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real-time audiographic environment**

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During 2004, advanced students of German in Australia and in the UK worked synchronously online with native speaker informants in Germany and German-speaking tutors in the UK and Australia to complete a collaborative task. Meetings took place over several weeks in the UK Open University's online audiographic tuition environment Lyceum, which provides multiple synchronous audio channels as well as synchronous textchat and several shared graphic interfaces. In addition to the output produced in this medium (oral, written and graphic), the project output, a shared reflection on identity and the notion of *Heimat*, took the form of a collaborative blog. This article draws on data from pre- and post-questionnaires, from recordings of the online interactions, and from discussions among learner and tutor participants, to explore some aspects of online language learning, including task design, tutor perceptions, student use of tools, anxiety, learning communities and multimodality. The study investigates factors which influence the success of synchronous online language learning, while also inducing reflection on the nature of participant observer research in this domain¹.

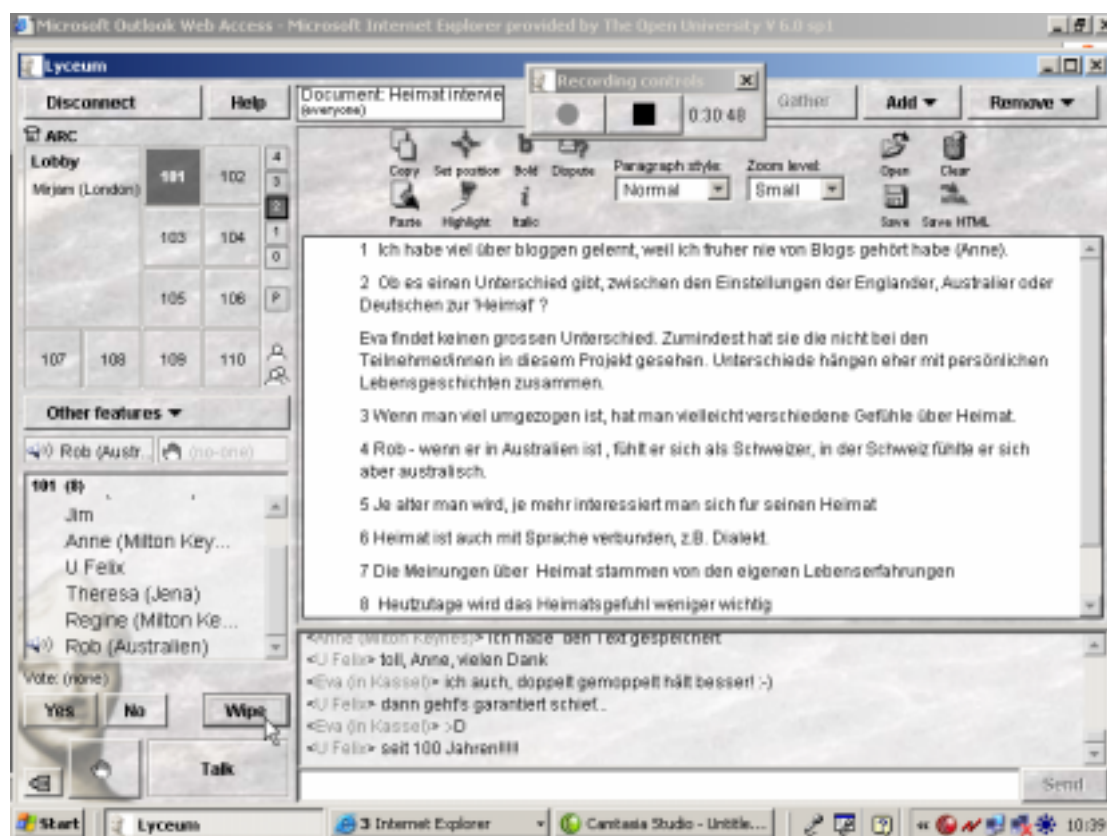
1. Introduction

Over the last two decades, computer assisted language learning (CALL) technology has moved from the *use of a computer* to improve discrete language learning areas via a drill-based approach to *communication via a computer* with other learners in local and global networks, and has thus overcome the initial computer-as-tutor mode (Hampel 2003). Although this move turned the computer into a tool for collaboration among students at a distance, and thus into an ideal medium for open and independent language learning, getting together and working collectively was, until recently, restricted to computer mediated communication (CMC) in a written environment. In the 1990s, however, Internet-based audiographic conferencing systems such as Lyceum became available and offered a way to develop communicative aural and oral skills. These tools – which allow for synchronous voice communication over the

¹ The study was partially funded by an Australian Research Council International Linkage Grant and by a British Academy Small Research Grant. We wish to acknowledge helpful feedback from Lesley Shield on the present article.

Internet – give language learners the opportunity to go beyond written interaction and to improve their speaking and listening skills online.

Lyceum was developed within the UK's Open University as an Internet-based environment for tutorials that combined shared graphics with live online discussion. Its features also lend themselves to language tutorials which require a high level of student-student and tutor-student spoken interaction. Lyceum does not offer a webcam facility as video technology in multi-user conferences is not advanced enough yet to offer any real benefits for language teaching (see e.g. Coverdale-Jones 2000 or Goodfellow *et al.* 1996 who report on the challenges of using video conferencing for language teaching). The Lyceum screen adopts the metaphor of a building, with 'rooms' containing the shared facilities described above. The metaphor is designed to enhance the intuitive nature of the different tools, and to reduce the potential anxiety and inhibitions of students unfamiliar with such online environments.



Since its introduction into a German level 2 language course in 2002, Lyceum has been extended to most Open University language courses, and students are now offered a choice between face-to-face and online tutorials.

