

Paper 2:

The Unreliable Transcript, Contingent Technology and Informal Practice in Asynchronous Learning Networks

Chris Jones

Chris Jones
Department of Information and
Communications and Department of
Sociology

e-mail: c.r.jones1@livjm.ac.uk
Tel: 0151 733 6183

John Cawood
Department of Information and
Communications

e-mail: j.cawood@mmu.ac.uk
Tel: 0161 247 3012

Manchester Metropolitan University
Geoffrey Manton Building Rosamond
Street West
Manchester M15 6LL

ABSTRACT

- Some observers discern a paradigm shift in education in which the distinction between distance and campus learning is becoming blurred. The technology of computer conferencing has been merged with web technology in the form of the Asynchronous Learning Network. This paper examines the practices that develop when such new technologies and their associated learning strategies are deployed. It concentrates on a central feature of computer mediated conferencing, the transcript.

This paper examines the claims made for transcripts as a basis for understanding just what goes on within the educational process. It concludes that the transcript is generally an unreliable guide to the activity and process that takes place in a conference. In particular the transcript is shown to be unavailable to such techniques as content analysis and inappropriate to a simple conversational metaphor.

1996). Most applications to computer conferencing have assumed the transcript to be unproblematically conversation.

"An excerpt of the transcript is given below. It is this 'verbatim on-line conversation which is the main subject of our analysis, using essentially the methodology of conversation analysis."

(Hodgson and McConnell, 1995)

Our research would suggest that a simple conversational metaphor may be inappropriate as a means of understanding transcript.

The Background to the Research

- The research was undertaken at Manchester Metropolitan University (MMU) from implementation in 1994 to date. MMU formerly Manchester Polytechnic, is part of the 'New' University sector in the United Kingdom. The University recruits students from a wide range of academic and social backgrounds mainly from the North West Region. The study focussed on 'Technology in Communications', a course unit of the BA in Information Technology and Society Degree. The degree seeks to recruit students from groups which are under-represented in traditional IT courses. Technology in Communications is a second year option taught on-line using FirstClass.

FirstClass is a proprietary electronic mail, bulletin board and conferencing system which uses a graphical user interface. It is a client server application and the versions used did not include any off-line working by the client. FirstClass supported both Windows and Macintosh clients and was available on some of the university networks and through direct dial-in.

The unit syllabus specified that:

"Within the constraints imposed by the availability of technology, the communications technologies under investigation will be used to deliver the course. Material will be sent either to students' own machines or to machines made available in the lab. This 'online' approach will be supported by face to face meetings."

(Student Handbook 1994 supplement)

The expectation was that the course would take place largely on-line using computer conferencing.

Methodology

An ethnographic methodology was employed for the research. Within education the ethnographic tradition has been well represented (Hammersley, 1986 a, 1986b; Fetterman, 1984, 1986; Eastmond, 1995). The aim is to understand the setting from the point of view of those involved in it. Ethnography has emerged as a key methodological insight in Computer Supported Cooperative Work (CSCW), a developing field that concerns itself with the collaborative and social aspects of work. CSCW has developed an interdisciplinary approach, including a range of human sciences alongside computer technical disciplines. In CSCW the form of ethnography adopted has been heavily influenced by ethnomethodology (Garfinkel, 1967; Suchman, 1987; Heath and Luff, 1992; Hughes et al, 1993). This research has been influenced in a similar manner.

The unreliable transcript?

- Collaborative work takes place in a mutually constitutive way between on-line and off-line working (Jones, 1998). The work on-line produces a document pointing towards the conference rather than preserving the conference itself. Because of this tutors and researchers must beware of believing that the transcript is in some simple way a record

Strand 1: Pedagogy and Design

of the conference. A practical implication is that the transcript is not adequate alone for assessment purposes. Equally the work off-line points to the conference but is not a context that can be added to the transcript in order to explain what takes place within the conference boundary. The actions by staff and students off-line inform their activity on-line but on-line activity itself is a resource used in orientations taken outside the conference system. The weakness of the transcript cannot therefore be corrected by simply adding more context. The problem is one of understanding the orientations of the participants.

