Working Hard in the 'Office': An Ethnomethodological Study of On-line Workshops

Jacki O'Neill Salford University jackioneill@hotmail.com
David Martin Lancaster University d.b.martin@lancaster.ac.uk
Hasan Al-Matrouk Manchester University hasan@cs.man.ac.uk
David Wastell Salford University d.wastell@salford.ac.uk

ABSTRACT
This paper demonstrates the usefulness of ethnomethodology as a perspective for studying CSCL, with excerpts and findings from a case study of on-line workshops conducted using Office Hours Live. Ethnomethodology, with its focus on the detail of practical action and interaction, provides a particularly useful way of understanding whether and how CSCL technologies can support such interaction. The paper highlights important issues for the design of technology and the organisation of on-line.

Keywords
CSCL, Office Hours Live, ethnomethodology, synchronous learning, distributed learning

CSCL AND ETHNOMETHODOLOGY
One way in which ethnomethodology can bring fresh insights to CSCL is through the evaluation of operational systems to generate issues and requirements for redesign. In this short paper we will elucidate this approach through brief examples of problematic phenomena that arose in workshops on e-learning conducted using a new CSCL technology[1] (Office Hours Live), a multi-media, synchronous, distributed, web-based communication technology. It is purported to enable the type of real-time interaction on-line between educators and students hitherto only possible in *"physical academic venues"*.

Ethnomethodology, which can be usefully employed alongside other methods of systems design, has a very particular focus, which is on witnessing and honestly reporting social action and interaction. It is important not to confuse ethnomethodology with the more familiar term *ethnography*, which simply denotes the material (or data) that constitutes a literal record of the social activity as it actually occurred. Such ethnographic materials include: detailed field notes from participant-observation, pictures and copies of artefacts (particularly, in this case, technology in use) and recordings; visual, audio and text chat. What is distinctive about ethnomethodology is its orientation to this material. Instead of imposing a theoretical structure or attempting to create a grounded theory from the material (Glaser and Strauss), ethnomethodology looks for the achieved social structure and orderliness manifest in the ethnographic record. It highlights how this is created and oriented to by the participants themselves, *in-and-through* their actions and interaction (Garfinkel, 1967; Sharrock & Anderson, 1986).

TECHNOLOGY AND ANALYSIS
Office Hours Live consists of two 'rooms', the 'lecture hall' and the 'office'. Both support the presentation of slides, web pages and applications, text chat, participants list, live audio and a feedback tool. In the lecture hall only the presenter can talk to the participants (one-to-many audio), in the office multi-way audio is available. The examples demonstrate the usefulness of this approach in highlighting design issues. In the first example below, the participants have changed rooms from the lecture hall to the office and a problem arose with Dave Watson's audio. This illustrates the ***increased workload*** that arises from detecting and repairing problems using these technologies particularly the ***mixed media confusion*** resulting from multi channel communication. Text (gray) and audio (italics) are interspersed in the transcript:

Hanif: *"hello, hello, hello. Can you hear me now? (Long pause…) I think you can hear me now. Can you speak please? Push on and hold on the CTRL key then speak. I hear you well Nadia, Ian, Dave? Mustafa I hear you very well. Hello Janet, I hear you well. You know better than me Janet right? Is everybody there now?"*
Janet: *"Dave."*
Hanif: *"Are you there, can we hear your voice."*
Hanif: *"You can speak by holding down the CTRL key and start speaking. We can go on with the rest of the session now."*
Janet says: "he's not on the audio list"
Janet: *"Dave is not on the audio console any more, I am not quite sure what has happened to him?"*
watson says: "I get a message from Hear me saying…"Cannot open Wave out device...close any applications using play back device"
Hanif: *"Okay, so I think. Dave, Do you have problems with Audio?"*
Janet: *"He cannot hear you, use text Hanif."*
watson says: "I am going to log out and log in again…bye for now!!!"

[1] For further examples and greater depth of analysis we refer the reader to the full paper which can be obtained from d.b.martin@lancaster.ac.uk

Hanif (reading Dave's message in chart area) *"I get a message from Hear me audio error, close other tools using audio… I will log off and come back again. Okay Dave see you in a while."*
Janet: *"Hanif he could not hear what you are saying."*

Hanif begins making an audio check. Janet seems to note that Dave has not spoken, uttering "*Dave*", then typing *"he's not on the audio list"* before re-iterating this vocally. Dave types in his error message. Hanif asks whether Dave has problems before Janet's message directs him to the text chat. Hanif finally reads out Dave's message, and Janet repeats that Dave could not hear Hanif. Here we see the type of difficulty that can arise using mixed communication media, particularly in cases ***where technical difficulties arise***. These archetypal difficulties of the technology would not arise in face-to-face communication. The technology requires monitoring *two* channels (audio and text) to pick up and understand. Being ***both presenter and facilitator (P-F)*** makes this task more difficult for Hanif. One solution would be providing a **status monitor** showing current access to communication channels.

In another example illustrating the strength of this form of detailed analysis, we show how despite the shared interface, problems of interpretation can occur between participants and the P-F. For example, participants took unexpected time to complete certain tasks and were engaged in conversational ***pre-work*** around the problems of completing them. This led to problems for the P-F who ***could not locate the source of the trouble***, that is whether the tasks were being undertaken, since the system gave him *little indication of the activities of the participants*. The system only showed the conversation, not that the tasks were being undertaken. The actions that the P-F then took compounded the problems of the participants in undertaking the tasks. This suggests the need for a **presenter's indicator** showing the activities of the participants. One simple resolution could be to indicate to the presenter when participants are interacting with the slides, either entering text, scrolling, or other indicators of interaction.

In the full paper we discuss a number of further organisational and technical issues arising from these studies. These include: *noting the time spent **performing systems checks and setting up**; **the disruption to event flow** caused by changing rooms during workshop; the effects of participants **multi-tasking** in their own locales; and the potential usefulness of **fully integrated interfaces** for such applications*.

CONCLUSIONS

Our ethnomethodological studies have shown clearly how the medium of presentation (the technology)interacts with the material presented and its manner of presentation to create multiple problems. Despite the best efforts of the participants and the presenter to address these problems the workshop was severely disrupted, leading to frustration on all parts. Real-time, distributed CSCL is increasingly possible with the development of technologies like Office Hours. This paper reveals that such technologies provoke extra, on-going work for participants to establish the grounds for learning to take place. This raises issues concerning the quality of the educational experience currently possible. The sort of reflective evaluation facilitated by ethnomethodological study enables such design issues to be highlighted and new requirements generated, for example adding feedback features like the presenter's indicator and status monitor.

REFERENCES

Garfinkel, H. (1967) *Studies in ethnomethodology*. Prentice Hall: Englewood Cliffs.

Glaser, B. & Strauss, A. (1967). *The discovery of grounded theory*. Prentice Hall: Englewood Cliffs.

Sharrock, W.W., and Anderson, R.J. (1986). *The ethnomethodologists.* London, UK: Tavistock.