DISTANCE AND VIRTUAL DISTANCE:

Preliminary results of a study of interaction patterns in synchronous audio graphic CMC and face-to-face tutorials in beginners' language tutorials

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Abstract: *This paper presents preliminary results of a larger study of interaction patterns in beginners' language tutorials held at the Open University. The tutorials are voluntary, supplementing a distance learning course in German as a Foreign Language. Tutorials are offered in two versions: traditional face-to-face tutorials in a classroom or online tutorials held through an internet based audio-graphic conferencing system. Interaction patterns are compared between the two modes of presentation, between different tasks performed by students and between different tutors initiating the same task. Results of the completed study will be published in 2005 / 06.*

Keywords: distance teaching interaction online tuition synchronous audio-graphic conferencing

Introduction

The Open University, with well over 200 000 students registered on its courses (Open University, 2004) the largest university in the United Kingdom if not in Europe, was established in 1969 as an open access institution. The institution is "open" in two respects: on one hand, the university's policy is that prior formal qualifications are not necessary to begin studying at the Open University, so that it is possible for people with different educational background to study a variety of courses. On the other hand, all the courses are presented in distance learning mode, making it possible for people in geographically remote locations or students unable to attend classes for other reasons to fully participate in university studies. There is no obligation for students to be resident on or near a campus or to attend classes.

Teaching at the Open University is mainly conducted through course materials and through correspondence using a method based on the idea of a "tutorial-in-print" (ROWNTREE, 1994, 14). Credits and qualifications can be gained through assessment; continuous assessment is conducted throughout the course and used by tutors to provide extensive individualised feedback; summative assessment is provided through a final examination. Some distance learning courses have integral summer schools student have to attend.

Tutorials are offered throughout a course, and are conducted by trained Associate Lecturers (tutors), who are subject specialists. Normally they take place at a regional centre or online via audio-graphic conferencing. Students can also get individual study support from student counsellors in regional centres, who act as learning advisors across the curriculum. Informal peer support can be organised via the Students' Association's FirstClass communications system or students arranging to meet outside of normal class-time, online or face-to-face.

Although considerable expertise and creativity is invested in tutorials and they do play an important role in student motivation, participation in tutorials is optional for all courses and they are only a minor part of the overall teaching in distance teaching mode.

Languages at the Open University

The Open University has a wide variety of courses, ranging in level from pre-undergraduate to post-graduate and in approach from vocationally oriented to highly academic. Language studies were introduced to the portfolio in 1995 (SHELLEY, 1999), starting with French, followed by German and then Spanish.

The materials for language courses include course books, CDs and audio cassettes, videos, booklets (for example for course outline and assessment materials) and a website for every course. The courses are based on

authentic materials and situations which are relevant to adult learners' needs and interests. The students are guided through the materials in a step-by-step process and provided with feedback wherever possible (BAUMANN, 1999). The learners can interact with the materials – our course materials are characterized by a teacher's 'voice' ("tutorial-in-print"). In addition, our students also interact with their tutors: They regularly submit assignments and they get individual feedback from their tutors ("correspondence teaching"). Students have various means of contacting their tutors: email, mail or telephone[1].

Beginners' language courses

The study presented in this paper was conducted on the German beginners' course *Rundblick.* In November 2003, beginners' courses in German and Spanish started at the Open University, from November 2004, French will also be available. Before that students were expected to have at least basic competence in the language as all language courses started at post-beginners level. Although the Open University's Department of Languages had already acquired considerable experience with online tuition before 2003, the German and Spanish beginners' courses were the first courses to offer two different tuition modes from the start. Students could choose whether they wanted their tutorials to be online or take place face-to-face with their tutor in a regional centre.

The following table shows the number of students for the German beginners' course *Rundblick* at course start in November 2003.