A partial record

The transcript records only those activities that are entered into the conference software. It is in this way a partial record. The students and staff observed took print-offs of materials and worked on them by hand. They produced and amended material in word processing packages so that only the final products appeared within the conferencing system. Even when versions were created on-line, the work that went into their production was not recorded. Reliance on the transcript would ignore these activities outside the conferencing system. One sub-conference group systematically simulated their work. What they left was a trace that recorded what the tutor 'ought to know'. Work took place off-line but was accompanied by an on-line record that was engineered to deliver evidence of the work required by the tutor. The tutor's requirement to leave a 'trace' was interpreted in such a way that work on-line appeared to be a division of labour in the transcript but was observed as a collaborative exercise in the computer laboratory.

Conference users at MMU frequently duplicated their conference messages in telephone calls and often used the system to send telephone numbers to one another in order that they could work together using the telephone rather than the network. Thus they turned the conferencing system inside out by using it to set up collaboration by means of other technologies rather than taking advantage of its stated purpose - collaborative working! Finally, as was indicated above formal and informal meetings were arranged in which a good deal of the management of collaborative work was

undertaken, often using the conferencing system to arrange times and places. Designers recognising this feature could attempt to design a complete system and develop an all encompassing CSCL environment. It would be our contention that even then we should expect 'normal' use to subvert this intention.

A public document

The suggestions that the transcript can be utilised by researchers, the moderators of conferences and the wider educational institutions to appraise teaching would alter the perceptions and actions of the participants. Students were aware that they left traces on the system and the tutor for his own purposes encouraged that awareness. The failure of some students to use the conferencing software indicated a reluctance to be 'seen' on the system. This is not simply an observer effect, rather it is the everyday orientation of participants in social settings who are aware that their actions are potentially accountable. The transcription record highlights this sense of quotidian accountability.

A sense of surveillance was a reaction to figures with authority having access to students' records of actions and communications. For example, in one case, two students exchanged messages about course content that linked the potential for observation and analysis of users to FirstClass usage. The messages began a running thread through the 1994/95 course unit. Another student commented in private mail that;

'I suppose suspicion is a product of the lack of experience that people have leaving messages stored on a computer that can be accessed. This feeling of vulnerability has come up quite a few times with some students, maybe the ones who feel a bit us and them about institutions.'

(L.M to CJ 29/11/94)

In the 1995/96 course unit the tutor broached the same issue at the equivalent course meeting. Both students and staff using the conferencing system were aware of the accountability built into a system

that records exchanges automatically. The behaviour recorded becomes 'public' conduct in consequence and subject to the known aspects of 'performance' (Goffman, 1971).

The exchange illustrated how the idea of private work and public space could conflict. The students wanted to keep their work private but this conflicted with the course policy which envisaged students learning from each other through open access. It also raises the question of the neglect of seemingly attractive features of the conferencing system, such as threading and résumés, which hardly ever figured in conference activity. We would argue that this neglect results from the social dimension of learning, not from bad interface design or some other aspect of software which properly concerns software designers.

(Mis)use

'Neglect' is allied to 'misuse'. At times some users seemed almost perverse and certainly ingenious in their ability to discover ways to (mis)use conference software. Two examples will illustrate this. The 'history' function of the message menu, a means of identifying who has opened conference items, was used not to assess the extent to which co-students were sharing work and to build collaboration but as a defence against perceived plagiarism and as a justification for 'locking' conferences to keep intruders at bay. Similarly, many conferences had a parallel existence in which the public activity of the conference ran alongside private messages either within the conference system itself (using private mail) or outside the conference system using another means of communications. Some of these parallel channels were visible to course tutors; often they were only glimpsed fleetingly.

Aspects of transcript talk

The transcribed interactions could not simply be described as conversation. Messages use the metaphor of mail, discrete statements without overlap or informal transition points between speakers. Time delays caused anxiety and were part of a general problem of being 'unheard' or 'unseen' within the conference. Some of the detailed organisation of conference activity took place through

conference interaction, such that failing to 'hear' a message was often designedly not to engage with that person. The formal nature of 'conversational' structures could be interpreted as a form of institutional talk in interaction (Drew and Heritage, 1992).

Discussion

- The research reported here would cast doubt on the reliability of transcript for research and assessment purposes. Transcript has been shown to be incomplete, a partial record of the activity of the conference. It has been shown that on-line text is often a public display. That is, the transcribed record is not so much what happened as what ought to be happening. Students and tutors record those things they believe are required in order to fulfil the requirements of the course. The idea that contextual elements can be simply added to the transcribed record is also undermined. The on-line and off-line elements of the conference are mutually constitutive in a way that inhibits the application of such formal methods of analysis as content analysis.

