T. (2003) Patterns of female and male students' participation in peer interaction in computer-supported learning. *Computers and Education,* **40,** 327-342.

Halliday, M. A. K. & Martin, J. R. (1993) *Writing Science: Literacy and discursive power*. Falmer, London.

Harrison, S. (1998) E-mail discussions as conversation: moves and acts in a sample from a listserv discussion. *Linguistik online,* **1**.

Jeong, A. & Joung, S. (2007) Scaffolding collaborative argumentation in asynchronous discussions with message constraints and message labels. *Computers & Education*.

Kanselaar, G., Andriessen, J., Erkens, G., Jaspers, J., Prangsma, M. & Veerman, A. (2002) Co-construction of knowledge in computer supported collaborative

argumentation (CSCA). In *Three Worlds of CSCL: Can we support CSCL?* (Kirschner, P. A.), Open Universiteit, Heerlen, pp. 93-130.

Kuhn, D. (1991) *The Skills of Argument*. Cambridge University Press, New York.

Leitão, S. (2000) The potential of argument in knowledge building. *Human Development,* **43,** 332-360.

Leitão, S. (2001) Analyzing changes in view during argumentation: a quest for method. *Forum: Qualitative Social Research [On-line Journal],* **2**.

Lipponen, L. (2000) Towards knowledge building: from facts to explanations in primary students' computer mediated discourse. *Learning Environments Research,* **3,** 179-199.

Martin, J. R. a. C., F. (1997) *Genres and Institutions: Social Processes in the Workplace and School,* Pinter: London.

Marttunen, M. & Laurinen, L. (2001) Learning of argumentation skills in networked and face-to-face environments. *Instructional Science,* **29,** 127-153.

McAlister, S., Ravenscroft, A. & Scanlon, E. (2004) Combining interaction and context design to support collaborative argumentation using a tool for synchronous CMC. *Journal of Computer Assisted Learning,* **20,** 194-204.

Mercer, N. (2001) Language for teaching a language. In *English Language Teaching in its Social Context* (Candlin, C. N. & Mercer, N.), Routledge, London, pp. 243-257.

Mitchell, S. (1994) *The Teaching and Learning of Argument in Sixth Forms and Higher Education, Final Report*. University of Hull., Centre for Studies in Rhetoric.

Mitchell, S. & Riddle, M. (2000) *Improving the Quality of Argument in Higher Education: Final Report*. School of Lifelong Learning and Education, Middlesex University, London.

North, S., Coffin, C. & Hewings, A. (forthcoming, 2008) Using exchange structure analysis to explore argument in text-based computer conferences. *International Journal of Research and Method in Education*.

Painter, C., Coffin, C. & Hewings, A. (2003) Impacts of directed tutorial activities in computer conferencing: a case study. *Distance Education,* **4,** 159-174.

Piaget, J. (1932/1965) *The Moral Judgment of the Child*. The Free Press, New York.

Simon, S., Erduran, S. & Osborne, J. (2006) Learning to teach argumentation: research and development in the science classroom. *International Journal of Science Education,* **28,** 235-260.

Sinclair, J. M. & Coulthard, R. M. (1975) *Towards an Analysis of Discourse: The English used by teachers and pupils*. Oxford University Press, London.

Strijbos, J.-W., Martens, R. L., Prins, F. J. & Jochems, W. M. G. (2006) Content analysis: what are they talking about? *Computers and Education,* **46,** 29-48.

Thompson, D. & Cole, N. J. S. (2003) Keeping the kids on message... one school's attempt at helping sixth form students to engage in historical debate using ICT. *Teaching History***,** 38-43.

Toulmin, S. (1958) *The Uses of Argument*. Cambridge University Press, Cambridge.

Toulmin, S., Rieke, R. & Janik, A. (1984) *An Introduction to Reasoning*. Macmillan Publishing Co., New York.

van der Meij, H. & Boersma, K. (2002) Email use in elementary school: an analysis of exchange patterns and content. *British Journal of Educational Technology,* **33,** 189.

Voss, J. F. & Wiley, J. (2000) A case study of developing historical understanding via instruction. In *Knowing, Teaching and Learning History* (Stearns, P. N., Seixas, P. & Wineberg, S.), New York University Press, New York.

Vygotsky, L. S. (1978) *Mind and society: The development of higher mental processes*. Harvard University Press, Cambridge MA.

Wells, G. (1994) The complementary contributions of Halliday and Vygotsky to a "Language-based theory of learning". *Linguistics and Education,* **6,** 41-90.

Wells, G. (1999) *Dialogic Inquiry: Towards a sociocultural practice and theory of education*. Cambridge University Press, Cambridge.