The design and implementation of online language learning and teaching at the Open University has been informed *inter alia* by generic principles of second language acquisition and language pedagogy, by socio-cultural theories, by approaches to multimodality and by the application of all these to CMC. Not surprisingly, however, the majority of published research in this field has to date been dominated by investigations of CALL and written CMC (see, for example, Warschauer 1997, Chappelle 1998, Debski and Levy 1999, Felix 1999, Rüschoff and Ritter 2001, Weininger and Shield 2003, Shield and Weininger 2004) and there is only little research on the use of audiographic technology (see, for example, Erben 1999, Shield, Hauck and Hewer 2001, Hampel and Baber 2003, Felix 2004). The domain remains 'under-researched and under-theorised' (Erben 1999: 230). This is particularly true with regard to the impact which the affordances of a tuition environment like Lyceum may have on specific aspects of language learning and teaching such as anxiety and self-confidence, learner control and classroom management. So far, the studies carried out in the Open University context – that is, in the UK and Continental Western Europe, involving registered students, over a nine-month academic year, with all learners and tutors remote from each other – have addressed theoretical considerations (see, for example, Hampel 2003), and provided some insights into changes in tutor role(s) and in approaches to task design (see, for example, Hampel and Hauck 2004, Hauck and Hampel 2005). Further studies have explored learner self-management in virtual environments (Hauck 2004, 2005) and online language anxiety (Hauck and Hurd in preparation).

In the present study, non-native speakers from the UK and Australia, native speakers from Germany and native as well as non-native tutor-researchers (some new to the environment, some experienced) joined in an intensive project on the specific topic of *Heimat* and identity, in order to find out more about the potentials and pitfalls of using audiographic conferencing tools to support collaborative language learning across time, geographical space and individual difference. A secondary goal for the learners was the publication of their joint project output in a blog which they were also asked to use to share their experiences during the project. The tutors explored the

use of this additional tool for reflection purposes only. The short timescale (twelve weeks), the global scope, and the disparate backgrounds of participants distinguish the study from earlier research, as does the attempt to offer a ‘thick description’ (Geertz 1973) of some of the complex of factors interacting in an online second-language tutorial environment, i.e. a more detailed, more individual, more narrative account than other (especially quantitative) approaches can provide.

The next section of the article will introduce the notion of modes and affordances and apply these to audiographic conferencing. After a brief project description (section 3), section 4 explores how the modes and affordances influenced task design. The second half of the article (sections 5, 6 and 7) looks more closely at the impact these affordances have on the learning and teaching process. By examining how students and tutors experienced the medium, we will focus mainly on affective issues, skills and classroom behaviour and management and discuss these in the light of the theoretical ideas and pedagogical approaches introduced in sections 2 and 4.

2. Modes and affordances of audiographic conferencing

Because computer conferencing is more and more able to offer the modes available in a conventional classroom (in our case, written text, speech and the visual), it is tempting to think that CMC applications can replicate a conventional classroom. Yet as Kress states, it is vital ‘to understand the meaning-potentials of the resources as precisely and as explicitly as we can’ (2003: 24) and to do that ‘we need to attend to the *materiality* of the resources, the material *stuff* that we use for making meaning.’ (2003: 32), in our case the ‘material stuff’ of the computer in contrast to a conventional face-to-face classroom. The resources that we use for meaning making include language – which according to Kress has been the focus in language acquisition research for such a long time – but are by no means limited to it. Instead, we need to look at all resources available in a ‘classroom’, be it conventional or virtual, and examine their affordances, that is, possibilities as well as limitations.

Candlin and Sarangi also stress the importance of taking account of this materiality when they point to the ‘*affordances* that each mode offers in getting things done’, the ‘extralinguistic stuff [which] is no longer a residual category, peripheral to the analytic act of describing the phenomenon under study’ (2001: xii). Kress *et al.*

explain it as follows: ‘each meaning-making system – *mode* – provides different communicative potentials. In other words, each mode is culturally shaped around the constraints and affordances of its medium – its *materiality*.’ (2001: 15) In their project, which examines the rhetorics of the science classroom, the starting point was

to explore how the potentials for meaning which are developed within each mode are used by the teacher to realize meanings in writing, in demonstration and through graphs. We did this by considering the *affordances* of each of the modes, that is, we asked the question ‘What constraints and possibilities for making meaning are offered by each mode present for representation in the science classroom and what use is made of them?’ (2001: 13)

Kress’s theory of multimodality (see also Kress and van Leeuwen 2001, Kress 2003) can help us understand the meaning-potentials of the CMC environment used in our project. It provides us with a tool to examine the resources of this environment and explore the different modes these resources offer along with their constraints and possibilities for making meaning in the context of language learning and teaching. Table 1 shows the different tools available in Lyceum and their affordances.

Audio	Whiteboard	Concept map	Document	Text chat
<ul style="list-style-type: none"> ▪ ‘Talk’ button ▪ Several people speaking at once via modem can create a time lag ▪ Can be recorded (by re-searchers) ▪ Audio functions supported by ‘para-linguistic’ icons (see description below) 	<ul style="list-style-type: none"> ▪ Writing of limited amount of text ▪ Drawing tool ▪ Importing screen dumps (containing text, images etc.) ▪ Can be created and manipulated jointly ▪ Can be saved 	<ul style="list-style-type: none"> ▪ Writing ▪ Organizing shorter pieces of text (notes, instructions etc.) ▪ Text is located in nodes, which are created by users ▪ Nodes can be linked by arrows ▪ Only one person can work on a node at any one time ▪ Can be saved 	<ul style="list-style-type: none"> ▪ More extended writing ▪ Text can be copied from and pasted into other documents ▪ Texts can be created and manipulated jointly ▪ Compatible with other word processing programs such as Word ▪ Can be saved 	<ul style="list-style-type: none"> ▪ Writing ▪ Can be turned on and off for use alongside audio, white-board, concept map or document

Table 1: Tools in Lyceum and their affordances

The software also offers several other features which include a number of sub-conferences ('rooms') within each conference which can be used by different groups, and the possibility to create additional 'rooms' as well as personal rooms which offer private access to individuals and allow others to join by invitation only.

While participants in a Lyceum conference can use some paralinguistic features –such as intonation, volume or pace – to help express themselves, the system does not allow for the use of body language (including body movement, gesture, eye contact and facial expression), which needs to be visually expressed. For this reason, Lyceum offers the following facilities:

- a 'raised hand' button
- a list in chronological order of hands raised
- a 'gather' button which takes all participants to the same graphic tool
 - a timer to remind students working in break-out rooms that the agreed time is up
 - voting buttons (yes/no)
 - an 'away' button that can be used by participants to show that they are temporarily away from their computer

With the exception of the recording facility and the timer (which require a special level of access normally only given to tutors or researchers), all users of Lyceum have the same level of control over the environment.