The transcripts of the computer conference observed cannot be simply described as, or treated in the same way as 'ordinary' conversation. A primary problem for communication on-line is ensuring the attention of those who are required to listen. The same problem can arise in conversation but the means to remedy the failure are more obvious. Despite these caveats about the conversational nature of computer conferencing interactions, there are features of the computer conference that suggest similar dynamics. Order is present at all points of the conference, conference members design and implement actions at a fine level of detail. While transcriptions of conferencing interactions have some features that do not resemble 'ordinary' conversation there are others that indicate a strong similarity.

A contingent technology

The experience at MMU, although a specific venture in the placed-based use of CMC for collaborative learning is not atypical of other place-based

and distance learning projects. Whilst not as rigorously studied, our own experience of other undertakings, in particular the use of CMC by the Open University, indicate that the contingent use of CMC technology and the conscription of other technologies and communications tools to learning on-line is 'just what' happens. We suspect that our experience is commonplace but that it is often not acknowledged since it appears to undermine the whole project of electronic learning networks. Such an interpretation is, however, mistaken if we take a different perspective on learning networks which recognises the 'situatedness' and contingency of the technologies. To go further, recent research into the deployment of technological systems and in particular into the social content of technologies should lead us to expect a high degree of elasticity in any communications technology and to anticipate its contingent use (Fischer, 1992). Comparison with an earlier communications technology will reinforce this view.

When the telephone was introduced it was adapted not adopted. Very few of the uses envisaged by its proponents were realised. It became firstly a technology for business and the professions and only later did it penetrate the private sphere. When it did, it was used for chatting and visiting rather than simply sending messages (Flichy, 1995). Experience of telephone usage was sharply differentiated by class, profession, nationality and a variety of other social factors. In general terms, the sociological study of the telephone shows us not only that technology has a high degree of social elasticity but that its introduction enhances existing social networks of communication and reinforces social habits (Castells, 1996). The experience of telephone technologies can help to explain the contingent use of CMC technologies.

Just as other technologies are socially situated and contingent in the manner in which they are taken up so the technologies of learning networks are contingent technologies. By a contingent technology, in this context, we mean the modification and selective use of the given electronic media, the incorporation of other technologies and the use of any tool be it hardware, software or social organisation to achieve the everyday objectives of learners. In this way learning networks are shaped by their users who employ not only the given technology but any other resources, be they technical or social,

to achieve their objectives. In the MMU study, the contingent technologies of learning included besides the given FirstClass conferencing system itself, telephones, mobile telephones, e-mail services, the Internet, a variety of software packages as well as meetings in drop-in centres, laboratories, pubs, coffee bars and student houses and the circulation of print-outs. It is worth noting that many of these contingent technologies were used by course tutors as well as students.

Conclusions

- We have seen that in many instances on-line activity is an artificial construct consciously produced as material for assessment and that the conference transcript is an unreliable record of learning activity. Almost all students as well as the tutors in our study made selective use of the network technology provided, moved outside its framework and used a variety of other means to achieve their objectives. In this way they produced a contingent technology of learning and developed a situated informal practice which has been given little attention in the CMC literature.
1. The conference transcript taken alone and subjected to formal analysis in terms of its content, or treated simply as conversation is an unreliable guide to conference interaction.
 2. Advocational research by concentrating on an analysis of conference content has neglected the informal, everyday nature of on-line learning and often ignored its social dimension. This is a mistake, since a study of all of the ways in which students and staff mobilise resources to achieve their objectives could inform course design and help produce more appropriate learning technologies.
 3. ALNs will not substitute for other means of communication; they add to them.
 4. ALNs will reinforce existing social networks. Collaboration within the learning network tended to reflect existing social relationships and where relationships did not exist the technology did not of itself create them.