	Face-to-Face Tuition	Online Tuition
Students at course start	487	192
Male/Female ratio	45:55	44:56
Average age	43	40

Table 1: Course statistics *Rundblick*

An overall number of almost 700 students is relatively high for a beginners' language course, especially for German in the UK educational context. About one quarter of students chose the online version of the course with tutorials delivered via audio-graphic conferencing. Gender distribution shown in the male/female ratio does not confirm what is normally expected of online course variants (see BEYTH-MAROM, CHAJUT, ROCCAS, & SAGIV, 2003), i.e. we would expect a slightly higher proportion of male students. In the German course in evidence, the distribution is almost the same for face-to-face and online versions.

The age distribution, on the other hand, shows a slightly younger clientele for the online course than for the face-to-face variant, as would be expected for online courses. A more detailed analysis of age distribution in both courses (see table 2), shows that people over the age of 60 are less likely to choose a course using computer-mediated-communication. The greatest popularity of the online course can be found in the very young (under 25) and the young (30-39) age groups of students.

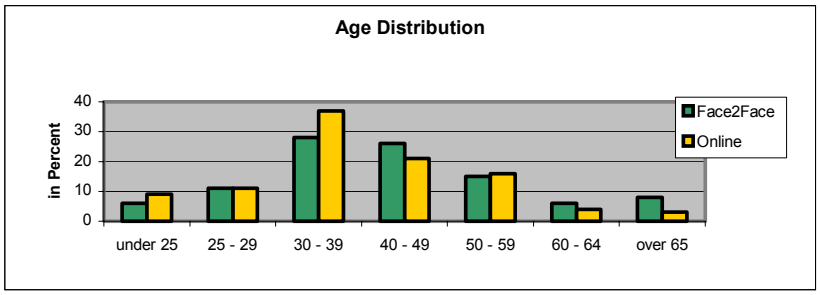

Table 2: Age Distribution on *Rundblick*

Lyceum as a teaching tool

[1] More information on the German beginners' course can be found on its website, http://desktop.open.ac.uk/l193-04k

Lyceum is an internet-based audio-graphic conferencing software developed by the Open University to deliver tutorials online to its students. Tutors and students use their own computers at different locations but share a virtual "room" where they can communicate via synchronous multi-channel audio conferencing and can see the same images in their shared workspace.

Especially for language courses, video-conferencing is often seen as the desirable alternative where face-to-face teaching is – for some reason – unattainable (see for exampleWANG, 2004, 382). Although the advantages of video-conferencing (the opportunity to see facial expressions, to watch lip movements, to put "a face to the name") are obvious, practical considerations of quality, reliability, user-friendliness and cost-efficiency of the software need to be taken into account. At the present time, video-conferencing is not fully reliable and without broadband access can be of poor quality, sometimes de-synchronising image and tone. Therefore the Open University has opted for audio-graphic conferencing using *Lyceum*. The software is generally reliable, it offers a sound quality that is good enough for pronunciation practice and it allows multi-user interactions.

Lyceum is not limited to audio conferencing, it also has visual workspace tools, for example, a document option (similar to a simple word processor), a whiteboard (for writing and drawing and for importing text and images and manipulating them), a concept map (for writing and linking of notes, for shorter texts, etc. and for concept mapping) and it has a text chat facility. Break-out rooms can be used for pairwork and groupwork.

Additional tools for structuring and supporting tutorials are a voting button (used, e.g. to establish satisfactory audio quality and to check comprehension), a timer with re-call function (used to limit time spent in separate "break-out rooms" for group work), and a voice recording facility.

The beginners' study

The data for this study of interaction patterns was recorded as part of a larger and multi-faceted study of beginners' language courses at the Open University. More than 2300 students on both, the German and the Spanish beginners' courses were given a questionnaire at the beginning of their course. Selected students and tutors were invited to participate in a number of in-depth studies throughout the year of the course (November 2003 to October 2004) and a sample of tutorials, online and face-to-face, were recorded.

The data sample for this particular investigation (interaction patterns in beginners' language tutorials) was collected throughout the first year of the German beginners course. At two points in the course, January and July 2004, tutorials were recorded. Tutors volunteered for participation in this project, the face-to-face tutor is part of the research team, the online tutors are not otherwise involved in the research.