These affordances influence the way we use Lyceum for language teaching, employing certain modes for certain purposes in order to foster interaction between students and improve their communicative competence. Images, for example, are used as visual illustrations, supplementing other input in the form of spoken and written texts; shorter texts serve to give instructions or bulleted information; more detailed description and background information is provided through longer texts. While the system is visually attractive and clear, it is nevertheless complex and the above description of its modes shows how different it is from a face-to-face classroom.

One way of dealing with this is through the design of the activities. Learners are gradually introduced to the active use of audio, text and graphics, thus not only developing an awareness of how different tools and modes can be used but also

building up competence in choosing between them for their own purposes. They are encouraged, for example, to use the concept map for brainstorming, taking notes and summarizing information; the whiteboard for importing images, drawing and writing captions; the document for writing, importing and working on longer texts; and the text chat for brief written queries or comments. The facility to save documents is used widely to transfer texts from one 'room' to another; students are also encouraged to prepare documents in advance of a class.

The classroom protocol also has to be adapted according to the features that are available and both learners and teachers have to develop a particular 'netiquette'. Turn-taking, for example, needs to be organized differently in an environment where participants are unable to see one another but have recourse to features such as a raised hand button or a list of participants waiting to speak.

3. Project description

3.1 Procedures

Over a period of twelve weeks between April and July 2004, five tutors, five advanced learners of German and three native-speaker informants took part in a structured exploration of the potential of Lyceum as a medium for collaborative learning of German. Participants met online from their respective homes/universities in Australia, Germany and the United Kingdom. After two initial tutor-led online meetings focusing on technical training in order to give all participants the opportunity to 'play' with the various tools in Lyceum, the students carried out a collaborative task across six scheduled fortnightly sessions. The task design, moving from closed to open sub-tasks and incorporating familiarisation with the affordances of a multimodal online environment, is described in detail below.

A dedicated password-protected website provided a range of target-language resources including ICT terms, useful linguistic structures, advice on web searching and relevant authentic texts, as well as instructions for in-class and between-class activities; the latter were released progressively. Two password-protected blogs were also instituted using a freely-available tool (see www.blogger.com), one for students to work together and reflect on their learning, and the other for reflection and discussion among the tutor-researchers. Within Lyceum, all sessions were digitally

audio-recorded, and all on-screen movement recorded using Camtasia software. A pre- and post-questionnaire was administered, not in any expectation of deriving statistically significant data, but to elicit the following:

(1) Pre-questionnaire:

- ICT background
- Proficiency level and language background
- Students' priorities in skills' acquisition
- Perceived features of successful language learning
- Own perceived anxiety in language learning contexts

(2) Post-questionnaire:

- Usefulness of tools
- Reaction to task
- Reaction to environment where participants cannot see one another
- Perception of difference between online and face-to-face environment.

Several weeks after the end of the online sessions, Australian and UK participants were individually invited to comment on 'the affordances of this medium for reducing language anxiety': three responses were received.

In the present article, findings are based on the questionnaires, the observations that were made in the sessions and students' post-project email comments.

3.2 Participants

Project participants, all volunteers, belonged to one of four groups:

- the researchers, three of whom (T1, T2, T3) are native German speakers, one of whom (T4) has German to a level comparable to the UK students and took a student role when available, and one of whom (T5) was a non-participant observer
- UK students (UK1, UK2, UK3), who volunteered in response to a letter sent to all students on the Open University's level 3 (degree level) German course

- Australian students (AU1, AU2) following advanced level courses at Monash, who responded to individual invitations to participate
- German native speaker informants (NS1, NS2, NS3), studying at Kassel and Jena to become language teachers and volunteering from professional interest.

Novice tutors were deliberately included: tutors are often thrown into such environments either against their will or without sufficient training (Kearsley 2000, Salmon 2003) and their expectations often differ from what they actually experience online.

In order to gather detailed information on the complexities of the tutor's role, all five researchers participated in the online sessions in one way or another. Two (T2, T3) were highly experienced online tutors, at ease with the use of the Lyceum tools. They facilitated all but one session in turn or acted as observer/participant. Two (T1, T4) were novice online tutors who were familiar with Lyceum and online teaching and learning, with substantial face-to-face teaching experience, but had not hitherto facilitated a session. T1 took responsibility for one of the sessions and participated in all the rest. T4 sat in twice as participant observer. T5 was the most experienced in terms of facilitating language learning in synchronous environments. She acted as a technical adviser, developed the website, set up the blogs and contributed to the researchers' team blog discussions but otherwise remained a silent observer. Thus, in each session, at least two researchers, often three, were present to take observations. All tutors have long been committed to student-centred, communicative, meaning-focused, collaborative, social-constructivist approaches. Interestingly, this shared view on pedagogy did not prevent later dissonances in interpretation of student behaviour and of tutor interventions online (see section 6.3).

As regards the students, the questionnaires provided useful biodata and initial indications of different attitudes and experiences. Despite a wide age disparity (22-51) which might well have caused some social discomfort in a face-to-face classroom setting, there is no evidence that participants' age or sex played any role in the interactions. However, although the British and Australian students were at a similar level in their studies, their linguistic competence ranged from intermediate/advanced to near native. They also had very different experience with ICT; two UK students had used Lyceum before, and some had used other ICT tools extensively, while others

had little experience with ICT. Two UK participants had never used instant messaging, and one had never even used SMS (texting via mobile phone). Nonetheless all were able to function in Lyceum by the end of the project, using every aspect of the technology. However, not all became confident users of the blog.

All student respondents wanted primarily to enhance their speaking skills, rather than listening, reading, writing or grammar. They expressed the view that enthusiasm and motivation, willingness to communicate, being well-organised, self-confidence, and being able to accept constructive criticism are the key features of successful language learning. This explicit recognition by the students of the pre-eminent role of affective variables in language learning underlines the shortcomings of those studies of CMC in language learning which focus exclusively on interactional analysis and cognitive factors, and justifies one principal focus of the present article. While all recognized the importance of group support, they manifested very different anxiety profiles, with UK1 consistently opting for responses indicating lower self-confidence, and AU1 at the opposite extreme.

