

Multiplying modalities: Opening up the fourth dimension to the online learner

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Computer-mediated communication in educational settings has come a long way in the last decade, culminating in pedagogically sound communities of inquiry. However, oral activities (the fourth dimension) are still conspicuously absent in these environments, and students' complaints about this usually head the list of disadvantages associated with Web-based language learning (Felix, 2001). Addressing this problem, practitioners have begun to incorporate sophisticated audio-based applications in the form of voiced bulletin boards (Wimba), voiced chats (Traveler) and audiographics (Lyceum). This paper explores what these applications have to offer in the context of creating meaningful social constructivist activities in online language education and their potential role in addressing the fundamental problem of performance anxiety in language learning. The paper provides practical examples of establishing contexts for communities of enquiry in which participants move between real and imaginary worlds and are engaged in authentic tasks and interactions

Keywords

Online language learning, audiographics, synchronous voiced chats, virtual worlds, language anxiety,

Experienced language teachers know that it can be difficult to motivate some students to speak in class. Speaking often remains the least accomplished of the four language skills, especially in older students and those who have never spent any time in the target language country. One of the reasons for this is that the development of oral skills carries a high level of ego involvement, especially when students feel exposed in front of an entire class, and that "in conditions of high ego involvement, anxiety has typically been found to interfere with performance" (Sinclair, 1971, p. 96). While findings of the effects of anxiety on language learning in particular are equivo-

cal, though leaning towards a negative effect, the presence of anxiety in speaking a foreign language in public is well documented (Horwitz & Young, 1991). The phenomenon of “linguistic avoidance” is especially often observed during oral exams when anxious students avoid certain linguistic structures and topics (Kleinmann, 1977; Steinberg & Horwitz, 1986). A study comparing tertiary and secondary students’ perceptions (Felix, 2004) of Web-based language learning supports the notion that older students tend to be more inhibited when it comes to performing with inadequate language skills.

A question of interest in online language teaching is whether anonymous environments might improve this situation by making students feel less anxious. Since there is no specific research on this topic as yet, it is useful to look at other environments where synchronous and asynchronous communications have been used in educational settings, albeit in written form.

...some types of trainees who do not do well in spontaneous spoken interaction (e.g. students who are shy, reflective and more comfortable with emotional distance) find that asynchronous, text-based communication better fits their learning style. For this person informal written communication via computer conferencing is often more authentic than face-to-face verbal exchange...(Dede, 1996, p. 17)

A striking example of the benefits of anonymity on an otherwise reticent and anxious student was reported by Freeman and Capper (1999). In this postgraduate business course, in which students chose an alias to conduct class business exclusively online, a very shy female student of Muslim background transformed herself into a powerful contributor to the group under the pseudonym of the Australian Prime Minister. Although an extreme example, it suggests that the simultaneous freedom of making mistakes in a safe environment and the pseudo authenticity of the task may well have a salutary effect, a speculation supported by Roberts, Smith and Pollock (1996), Collins and Berge (1996) and Drake et al (2000). It has been noted, though, that learners participating in these environments may also display negative disinhibitions in the form of “flaming”, hurling insults they would never use face-to-face (Sproull & Kiesler, 1991, quoted in Dede, 1996, p. 27). This highlights the need for clear guidelines about possible consequences of inappropriate communications, outlined in Kollock and Smith (1996).

Benefits specifically related to language learning of computer assisted classroom discussions (CACD), as repeatedly singled out in the literature, are listed in an excellent article by Ortega (1997, p. 83):

- *Learners are able to contribute as much as they want at their own pace and leisure; consequently, they tend to perceive CACD as less threatening and inhibiting than oral interactions and produce a high amount of writing, with all students participating to a high degree and all producing several turns/messages per session.*
- *Because of the interactive nature of the writing, learners are expected to engage in a variety of interactive moves on the computer and to take control of managing the discussion.*