The online recording used *Lyceum*'s own audio-recording facility plus screen-recording software (*Camtasia*). These two strands were combined to produce a digital "video" of audio- and on-screen interaction in online tutorials.

The face-to-face tutorials were recorded using two fixed video-cameras in the classroom and separate audio-recording facilities to ensure better sound-quality.

Interaction Patterns

In analysing the tutorials, our aim was not only to establish how effective they are for teaching, but in particular, how much opportunity for interaction our students get in the different media. One way of analysing interaction patterns is to simply draw them as graphs (NARDI, 2004). Especially for a preliminary analysis this provides an opportunity to show quickly the differences in interaction without overemphasising the medium. A more complicated form of interaction graph would be the Social Interaction Analysis, using nodes and matrices to analyse patterns of interaction in groups (WORTHAM, 1999).

The following drawings disregard any non-verbal interaction, the different length of turns and the quality of interaction[2] and simply draw lines between people who exchange verbal communication. The circles are "human" participants with different roles, "T" denoting the tutor, "O" an observer and the numbered circles are students. Squares indicate video cameras. The lines between circles show verbal exchanges drawn from the person who speaks to the next person to speak regardless of whether the next statement was a direct response or not.

Different colours of lines show the different languages used: blue is for English, red for German. When the statement itself uses mixed language, the colour is purple.[3] In the following, examples of interaction patterns will be shown and analysed. Examples from three different groups are used for the analysis. Online group 1 consists of eight students, one tutor and one observer. Online group 2 has five students, one tutor and one observer and the

[2] These will be further steps in the analysis.

[3] Unfortunately, colours cannot be reproduced in this paper, analysis has been based on mulitcoloured versions of the graphics.

Face-to-face group consists of four students plus one tutor. In addition, technical personnel were present in the face-to-face classroom to make the recording.

Example 1: The soundcheck activity used for the online course consists of short phrases spoken by students to establish whether the audio-quality of their connection is satisfactory. The interaction pattern shown in example 1 is taken from a soundcheck activity of approximately 10 minutes length.

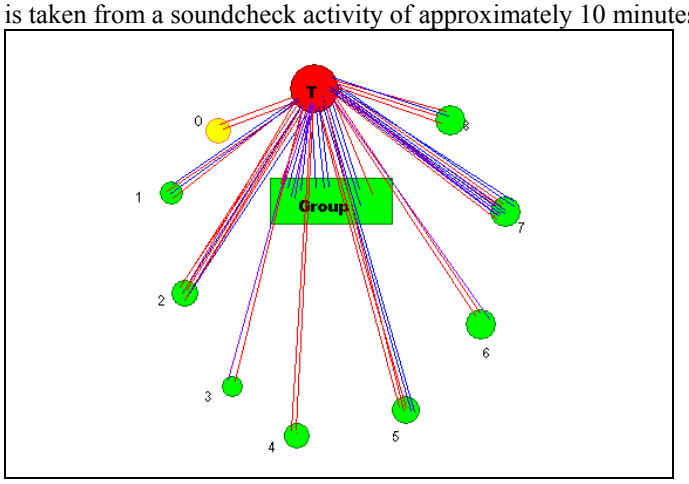

Illustration 1: Interaction Pattern of Exercise "Soundcheck" Online Group 1

Example 2: This pattern shows the equivalent stage of the face-to-face group tutorial: the tutor starts the lesson by discussing learning strategies (in English).

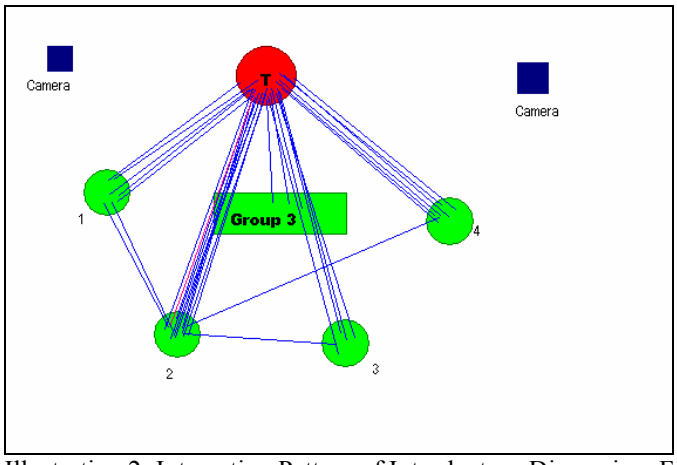

Illustration 2: Interaction Pattern of Introductory Discussion, Face-to-Face Group