4. Task design

4.1 Use of modes and affordances

Learners in online environments such as Lyceum have to deal with the juxtaposition of different modes: narrative texts accompanied by pictures or audio, prose texts with illustrations, pictures with audio, etc. Research findings (Guri-Rozenblit 1988, Mayer *et al.* 1996, Moreno and Mayer 1999a, b, quoted in Klein 2003) suggest that students find it easier to understand and recall material when teaching happens via mixed representations, and that such representations should not be redundant (e.g. not consist of spoken language accompanied by a word-by-word transcript). Instead, they should rather be wholly complementary (Gattis and Holyoak 1996, Goldin-Meadow *et al.* 1999, Kalyuaga *et al.* 1999, quoted in Klein 2003), with each mode being used to exploit its particular possibilities. Learning benefits have also been found to be greater if the representations are mixed in terms of modalities (e.g. written and spoken) rather than if they are mixed within the same modality (e.g. graphic and textual; see section 2).

When designing the task for this project, the affordances of the different modes at the tutors' and participants' disposal, that is, their specific potentials for representation and making meaning and their limitations, had to be taken into account. Then the most appropriate mix of modalities had to be decided on. This approach to task design entails a different notion of learning and teaching: By actively creating and modifying representations while thinking and learning students no longer simply learn from representations; instead, they learn by interacting with representations (see Klein 2003).

Thus one stage of the project task required the learners to use the available tools to gradually 'unveil' their own identity, i.e. to prepare a presentation of themselves (who they are, where they live, potentially including an extraordinary hobby, character trait, etc.), leaving it up to them to choose between their real life persona or an invented virtual identity. In this way learners can take advantage of the anonymity of the learning environment, an anonymity which extends to participants' names and bodily features though not voices. This gives learners more freedom to make mistakes, thus contributing to reducing learner inhibition and language anxiety (see Dede 1996, Freeman and Capper 1999).

4.2 Scheduled sessions

The first topic-oriented session asked the learners to identify a famous person based on a few clues. The clues were progressively revealed making best possible use of the various modes and representations available in the environment. The learners were invited to exchange ideas and make suggestions as to who it could be. This was followed by a similar step-by-step identity-revealing presentation by one of the members of the project team. The main purpose was to give those participants who were new to the environment time to familiarise themselves further with the conferencing system and to start an online community by fostering collaboration among participants and creating a sense of commitment. At the same time, the presentations served as an example for the learners who were asked to prepare in a similar way for the next (second) scheduled session. They were encouraged to ask both content-related and technical questions in order to find out more about how the tutor had tackled the task. Although the latter chose her real life persona for her presentation we stressed that each individual could just as well invent an online

identity, if they thought that they would enjoy such an approach more or that they would feel more comfortable with it. It is interesting to note that students did not opt for using aliases. Two, however, used a different persona to communicate in the blog.

In the third session, everybody presented themselves online using, for example:

- the document tool to quote an extract from a favourite book, or a magazine that they were reading at the time of the project, or a poem that they liked
- the whiteboard to show pictures of a place/places that had a special meaning to them
- the concept map to give short descriptions of special events in their life that they felt they could share

This was followed by mutual questioning on aspects of each others' identities, which contributed to the consolidation of the community building process. Participants shared what they had found out about each other, what they had in common, how they were different, and what they wanted to know more about.

Between the third and fourth sessions, the learners were asked to work in pairs or small groups consisting of British and Australian participants in order to prepare one of the texts on the topic of *Heimat* provided by the project team. In session four, then, each couple or group summarised for the others the content of their article and their thoughts on it. Then all learners reflected jointly on the bigger question of what identity meant to them. Here the concept map was used to facilitate the note taking process. They shared and discussed their understandings of issues around identity and *Heimat* and started to draft in pairs or small groups a questionnaire to find out about the mother tongue informants' concept of *Heimat* and how they defined their identity.

In the fifth session, they administered the questionnaires, carrying out interviews in small groups and comparing the outcomes in a plenary session, thus discovering more about the various takes on identity (German, British, and Australian). The final part of the task consisted in writing up the findings in order to publish them in the blog.

The last session allowed reflection on the work done during the project. Questions such as whether participants' notions of *Heimat* and identity had changed, how their own ideas compared with those of others, what had surprised them, whether there was anything they had not been aware of, etc. were raised and discussed.

5. Student experience of the medium

5.1 Use of tools

All students found the three main tools, that is, the document, whiteboard and concept map generally useful and easy to use. However, four students (out of six who gave feedback at the end of the project) either pointed out they needed practice to get used to some or all of them, identified limitations or reported problems with some of their features. Thus AU1, for example, commented that he ‘needed getting used to the interface and limiting functions’ of the concept map and he pointed out that ‘people need to be aware that more than one person can type at the same time’ when using the document tool. NS2 commented that it took her some time to get used to the document.

The real challenge was identified by UK2, who realized that it is not just a technical issue of having to deal with the tools but also the challenge of having to multi-task and using different tools and modes:

They [the tools] were easy to use in practice sessions and alone but manipulating documents etc at same time as attempting to speak/write German led to mistakes or inability to use full capacities of programme. Familiarity with regular use would solve some of these problems.

Students also pointed to the limitations of the tools. Thus AU1:

The concept map was a little less useful, due to (a) the limiting size/space (b) the simplicity (i.e. lack) of formatting (bold/colours, etc) plus (c) the fact that we didn’t really need it to plan something complicated. If we had the task of writing a longer more complicated document or presentation it would’ve been VERY useful to group brain-storm ideas. [...] The whiteboard was useful to incorporate graphics, a function which I think the shared document should have provided us.

He also found the whiteboard ‘maybe a little too simple’.

All students used the text chat (we continue to refer to it as such while recognising that its nature in a multimodal environment is distinct from its conventional use as a stand-alone tool), and they did so for a number of reasons:

- when there were sound problems,
- to ‘clarify things that were just mentioned without interrupting’ (AU1, but also UK1) (the spelling of a word, for example),

- ‘It was easier to see incorrect grammar when written than when spoken, and you have chance to correct mistakes before transmitting the written messaging’ (UK2),
- to tell jokes (NS3) – the text chat is described by one student as ‘less formal’ (NS3) – and for what AU1 calls ‘off the topic conversations’,
- NS3: ‘when I wanted to address one person only, I did not use the voice communication, because it was not relevant for all.’