- *Learners make use of the available opportunity to take time to plan their messages and edit them. In this way they engage in productive L2 strategies and processes.*
- *Learners have exposure to a substantial amount of comprehensible input which is produced by peers of a similar level and shared background.*
- *Learners get a considerable amount of reading practice in addition to writing practice. Because of at least two tasks (writing and reading) competing for the learner's investment, reading skills practiced may tend to be holistic (reading for the gist) and meaning-driven. In addition, learners are expected to be motivated to read because of an authentic sense of interactive audience provided by CACD.*

While the above refers to asynchronous communications which tend to foster writing and reading skills, synchronous chat applications have been upheld as contributing to the development of oral language skills. Sotillo (2000) and Smith (2003) point out that interactional modifications in chat discourse are similar to those in face-to-face settings, and Negretti (1999) claims that the conversational features displayed in text chat communications help with the acquisition of oral language skills. Tudini (2004), who investigated the impact of chat communications on language acquisition in a beginners' Italian class concluded that while chatting cannot replace the physical aspects of oral discourse such as pronunciation and other non-verbal features, it appeared to offer an optimal learning environment, mainly because of the learners' noticing of errors, negotiations and modified output. Advantages similar to those observed by Ortega above have been reported by Kern (1995) and Pelletieri (2000) who emphasise the salutary effect of viewing the language while it is produced and reviewing chat logs after sessions.

In this context can we speculate that adding audio facilities to such resources might have similar or even greater benefits? In the absence of rigorous research we cannot make any claims here, but what is clearly the case is that the conditions for reading and writing hold. Whether the addition of speaking and listening interferes or enhances aspects of language acquisition remains to be tested.

The purpose of this paper is to discuss three innovative resources which allow speaking online in attractive virtual settings and under user-friendly conditions. Our aim is to demonstrate the potential of these for setting up social constructivist activities and communities of enquiry in a non-threatening environment in which students might be less inhibited to express themselves orally than in traditional face-to-face settings. Before looking at the tools *per se*, we will briefly discuss what is meant by *social constructivism* and *community of enquiry*.

The Theories

Social Constructivism

During the last decades there has been a move away from theories favouring instructivist approaches to constructivist ones, engaging students in problem solving, situated learning and co-operative activities. Interestingly this move does not reflect radically new philosophies in teaching but sees us returning the pendulum once again to progressive methods

(see Windshitl, 2002; Bain, 2003), reflecting the theories of Vygotsky (1978), Dewey (1963) and Leont'ev (1978) who emphasise interpersonal, experiential, activity-based learning. It is important, though, to point out that the plethora of learning theories is so varied, and in some cases overlapping, that it would be naïve to suggest a black and white divide into strictly opposing schools of thought (Duffy & Cunningham, 1996; Goodyear, 2002). Furthermore, constructivism itself contains several different conceptual and philosophical paradigms, with the two major schools of thought representing cognitive constructivism on the one hand, and social constructivism on the other. Perhaps the most significant, yet still fairly simplistic difference between exponents of cognitive and social constructivist approaches is that the former focus on the individual in the group, believing that cognition occurs in the head of the individual, whereas the latter emphasise the socially and culturally situated context of cognition, in which knowledge is constructed in shared endeavours (Duffy & Cunningham, 1996).

Community of Enquiry

Foremost in the debate on how to optimise and operationalise e-learning in social constructivist settings are Garrison and Anderson (2003). They identify the following key elements for establishing successful computer-mediated communication in what is now often referred to as a *community of enquiry* (see Figure. 1).