A comparison of the interaction patterns in examples one and two show, that both are fairly tutor-centred[4], although the face-to-face discussion does show some interaction going on between the students. The mix of languages in example 1 is evenly distributed between English and the target language, example 2 shows a clear preference for English (hardly any German interaction). Although the tasks in these two examples are very different (repetition of German phrases vs. discussion of study skills), the developing interaction patterns are similar. This is a first indication of the fact that the medium does not completely define the interaction pattern. The similarity might well be due to the comparable stage in the tutorial, i.e. the initial attempt of the tutor to "draw the group together".

To change classroom interaction from tutor-centred to student-centred, the choice of task design can be crucial; pairwork and groupwork lead to more student-student interaction and hence to more opportunity for students to speak

Examples 3 and 4: These examples show the interaction patterns occurring when two different online tutors introduce the same activity, a structured dialogue presented to the students on screen. In example 3, the tutor chooses to talk the students as a whole group through the dialogue once (hence interaction only to whole group).

[4] The terms "tutor-centred" and "student-centred" are used here merely as a description of interaction patterns not as an indication of underlying teaching styles or philosophies. Learners' autonomy, choice or awareness cannot be measured with the simple instruments employed in this study.

The tutor used the voting buttons to ensure that students had understood the instructions ("*Versteht ihr das?* Can you understand that? *Versteht ihr das? Sehr gut.")*.

Example 4 shows a tutor employing the help of two students to model the dialogue for the rest of the class. At the end of the model dialogue, she gives feedback (in German and English) to the participants.