Thus the text chat was used mainly for question-and-answer, ‘behind-the-hand’ comments or conversations, or one-to-one advice, reflecting the fact that in Lyceum – unlike in a conventional face-to-face classroom – it is technically not possible to have a private conversation which is not overheard by everybody in the same room.

While students seemed to accept most of the reasons for using text chat as valid ones, the comments on its use for ‘off the topic conversations’ were slightly more ambivalent. One student, who used this feature a lot, explained its benefits:

It’s a great way to talk about things that have got nothing to do with the session content. ☺ It adds a lot to making Lyceum communication comparable to face-to-face communication, because it allows to communicate in more modes than just verbal/oral.

Asked whether there was any difference in the way she used the text chat and the voice communication, and what made her choose to speak rather than write or vice versa, she responded as follows: ‘yes there is a difference: I felt more at ease in the text chat especially if people are around that I don’t know that well.’

Yet other students (notably UK1) found it problematic that the text chat is often ‘off the topic’ and has nothing to do with what is going on in class: ‘...it does tend to develop into something like people having a chat amongst themselves at the back of the class.’ UK1 also pointed out that using text chat in an audio conferencing environment requires a certain skill, that is, having to listen to the audio while reading or writing text in the text chat, a skill not everybody is familiar with. ‘It is also difficult to read the chat box and concentrate on the audio at the same time, especially when what you are trying to read has scrolled out of sight. On the whole I think I’m a bit undecided whether it is a good thing or not. People could equally well write on a white board, or one of the other tools, of course.’ UK3 felt similarly. He also pointed to the fact that text chat, unlike audio, creates threads and is therefore more complex:

I used the written chat mainly as an emergency, when the others couldn't hear my voice. I think it's good and useful to have both options, but I found it a little bit rude if someone is talking and others are chatting about something else in the written chat. For the written chat one has to be [able to] type very fast. Often questions and answers don't match, if more than two people take part in the chat. In this case the written chat is not really useful.

This comment shows that users have to become familiar with conversational threads, one of the consequences of the affordances of synchronous text chat. These threads depend on typing speed as well as length of contribution, and a contribution may seem less logical on screen than when composed, although experienced text chat users can reconstruct a thread despite an apparently confused sequence.

In her feedback, NS2 raised the issue of control in Lyceum (for a more detailed discussion, see section 6.1):

bestes Audiographic Conferencing tool, dass ich bisher gesehen habe. Im Vergleich zu anderen sehr demokratisch: Teilnehmer/innen sind sehr selbstbestimmt und können sich (sofern technisch alles funktioniert) in Lyceum frei bewegen. Andere vergleichbare Softwares sind i.d.R. lehrerzentriert, was bei Lyceum überhaupt nicht der Fall ist.

- Besonders gut: jeder TN kann den Raum nach gusto verlassen, betreten, in einen anderen Raum gehen etc.; dies ist besonders für Gruppenarbeiten hervorragend; in keiner anderen Software, die ich kenne, ist die Arbeit abwechselnd in Groß- und Kleingruppen so komfortabel und einfach; auch die ‚Symbolik‘ mit verschiedenen Etagen und Raumnummern ist toll.
- Ebenso: die Möglichkeit, verschiedene Whiteboards, Dokumente etc. gleichzeitig in einem Raum geöffnet zu haben ist äußerst flexibel und sinnvoll, zumal die TN nach eigenem Bedarf hin und herwechseln können (dazu aber auch ‚gather‘-Funktion)²

² best audiographic conferencing tool I've seen so far. Very democratic compared to others. Participants are very autonomous and can move freely in Lyceum (provided everything works technically). Other comparable software is mostly teacher-centred, which is absolutely not the case with Lyceum.

Exceptionally good: each participant can enter or leave the room or go to another room as they wish; this is especially outstanding for group work; in no other software I know is alternating large- and small-group work so comfy and easy; and the idea of a college with different floors and room numbers is great.

Likewise, the possibility of keeping open different whiteboards, documents and so on at the same time in the same classroom is extremely flexible and sensible, especially since the participants can move to and fro as they want (the 'gather' function also helps).

5.2 Lack of body language

Findings in a recent study (Hauck and Hurd in press) of language anxiety in online environments, a study which specifically related to oral communication, suggest that while participants in online language learning may experience a ‘loss of embodiment’, this is – at times – perceived as an advantage as it allows learners to remain ‘incognito’ and to speak more freely.

While this ‘loss of embodiment’ was felt by some of the students in our project, it seemed to have a number of different consequences. For one of the native Germans it resulted in disorientation.

Insgesamt hatte ich hin und wieder ein Gefühl von Orientierungslosigkeit in den Lyceum-Sitzungen. Ich [...] vermute, dass es vor allem daran lag, dass ich zwischen den Live-Sitzungen zu wenige bis gar keine Zeit für das Projekt hatte und mich somit zwei Wochen lang nicht mit den Themen auseinandergesetzt habe. Auch hatte ich bis zum Schluss das Gefühl, die anderen TN nicht wirklich zu ‚kennen‘ bzw. ich habe sie immer wieder verwechselt und konnte nur wenige persönliche Dinge mit Ihnen verbinden, z.B. wusste ich, dass mir irgendein TN aus Australien erzählt hat, er sei Fußballfan, doch hatte ich in den folgenden Sitzungen immer Schwierigkeiten, zuzuordnen, wer das noch mal war.³

Some students commented that the loss of embodiment induced anxiety – independent of their level of language. For some this was only an initial feeling, for some it seemed to last throughout the project. The most proficient German non-native speaker (AU2) expressed his surprise ‘that when using Lyceum I would get more self-conscious about my language skills than when it was a face-to-face situation.’ He attributed this to the fact that ‘my language skills were the only things being judged; I couldn’t make myself sound better by smiling self-confidently and gesturing, and any pauses I made to think of vocabulary seemed incredibly long because there was just silence coming from everyone else; they could have been listening attentively, but I couldn’t tell’. However, he also added that this was only the case initially – ‘it was soon apparent that everyone was accepting of whatever language levels their classmates may have been at.’