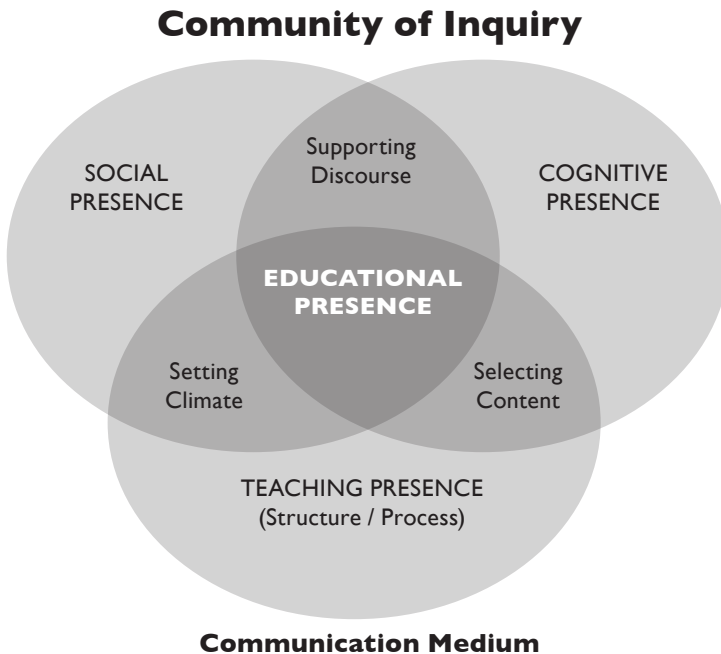


Figure 1. From Garrison and Anderson (2003, p. 28)

It is interesting that Garrison and Anderson assign equal and mutually reinforcing importance to *cognitive*, *social* and *teaching* presence in the process of achieving a meaningful educational experience when all too often in the past *teaching presence* was conspicuously minimised. They define cognitive presence as a "condition of higher-order thinking and learning, [...] largely derivative of Dewey's (1933) work on reflective thinking" (Garrison & Anderson, 2003, p. 28). Social presence is defined as the participants' ability "to project themselves socially and emotionally, as 'real' people (i.e., their full personality) through the medium of communication being used" (Garrison, Anderson and Archer 2000, p. 94). In the context of this paper, the present author would add that social presence might equally be achieved through the use of aliases. Teaching presence is defined as "the design, facilitation and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes" (Garrison & Anderson, 2003, p. 29). This is not to say that these authors suggest returning to an instructivist model, but that successful communities of enquiry need careful and unobtrusive facilitation. Anyone with practical experience as a learner or teacher in computer-mediated environments will testify to that.

The Tools

Wimba

Wimba, a voiced threaded bulletin board, which enables students to engage in listening, speaking, reading and writing, provides excellent potential for creating sound social constructivist activities. Rather than using this very user-friendly application for traditional pronunciation practice, it could be used for creative information gap exercises, mystery games, the creation of interactive stories, reorganising mismatched oral and written cues, and sophisticated collaborative projects, depending on the imagination of the teacher and relative proficiency of participating students. Involving students in the setting up of tasks and exercises may also be of great benefit, not only because it may render the tasks more meaningful to participants, but also to lighten the burden of time that falls on the tutor. Looking back at Garrison and Anderson's model (Fig. 1), it goes without saying that time (for both tutors and students) needs to be managed very carefully (see also Felix, 2003).

A welcome feature of *Wimba* is that it can be customized to match the look and feel of existing online courses (it is also WebCT compatible). In our own online German course *Hilde's Hexenwelt* (representing a witch's world) we have incorporated the *Hexe Hilde* character into *Wimba* to retain consistency of the witch *Hilde* as companion, tutor, correspondent or conversation partner (see Fig. 2).

An excellent aspect of *Wimba* is that it also contains a facility for sending voiced emails, which offers opportunities for private communications between teacher and students and between the students themselves. Students, therefore, can be given various options for oral communication: publicly or anonymously via the bulletin board, or via email, or through any chosen combination. The fact that voices might be recognised may be a slight obstacle to real anonymity, but it is not too hard to disguise a voice somewhat, especially if one's chosen identity is *bear* or *magician*, and the possible benefits of simply adopting an alias has long been observed in experimental language classes in face-to-face settings (Felix, 1989).



Figure 2. Customized version of Wimba in a German course

Benefits of private communications in the context of monitoring proficiency and providing corrections are discussed in Hauck and Hampel (2004).