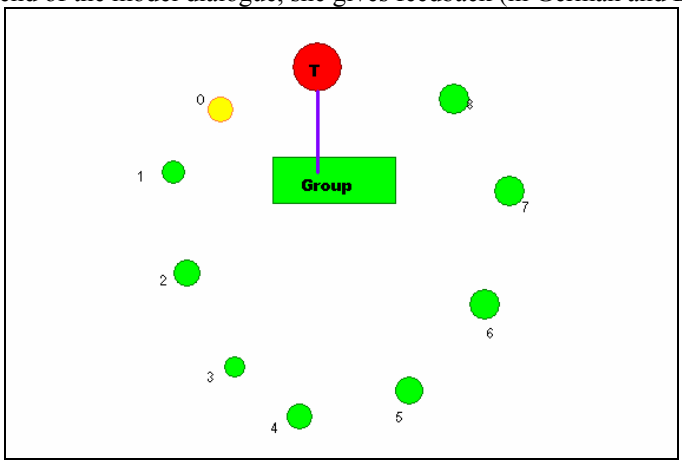

Illustration 3: Interaction Pattern of Introduction to Pairwork, Online group 1

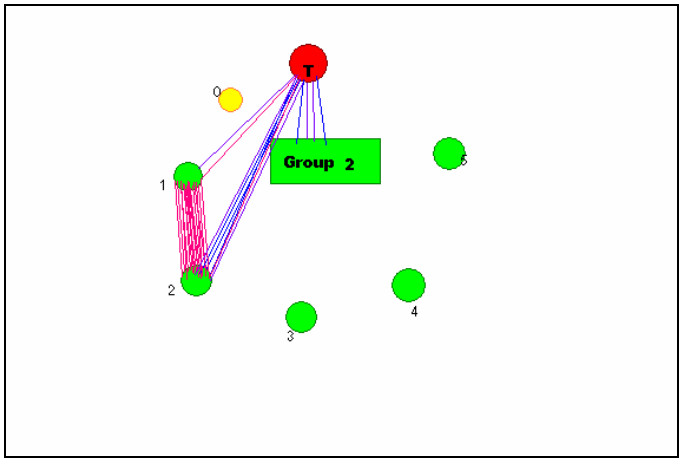

Illustration 4: Interaction Pattern of Introduction to Pairwork, Online group 2

The difference in the two introductions can be clearly seen in the interaction patterns (Illustrations 3 and 4): Instructions to the group focus the attention exclusively on the tutor[5] whereas using students to model allows them more active participation even in the introductory stages of the exercise. The tutor still has "control" over the classroom activity by giving instructions (lines to the group) and offering feedback to the participants, but student-student interaction in the target language plays a crucial role.

The decision as to which method of introduction to choose will obviously always lie with the tutor. Factors like competence and confidence of students, group size and timing will play an important role. Nevertheless, looking at these patterns can enhance a tutor's or task designer's awareness of students' involvement or passivity in certain phases of classroom activity.

The next two illustrations (examples 5 and 6) show the second part of the same exercise as above (structured dialogue – pairwork).

Example 5: In online group 1, the students are distributed into separate breakout rooms where they can speak in pairs or threes without disturbing each other. Illustration 5 show the interaction pattern between three students (and the observer) in one of these breakout rooms.

[5] Although it has to be taken into account that this simple interaction pattern does NOT include non-verbal interactions, e.g. the voting process.

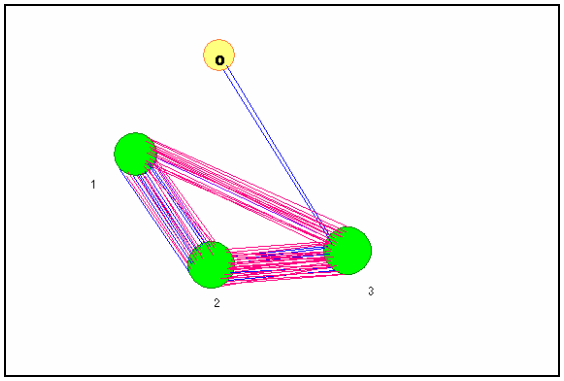

Illustration 5: Interaction Pattern of Pairwork, Online group 1, Breakout room (three students, one observer)

Example 6 is the interaction pattern occurring in online group 2, where the tutor decided to keep the 5 students together in one room and let them practise the structured dialogue in pairs.

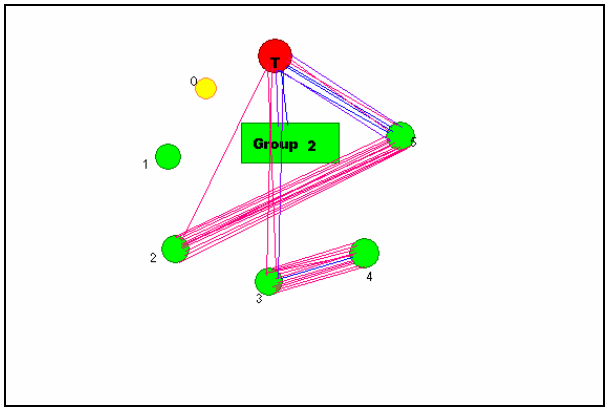

Illustration 6: Interaction Pattern of Pairwork, Online group 2

Again, the difference in interaction is clearly visible from illustrations 5 and 6: In online group 1 all students are fully involved and have ample opportunity to speak German. Although some English is used, mainly between students 1 and 3, dialogue practice between students 1 and 2 is exclusively in German. The absence of a tutor means no immediate teacher feedback is possible, but also that student-student interaction is not interrupted. The one aside to the observer (in English) was an invitation to participate in the practice which was declined.

Online group 2, on the other hand, shows relatively strong tutor involvement. Especially students 3 and 5 receive feedback and frequent reactions from the tutor (some of them in English). The tutor also gives some instructions to the whole group in English and German. Student 1, who had already participated in the modelling stage, can be shown to be left out of all interactions going on in this phase of the exercise.