³ Altogether I had now and then a sense of loss of direction in the Lyceum sessions. I think [...] it’s above all down to the fact that between the live sessions I had too little time – or no time at all – for the project, and for two weeks hadn’t tackled the themes. And right to the end I had the feeling that I didn’t really ‘know’ the others, or rather I kept mixing them up and could only associate a few personal facts with them: for instance, I knew that one participant from Australia had said he was a football fan, yet in the following sessions I always had difficulty working out who it was.

UK2, who was less advanced linguistically, also commented that he ‘found it more anxiety inducing having to speak on the internet to an ‘unknown / unseen’ audience than to a classroom of fellow students. It was similar to having to speak to a conference of unknown participants, where one feels constantly judged on the quality of one’s utterance.’ This seems to be partly due to his linguistic level – ‘In the large group discussions on Lyceum, input from the less linguistically able members seems very hard to elicit (in the sessions I have taken part in here and on other parts of the courses in German)’ – but his comments also point to the environment. According to his feedback, he would not feel this anxiety in a face-to-face language class and he is used to speaking in larger groups of people in his professional capacity. He therefore expressed his surprise at this feeling of anxiety: ‘I certainly didn’t think speaking into a microphone via the internet to other students and teachers would make me clam up and not make a contribution’. As he only participated in 4 out of 6 sessions, we can only speculate whether in his case this anxiety would have decreased with practice as well.

NS2 suggested that the style of tutoring plays an important role in decreasing anxiety – ‘Sitzungsmoderation: insgesamt sehr sympathisch und freundlich; Bei Audiokonferenzen kommt ja ganz viel Atmosphäre über die Stimme ins Spiel und ich finde, dass das gut gelungen ist’⁴.

UK1, an experienced Lyceum user, characterized herself as not being ‘much good at speaking in groups’ in face-to-face situations. ‘I feel that I suffer from low visibility!! (What I mean by this, is that if I am in a group of people, I feel that I become invisible, people don’t seem to notice I’m there or want to listen to me!!)’. She found that in Lyceum ‘people get equalled out, i.e. personality is much less to the fore on-line, therefore more forceful characters do not hog all the attention. I find it much easier to get a turn to speak when it’s just a question of clicking on the ‘hand up’ icon.’ She also believed that being at home instead of a strange classroom made her more relaxed. In her opinion, it is less embarrassing not to see other people’s reactions when making mistakes. However, she also admitted that this could lead to some students having a more cavalier attitude to online classes. While she thought

⁴ Managing the sessions: overall very nice and friendly; in audio-conferences, quite a lot of atmosphere comes into play through the voice, and I think that succeeded well.

that it is good for students not to ‘have to maintain absolute rapt attention for the whole tutorial’, she also conceded that ‘the occasional student gets a bit over-relaxed using it [Lyceum], and is clearly doing something else entirely whilst on-line.’

Another disadvantage she identified is that the lack of body language makes it more difficult to tell whether the others have understood one’s contribution – which is why in her feedback she suggested ‘a ‘Something Wrong’ button, which you could press when you can’t hear someone. Typically at the moment someone will type something in chat, which takes some time, and then the speaker might not notice it for a while and then the speaker doesn’t know how much of what they have said has been missed, so then there has to be a discussion about that. If there was a button to click on, which put a symbol up, the speaker could know straight away that they are not being heard.’ Finally, she points to the fact that it is more difficult to detect irony and other non-literal use of language – which is why experienced users add smileys and other emoticons to emails and other online writing.

Building a community was also seen as more onerous in an online environment, but UK3 suggested a solution: ‘It is quite difficult to keep an ordinary project-group together, it is even more difficult to keep one together over the net. As people don’t know each other and feel less responsible. Thus it is important that during the warm-up sessions the participants get to know each other, to create a better ‘group-feeling’’. Also, participants did not really get together between scheduled sessions and build this community. Although the task encouraged participants to meet online in small groups, this did not happen very often and participants often ended up preparing work by themselves (or – in some cases – not at all).

6. Tutor perspective

The tutors’ collective perspective throws some light on the sorts of challenges and potential dilemmas faced by tutors in these complex new environments, and equally by researchers exploring their potential and pitfalls.

6.1 Equality

One of the most striking aspects of Lyceum is that its affordances allow for a highly democratic environment, a feature deliberately designed for language tutorials (for a student's view on this, see section 5.1). In this project no hierarchy was specified between tutors and participants, everyone was addressed by their first name and technical training was shared between students and researchers according to familiarity with the tools. However, it would be naïve to think that complete equality could be experienced in a setting in which identities were known and sessions facilitated exclusively by the researchers, some of whom were known through previous projects or personally through face-to-face teaching. The native speaker informants represented a hybrid position between the genuine student participants and the researchers, since their interest in participating was mainly generated by their own postgraduate studies in education and language teaching.

However, while the perceived inequalities in status may have affected some students' performance; that is, possibly leading them to be more guarded, taking fewer risks, remaining more silent, the differential abilities in using the tools acted as a powerful equalizer. Like some students, the novice tutors were initially not at ease with using all the facilities provided by Lyceum, and experienced a new sense of identity more on a par with beginners in language classes, exercising similar caution in 'performing in public'. The addition of the blog as a new tool demonstrated that even the experienced tutors were not fully familiar with all the media used.

6.2 Classroom management

It was clear that more detailed instructions about procedures and expectations are necessary in this 'disembodied' environment. Even the experienced tutors were surprised that students were still unclear about what they needed to do for the next session when instructions had been given clearly and comprehensively as well as being posted weekly on the project Website. There are two possible reasons for the confusion. Firstly, students who have operated predominantly in face-to-face environments are used to being able to clarify instructions with their peers after the class. As mentioned above, participants did not meet outside scheduled session very often, despite being encouraged to do so. Secondly, students may have been slightly

more 'cavalier' (as one participant termed it) because they were not being examined or marked at the end of the process.

One type of incident triggered divergent interpretations. In one of the training sessions two highly ICT-literate students started up an independent written exchange in the text chat while the newer participants familiarized themselves with the speaking function and some of the other tools. An impressive feature of their multi-tasking was that both of them actually helped demonstrate the use of these tools to the rest of the trainees, all the while continuing their own chat about a recent film they had seen. The fact that they were able to speak, write, listen and take note of what was posted on the various tools demonstrates that a seemingly chaotic setting such as this can indeed be used most constructively. However, for someone new to the environment this behaviour could easily be seen as 'undisciplined' or discourteous, especially to someone in the process of presenting to the group (see earlier student feedback). This differential interpretation of the nature and value of various interactions has serious implications for pedagogy and group dynamics (see section 6.3 below). The success of this type of learning clearly depends on all participants' awareness of the potential uses and abuses of the special affordances available to everyone.