Wilson, M. & Scott, H. (2003) 'You be Britain and I'll be Germany ...' Inter-school e-mailing in Year 9. *Teaching History,* **110,** 32-35.

Appendix 1: Analytical framework for discussion moves

DISCUSSION	Examples
The first five all involve contestable propositions that may be challenged/supported	
Claim A contestable proposition relating to how things are (analytic)	I think the nazis got into power becouse they had a bit of luck with the wall street crash.
Thesis An overall position on an issue (at a higher level of generality than a claim) is put forward (i.e. a thesis statement)	As much as there are good things about Hitler's leadership, there were also a lot of events that were beyond Hitler's control.
Recommendation A contestable proposition relating to how things should be (hortatory)	All of the MPs should go to the north and stay up there for life.
Counterclaim A claim which takes an alternative position to a previous claim	I disagree that luck was that important because Hitler deliberately used his skills to persuade people.
Claim / Support A claim which includes supporting evidence or reasoning in the same move	Hitler was a very good speaker, as he was able to manipulate the german people into thinking that jews and communists were to blame for the downfall of the German Empire.
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	In 1914 he joined da army an faught in WW1 nd got a medal 4 bravery. In 1918 he felt dat germany was betrayed bi da government.
description Information about the nature or condition of a person, place, object or concept	Hitler was a loud speaker and always tried his hardest to get his points across,
explanation Logical reasoning, involving explicit causal relationships	I think that the wallstreet was very useful to hitler because the great deprsession led him to look like a saviour.

counterfactual explanation Reasoning that speculates on what might have happened	Without this deal Hitler would not be able to become the vice president of Germany.
other information Any other material which is part of the specified on-topic discussion, but does not fall into one of the above categories	In his time Hitler would kill a lot of Jewish people.
Agreement A previous claim is confirmed by a participant agreeing with it	i agree that hitler used propaganda in most of his speeches so he could get more votes to become chansellor
Refutation A questioning or criticism of an argument or claim made in a previous turn, (or in a forum outside the conference such as a textbook, academic article etc.) No new claim is made, unlike Counterclaim	he wouldnt of just been offered chacellor because he had forced them to give him the job
Concession Recognises the validity of an alternative viewpoint expressed in a previous turn. This move is subsidiary to a claim being put forward by the writer	I can understand what you are saying boy [*but i still think that the people of germany would not have agreed to the holocaust if they were warned*.]
Argument Prompt A question designed to stimulate and prompt participants' views on an issue	bt do u agree dat the nazis came 2 pwere coz dey had hitler??...
Information Prompt A question designed to stimulate participants to provide information as part of the on-topic discussion	I don't understand, how did making the German currency worthless make Hitler powerful?

Table 1: Summary of data collected

	School 1	**School 2**	**Total**
Amount of conference data (in words)	/	/	8,368
No. of messages	/	/	232
No. of students participating in conferences	16	22	38
No. of students interviewed	10	10	20
No. of teachers interviewed	1	2	3
No. of ICT network managers interviewed	1	1	2

Table 2: Comparison of argumentation moves across Conferences 1 and 2

	Group 1	Group 2
Number of claims/counterclaims made by students	8	15
Number of claims/counterclaims made by teacher/moderator	0	1
Number of claims/counterclaims responded to by teacher/moderator	0	3
Number of claims/counterclaims responded to by other students	4	9
Number of claims/counterclaims left hanging (not responded to)	4	8
Number of claims/counterclaims not backed up by supporting moves by their proposer	4	13
Number of claims supported by informing moves (of various types)	5	7
Number of counterclaims supported by informing moves (of various types)	0	1
Number of new claims linked to previous claims	0	8
Number of agreeing moves	5	4
Number of concessive moves	0	4
Number of argument prompts	2	9
Number of information prompts	1	5
Number of refutation moves	0	3
Number of counterclaim moves	0	3

Figure 1 Sample summary chart (Conference 3)

Participant	Claims								
	01	02	03	04	05	06	07	08	09
Je	descr								
Je	CLAIM+								
Ra		CLAIM							
Ra	agree								
Je		agree							
Ra		agree							
Ra		eg							
Ro			CLAIM						
Ro			descr						
Ro			descr						
Ro		claim							
W		agree							
Ju		agree							
Ju				descr					
Ju		claim		CLAIM					
W				counter	COUNTER				
W					descr				
Ju					conc				
Ju				claim					
Ju				reasn					
W					reasn				
W					c-fact				
Ju					conc				
W		reasn							
W		reasn							
W		claim				CLAIM			
Ju		agree							
S						agree			
L			agree						
W							CLAIM		
Ju	claim								
W	explan								
S								CLAIM	
S								reasn	
Ra			claim						
Ra									CLAIM
Ro	claim								
Ro	explan								