These illustrations show two different tutors doing the same exercise, using the same material and the same teaching medium. The the differences between interactions in the two groups are obvious and can, in this case, be fully attributed to teaching style.

Example 7: The last illustration shows a comparable dialogue exercise used in the face-to-face classroom[6]. A structured dialogue is presented to the students, the tutor gives instructions to the whole group and then divides the group into two pairs, moving from one pair to the other throughout the exercise.

[6] Whereas online teaching materials are prepared by the course team and therefore more or less the same for every tutor, face-to-face tutors create their own materials based on and linked to course books and topics. This means that classroom activities are not necessarily identical in the two different media.

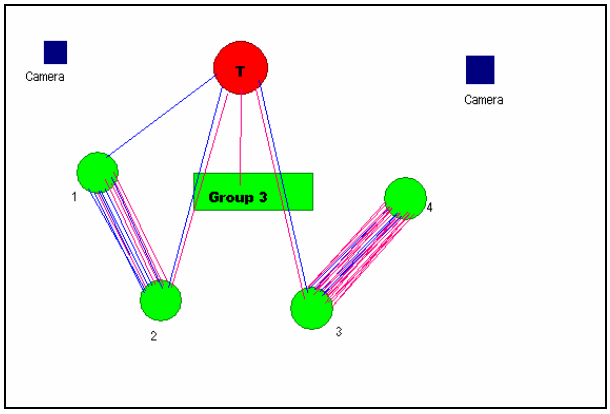

Illustration 7: Interaction Pattern of Pairwork, Face-to-face group

In this example, the majority of interaction exchanges take place between the students. After a brief instruction to the group, given in German, the tutor does not interact frequently with the pairs of students. The lines from tutor to individual students show feedback given at certain stages of the dialogue. What cannot be clearly seen in the black and white version of this graphic is the fact that although the tutor uses mainly German, some of the interaction between the students in the time allocated to dialogue practice was actually spent speaking English, especially between student 1 and 2. This is by no means exclusive to face-to-face groups. Online group 1 shows a similar behaviour in the breakout room. Only Online group 2, which has the strongest tutor control, shows dialogues between students almost exclusively in German.

Conclusions

Selections from a larger study, such as the above illustrations, are always subjective and will only show part of the whole picture. But even from this limited material it is clear to see that the way the task is written and presented has a major influence on interaction patterns (see STRIJBOS, MARTENS, & JOCHEMS, 2004). In the face-to-face tutorials, the course team has no influence on the tasks themselves, whereas in the online version tasks are written by the course team and offered to tutors to use in their tutorials. The tutors are free to change and adapt the tasks (and some do, as can be seen in the difference between examples 3 and 4 and again between examples 5 and 6). Individual tutor style will also influence to some degree how tutor-centred or student-centred an activity becomes.

However, tutor beliefs and teaching styles may not be sufficient indication of the actual interaction patterns occurring in tutorials. Even if tutors are consciously trying to be student-centred and believe in this approach, the effect might still be different. A recent investigation into distance teachers' styles (DUPIN-BRYANT, 2004) has shown a prevalence of tutor-centred attitudes despite the fact that the student-centred approached is generally believed to be the more effective in distance teaching.

Partly, we can blame the medium for this: Although *Lyceum* **does** lend itself to spontaneous interaction, and interruptions and multi-channel talk are possible (although with too many people speaking at the same time, software problems can occur), the "etiquette" of *Lyceum* use is much more stringent than actually necessary: raising hands before speaking, one after the other, waiting for permission to speak all sound like terribly old-fashioned classroom behaviour. This practice should be thoroughly scrutinised to see if there is a technical necessity for it, before being passed on as "law" to tutors and students.

To a lesser degree, maybe, the relative newness of the course, of the tasks, and of the medium to some of our tutors can be held responsible for tutor-centred interaction patterns. In due course, tutors will learn new ways of involving students more actively and to let go of control over the medium and some aspects of classroom activity[7]. If possible, we will offer repeat training to online tutors focussing specifically on pedagogic issues of online language teaching.