When a similar event occurred in a later session, T1 felt that there was a sense of frustration felt by one of the novice tutors (T4) with this environment in which interactions took place in a multitude of modes, simultaneously on- and off-task. T4's interpretation – that the text-chat dialogue was likely to undermine confidence and the sense of community – perhaps reflects his own anxieties as a non-native speaker, as a teacher playing (in this instance) a student role, and thus his identification with the student who was talking at the time (as well perhaps as differing teaching styles). Although experienced with Lyceum, UK1 was, as we have seen, the most anxious and least linguistically confident participant; she was also probably the least proficient. In this incident the two participants who knew each other best (AU1 and AU2), and who were the most proficient of the non-native speaker participants, were seemingly ignoring a presentation she had gone to considerable effort to prepare. That she may have found the incident off-putting is apparently confirmed by her repeated references to cavalier attitudes (section 5.2 above) and 'people having a chat among themselves at the back of a class'. No doubt different teachers would deal with such

an occurrence in a face-to-face class in different ways, but it is still salutary to note that researchers in the same team can see the same glass as half-full or half-empty.

Another striking example of differential viewing of what was occurring online were the different reactions to silences. T4, one of the novice tutors, commented: ‘...still some long silences; it may be necessary for the tutor to intervene sooner...’, to which the most experienced tutor (T5) replied: ‘you get used to it. This is how it is online which sounds rather patronising but isn't meant to be so. This is a different way of communication and what happens online is, by virtue of the differences, a very different experience from face-to-face and communication protocols are not the same either. This is what isn't reflected in a lot of the literature (though it's becoming more commonly recognised – see e.g. Abrams 2003, Herring 2004), especially where online is seen as an extension of the classroom ... It may be that I take an extreme constructivist stance, but silences, playing with the affordances of the technology, apparently muddled threads (they aren't, I promise you!) etc simply don't worry me. What would worry me a lot would be if the students were maintaining a rigid ‘classroom’ context and hierarchy which would be totally inappropriate to the context.’

It is interesting to note that the other new tutor, too, initially felt quite uncomfortable about the seemingly long silences but indeed got used to them as the project progressed. Silences in CMC (albeit in written exchanges) have featured in the literature for some time, one of the most relevant interpretations in our context coming from Daisley (1996):

...besides encountering the ethics of balancing my own participation/non-participation as a researcher in an online situation, I also collected data to substantiate the amount of silence due to student access and feelings of expertise. However, in silence I also encountered my own presumptions and expectations about this CMC situation: first, in the predominance of my own use of oral metaphors for online rhetoric; secondly, in my somewhat erroneous construction of the class...as constituting a discourse ‘community.’ In reality, students operated as individuals, and as members of small offline groups. Silences, therefore, did not so much define the shape of the class, as they did the shape of each small group working on their collaborative projects. In essence, then, this phase of trying to understand silence follows Kalamaras' (1994) and Ulmer's (1989) constructions of silence as a rhetorical act which is dialogic in nature. Within the ambiguities of interpretation, we look to ourselves – our own ‘conceptual’ and ‘nonconceptual’ knowledges – for answers. Failing to find answers there, we address our questions to others.’

We note, however, that the silences which T4 and T1 sometimes found problematic (over 20 seconds and in one case, after a tutor instruction to UK2 to make his

prepared contribution, an unexplained 52 seconds) did not occur during small-group work, and that extended silence offends politeness codes in most cultures, and thus might contribute quickly to enhanced social anxiety which would be undesirable in online learning contexts.

6.3 Anxiety and pedagogical dilemmas

Interestingly, the new tutors experienced very similar feelings of performance anxiety to those expressed by the students. Both highly confident and popular face-to-face tutors, they reported anxieties generated by unfamiliarity with the tools and odd feelings of ‘operating in a vacuum’ to which the perceived long silences contributed initially. They also occasionally felt anxious about whether participants were usefully employed and working on-task, i.e. thinking: ‘are they learning anything or just playing?’

The new tutors also sometimes felt a sense of impatience with the non-linear progress and seemingly intangible outcomes. One of them was surprised by her own experience of developing ‘transmission’ and ‘control’ features, otherwise not present in her face-to-face teaching practice. The following exchange between the two novice tutors in the team blog illustrates how easy it is to misjudge the potential consequences of a particular intervention.

T4: ‘UK1 acted as scribe for the learners yesterday, producing an output on their behalf. She apologised for her inaccurate writing. T1 corrected every slip in the text, very visibly in front of all those participating, and turned a student output into a tutor-owned piece. Why? And how constructivist is that?’
 T1: ‘UK1 had said, I think, that she wanted someone to correct. Did I mishear that? In any case, I’d like to see what the group’s reaction might be, since there are always tensions between some students wanting this sort of intervention and others not...UK1 strikes me as the sort of person who does...The interesting aspect of this medium is that the correction can take place in the background, so to speak, but judging from T4’s impression that may not be seen that way by all. In fact, I can imagine that for some students this could be most threatening/embarrassing.’

Clearly this exchange illustrates how important initial negotiation of expectations and procedures is in these environments. While the tutor’s motivation to correct a collaborative script at the time was, at least on a conscious level, ‘to be helpful’ (she was after all a participant in this session and not a facilitator) it appears to confirm Windschitl’s (2002) ‘pedagogical dilemma’, i.e. the mind-set of tutors often reflecting how they themselves have been taught. In this case it is quite surprising since this

tutor sees herself as constructivist in face-to-face settings, easily standing back and handing over responsibility to students. Assuming more control in this instance may have been an unconscious mechanism to cope better with the unfamiliar virtual context. Another explanation is that the computer creates a greater distance between participants who may be unaware at times that they are interacting with 'real' people and not a computer screen.