Bibliography

- Bijker, W., Hughes, T.P. & Pinch, T.J. (1987) *The Social Construction of Technological Systems*. MIT Press, Cambridge, Massachusetts.
- Brown, J.S., Collins, A. & Duguid, P. (1989) Situated cognition and the culture of learning. *Educational Researcher*, 18 (1), 32-42.
- Castells, M. (1997) *The Rise of Network Society*. Blackwell, Oxford.
- Drew, P. & Heritage, J. (1992) *Talk at Work*. Cambridge University Press, Cambridge.
- Eastmond, D.V. (1997) *Alone but Together: Adult Distance Study through Computer Conferencing*. Hampton Press Inc., New Jersey.
- Fetterman, D.M. (1984) *Ethnography in Educational Evaluation*. Sage, California.
- Fetterman, D.M. & Pitman, M.A. (Eds.) (1986) *Educational Evaluation: Ethnography in Theory, Practice and Politics*. Sage, California.
- Fischer, C. (1992) *America Calling: A Social History of the Telephone to 1940*. University of California Press, Berkeley.
- Flichy, P. (1995) *Dynamics of Modern Communication*. Sage, California.
- Garfinkel, H. (1967) *Studies in Ethnomethodology*. Prentice-Hall, New Jersey.
- Goffman, E. (1971) *The Presentation of Self in Everyday Life*. Pelican, London.
- Heath, C. & Luff, P. (1992) Collaboration and control: Crisis management and multimedia technology in London Underground line control rooms. *CSCW Journal*, 1 (1-2), 69-94.
- Henri, F. (1992) Computer conferencing and content analysis. In: *Collaborative Learning through Computer Conferencing: The Najdeen Papers*. Springer-Verlag, Berlin.
- Henri, F. & Rigault, C.R. (1995) Collaborative distance learning and computer conferencing. In: *Advanced Learning Technology: Research Issues and Future Potential*. Springer-Verlag, Berlin.
- Henri, F. & Rigault, C.R. (1995a) Developing tools and support for optimising the collaborative learning process in computer conferencing. In: *Telematics for Education and Training: Proceedings of the Telematics for Education and Training Conference Dusseldorf/Neus, 24-26 November 1994*. IOS Press, Amsterdam.
- Hodgson, V. & Fox, S. (1995) Understanding networked learning communities. In: *Telematics for Education and Training: Proceedings of the Telematics for Education and Training Conference Dusseldorf/Neus, 24-26 November 1994*. IOS Press, Amsterdam.
- Hodgson, V. & McConnell, D. (1995) Co-operative learning and development networks. *Journal of Computer Assisted Learning*, 11 (4), 210-224.
- Hughes, J.A., Somerville, I., Bentley, R. & Randall, D. (1993) Designing with ethnography: making work visible. *Interacting with Computers*, 5 (2), 239-253.
- Jones, C. (1998) Co-operating to collaborate: course delivery using computer conferencing in Higher Education. In: *Bringing Information Technology to Education: Integrating Information and Communication Technology in Higher Education*. Dordrecht, Kluwer.
- Kurland, T. & Barber, P. (1996) User requirements from a group perspective: the case of distance learning mediated by computer conferencing. In: *CSCW Requirements and Evaluation* (Ed. by P. Thomas), pp. 58-74. Springer-Verlag, London.
- Lave, J. (1993) The practice of learning. In: *Understanding Practice: Perspectives on Activity and Context* (Ed. by S. Chaiklin & J. Lave). Cambridge University Press, Cambridge.
- Mason, R. (1992) Evaluation methodologies for computer conferencing applications. In: *Collaborative Learning through Computer Conferencing: The Najdeen Papers*. Springer-Verlag, Berlin.
- Orlikowski, W. (1992) Learning from notes: organisational issues in groupware implementation. In: *CSCW '92. Proceedings of the Conference on Computer Supported Cooperative Work* (Ed. by J. Turner & R. Kraut), pp. 362-369. ACM Press, New York.
- Orlikowski, W. & Gash, D. (1994) Technological frames: making sense of Information Technology in organisations. *ACM Transactions on Information Systems*, 12 (2), 174-207.
- Suchman, L. (1987) *Plans and Situated Actions: the Problems of Human-Machine Communication*. Cambridge University Press, Cambridge.
- Turoff, M. (1997) Alternative futures for distance learning: the force and the darkside. UNESCO/Open University International Colloquium: Virtual Learning Environments and the Role of the Teacher. Open University, Milton Keynes.
- Also available at: <http://cies.njit.edu/~turoff/>
- Vieville, C. (1995) Structuring conversation in asynchronous communication systems to support collaborative learning at a distance. In: *Telematics for Education and Training: Proceedings of the Telematics for Education and Training Conference Dusseldorf/Neus, 24-26 November 1994*. IOS Press, Amsterdam.
- Vieville, C. (1996) An asynchronous collaborative learning system on the Web. In: *Groupware Applications over Academic Networks: ACOL Workshop Proceedings*. Department of Computer Science, UCL, London.
- Zuboff, S. (1988) *In the Age of the Smart Machine: The Future of Work and Power*. Heinemann Professional Publishing, Oxford.