At the moment, we are in the process of re-designing our tasks, which should allow for even greater interactivity and maximum speaking time for students. Structured tasks, tasks designed to give more support to students, are generally seen as better suited and more successful for beginners. But structuring tasks is no hindrance to student-focussed interactivity[8].

[7] Indeed, a superficial glance at recordings of online tutorials in July shows that students are getting more actively involved even in mundane aspects of classroom management, such as clearing whiteboards and distributing tasks.
[8] Our understanding of student-centred or student-focussed interactivity here is simply the amount of time students can and will spend actively participating, preferably using the target language.

The main function of tutorials in distance language courses is to give students an opportunity for speaking and for spontaneous interaction with others, as this is a skill difficult to practise with even the best distance learning materials. Therefore, maximising student interaction must be a main design goal for our tutorials.

Future study

In addition to the recordings taken for this preliminary study, the research team recorded further tutorials in July 2004, three online tutorials and one face-to-face tutorial. There is already a wealth of data available that will be processed and analysed. The preliminary study presented here shows only one aspect of the overall study of interaction patterns in beginners' language tutorials.

Further analysis and comparison of tutorials could go beyond these simple interaction patterns, including information on length and quality of interaction, on language used and on non-verbal interaction. Particularly in the online medium, there are only a limited number of possible non-verbal interactional moves, these can be examined, analysed, extended – and from the information gleaned from this aspect of the study, suggestions for best practice in online tuition and ideas for further tutor training can be developed.

Recording of tutorials at the beginning and towards the end of the course will take place again in the second year the course is offered (2004-05) and an attempt will be made to record classroom activity based on an exercise that can be used online and face-to-face and would use the same materials and ideas in both media.

In terms of practical outcomes and pedagogic development, we have already identified from our small sample two possible ways of influencing interaction patterns in online tutorials: Firstly, by changing the structure of the tasks and secondly, by focussing additional training of online tutors on aspects of student involvement.

REFERENCES

BAUMANN, U. (1999). Deutsch als Fremdsprache an der Open University. *Zeitschrift für Interkulturellen Fremdsprachenunterricht [Online], 4*(1), 10 pp.

BEYTH-MAROM, R., CHAJUT, E., ROCCAS, S., & SAGIV, L. (2003). Internet-assisted versus traditional distance learning environments: factors affecting students' preferences. *Computers and Education, 41*(1), 65-76.

DUPIN-BRYANT, P. A. (2004). Teaching Styles of Interactive Television Instructors: A Descriptive Study. *The American Journal of Distance Education, 18*(1), 39-50.

NARDI, A. (2004). Interaktion und soziale Fertigkeiten im DaF-Unterricht. Graz, Austria: 8. Grazer Tagung: Deutsch als Fremdsprache und Deutsch als Zweitsprache - "Sprachpraxis im Unterricht"; 11./12. Juni 2004, Graz, Austria.

Open University, T. (2004). *Factsheet: Background Information*. Retrieved 21/07/2004, from http://www3.open.ac.uk/media/factsheets/index.asp

ROWNTREE, D. (1994). *Preparing Materials for Open, Distance and Flexible Learning. An action guide for teachers and trainers*. London: Kogan Page in association with the Open University, Institute of Educational Technology, 1994.

SHELLEY, M. (1999). Fremdsprachen an der Open University: Ihre Entwicklung. *Zeitschrift für Interkulturellen Fremdsprachenunterricht [Online], 4*(1), 10 pp.

STRIJBOS, J. W., MARTENS, R. L., & JOCHEMS, W. M. G. (2004). Designing for interaction: Six steps to designing computer-supported group-based learning. *Computers and Education, 42*(4), 403-424.

WANG, Y. (2004). Distance Language Learning: Interactive Fourth-generation Internet-based Videoconferencing. *CALICO, 21*(2), 373-395.

WORTHAM, D. W. (1999, 12-15 Dec 1999). *Nodal and Matrix Analysis of Communication Patterns in Small Groups*. Paper presented at the CSCL - Computer Support for Collaborative Learning. Designing New Media for a New Millennium: Collaborative Technology for Learning, Education, and Training, Palo Alto, California.