7. Discussion

Feedback gathered in various forms in our project proved illuminating and useful. While only a small number of students were involved, we were able to record detailed observations of their interactions, supported by questionnaire data, screen capture software and follow-up interviews by email. The inclusion of the novice tutors in the project added a dimension hitherto under-explored. It was interesting to note that these tutors experienced similar insecurities and performance anxieties reported by students here and elsewhere. While both tutors were highly familiar with the environment in theoretical terms, their experience of participating actively matched neither their initial expectations nor their teaching style in face-to-face settings. A further surprising observation was that even highly proficient students in both German and ICT commented on feeling more anxious in this unfamiliar medium.

It appeared that student and tutor success – particularly the students' readiness to take risks and, in the case of the tutors, to take a 'hands-off', constructivist approach – and thus the overall reduction of potential performance anxiety depend to a large degree on all participants' awareness and acceptance of the differences between face-to-face and online environments. This was helped by very careful task design moving from closed to open activities, with use of the affordances echoing a PPP (presentation, practice and production) approach to language pedagogy. Different protocols have to be developed for successful communication to occur, and the available modes – with their respective meaning-making potential – need to be taken into consideration in order to capitalize on the environments' 'couleur locale'. However, successful online communication will also depend on the learners' and tutors' familiarity with the relevant tools, that is, their ability to multi-task using different resources at the same time and their readiness to cope with the simultaneity of various meaning making

processes. An additional challenge in this context is the fact that affordances of the same tools can change according to their degree of 'embeddedness' in an environment. Thus it is clear that, because in an audio conference the text chat is embedded within a larger synchronous conferencing system, it fulfils a different role from usual, delivering a range of supplementary functions from informal chitchat to signalling audibility problems.

Another important distinguishing and potentially confidence-building factor mentioned by participants is the equality among users in Lyceum – as opposed to other conferencing systems (available, for example, in Blackboard or WebCT) or conventional classroom settings – offering both learners and tutors the same level of control over the environment. Yet whether learners are able to assume responsibility for this control seems to be influenced by the extent to which tutors are able to step out of their position of authority, and by personality-inherent issues such as tolerance of ambiguity and locus of control, mentioned in the context of distance language learning by White (1999). Tolerance of ambiguity relates here to periods of uncertainty experienced by learners (and tutors) new to a learning process or environment – and their reaction to it: '...tolerance of ambiguity is a response formulated by the learner to feelings of uncertainty or confusion, whereby the uncertainty is accommodated so that it does not obstruct progress.' (White 1999: 451).

How students (and tutors) handle such phases of confusion depends on whether they perceive themselves as being in control, that is specifically whether their locus of control is internal, or whether they see external factors such as a specific CMC application, as key components to success or failure. Drawing on social learning theory, White (1999: 452) defines locus of control as 'the orientation of an individual towards what determines their success or failure: a belief in one's ability to shape events is referred to as internal locus of control, while a belief that outside forces control performance is referred to as external locus of control.' Thus, in a virtual environment, learners with an external locus of control experiencing language and/or technological anxieties and tutors with an external locus of control and technological anxieties tend to blame the CMC application if things don't quite work as expected. After all, anxieties caused by the learning context and those related to the language learning process are not necessarily inextricably linked, and some learners' perceived anxieties around the foreign language might actually be related to the way in which

communication has to be carried out in the learning environment, or, as Kress (2001) puts it, the communicative potential provided by each available tool. It is also difficult, without a fearsomely complex research design, to distinguish trait and state anxiety, social anxiety, language anxiety and performance anxiety, and to relate any or all to the technological affordances of the environment.

A key issue to be resolved is how tutors and material developers can optimally use audiographic conferencing systems to exploit communication opportunities. Further rigorous investigation is required into how far an increase in multimodal competence, increase in confidence levels, shift of locus of control and the number and variety of modes involved in the accomplishment of a learning task are interdependent. Giving instructions for a learning task in more than one modality and ensuring that carrying out a task involves more than one modality could be a first step in the right direction. It would seem so far that the higher the learners' and tutors' level of awareness – regarding their modal preferences and how these relate to the possibilities and limitations of the available tools – the more creative they can be when interacting with representations and the less self-conscious they can be when interacting with the meaning-making resources. In this way a potential negative impact of 'loss of embodiment' and perceived increase in anonymity on the learning and teaching process might be gradually remedied or at least be partially counter-balanced. We must remember that participants who are able to use the environment to its full potential report positive aspects of this loss of embodiment, such as feeling more noticed and valued in an online environment, supporting the observation made by Freeman and Capper (1999).

A word of caution: While all the researchers were highly experienced language teachers and au fait with online learning, at least in theoretical terms, their interpretations of data remain different. At the extreme, where T5 sees T4 as sometimes failing to adapt to the exigencies and affordances of online learning, T4 sees T1 as sometimes failing to recognise the social, technological and language anxieties of the learners, thanks to herself being a socially confident native speaker and experienced online tutor. There may even be a suspicion that an enthusiast for online learning is giving a favourable interpretation to evidence which the data may not entirely justify. As long as there is differential experience of technological affordances among participants – whether tutors or learners – and especially in

multimodal environments, researchers must be careful, and readers critical, in identifying successful and unsuccessful approaches and above all in attributing causes for them.

8. Conclusion

In conclusion, what can be said with some confidence is that a great deal of practice and training is required in order to optimally exploit the special affordances offered by a system such as Lyceum. Feedback from both students and tutors suggested that (1) negotiation of procedures and expectations at all levels is required to avoid miscommunications and potential faux-pas; (2) the loss of embodiment may be experienced as both liberating and restricting in terms of communicating online; and (3) performance anxiety appears to depend not simply on linguistic proficiency or ICT-literacy but rather on psycho-social factors and the learning context. Finally, what became quite clear over the course of the project was that the environment needs to be accepted as different from face-to-face, offering unique features on which to capitalize and around which to design specific tasks. The complexities of learning and teaching in such environments may appear overwhelming, especially since dynamics are potentially different in each session depending on a multitude of factors both planned and serendipitous, involving personal, pedagogical and technical aspects. However, judging from feedback here, and given appropriate skills, attitudes and training, this multimodal conferencing offers opportunities for language learning and teaching well beyond those offered in traditional classrooms and text-based CMC, provided that all participants understand that online communication is not the same as face-to-face and that in order to obtain maximum benefit from the online experience, it is necessary to learn to communicate optimally within the environment (see also Bates 1997, Wick 1997).

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