The greatest strength of *Wimba* is its simplicity of use. All that students need is a sound card in their computer, a microphone and minimal instructions on how to use the facility which can be run from the *Wimba* server or installed on a dedicated local server. Sound quality varies according to the sophistication of both, but in general a fairly recent PC with a relatively good microphone seems to suffice. It is important to point out, though, that sound quality does not match the quality of RealAudio; it uses the same compression format as mobile phones. Still, the flexibility of the resource for creative activities more than compensates for the difference.

While we have not yet carried out rigorous tests on the impact of this resource on students oral production skills, our extensive observations of students of all ages using *Wimba* confirm that they feel at ease and confident in attempting quite complicated oral activities. They appear particularly impressed with the email facility which allows them to speak and write to friends and peers in a familiar environment (all had used email before).

Traveler

Much higher quality of sound is offered in the synchronous voiced chat *Traveler*. This very ambitious site offers state-of-the-art avatars (Figures 3 and 4) through which to communicate either at a set time with other class members and planted native speakers or with

anyone who happens to be in the chat at the time. For the teaching of ESL the latter may be motivating and useful, albeit only at a fairly high level of proficiency, since common users tend to be native speakers of English. *Traveler* is not as user-friendly as *Wimba*. To set it up may require liaison with network personnel where firewalls exist.

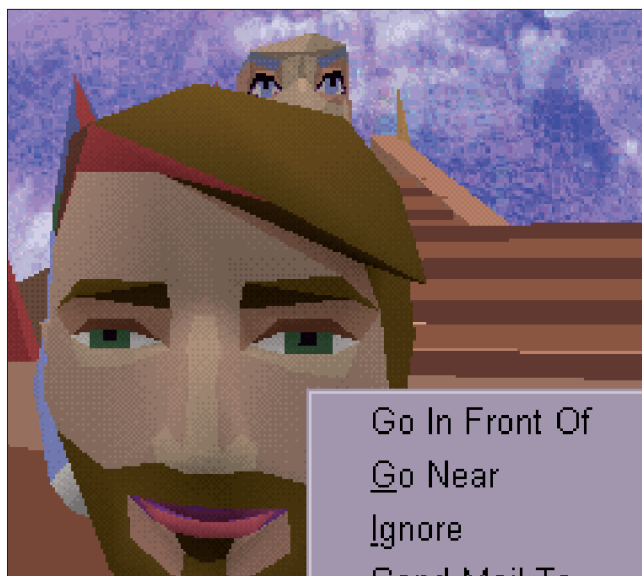


Figure 3. Traveler customizable avatar

Synchronous resources represent very challenging language learning environments, of course. While they offer learners the possibility of anonymity and the opportunity to make mistakes in an unthreatening and entertaining environment, they pose several serious problems that need to be addressed by teachers before embarking on activities. First of all, there is the claim that synchronous communications can restrict students (Berge, 1999). This is especially true with learners of another language at lower levels of proficiency. While the environment may well be anonymous, it does not allow for the luxury of careful composing, reflection and multiple re-recording of the asynchronous *Wimba*. Rather than throwing students into such an environment at the deep end, a clear need for its use has to be established. The advantage that *Traveler* offers over *Wimba* is that it provides authenticity both of task and setting. While *Wimba* lends itself well to structured *learning* activities, *Traveler* offers opportunities for risk-taking and unplanned communication with native speakers under real-life speaking conditions, dealing with authentic information gaps. The price to pay for this authenticity, however, can sometimes be inappropriate and unwanted communications generated by dubious anonymous characters, seriously compromising Kollok and Smith's (1996) proviso of a clearly defined group boundary in successful management of collective resources. While adults may cope with such intrusions easily enough, in school environments negotiation of a private channel may be advisable. This will reduce

authenticity but allow for well planned, small group interaction around a set task, say a debate or a short play, to which native speakers might be invited as contributors, monitors or arbitrators. An idea for using both applications for different purposes with students of moderate proficiency (*Traveler* is not really suited for beginners) would be to produce an interactive story or play on *Wimba* and then act it out in *Traveler*. For students with higher levels of proficiency much more sophisticated projects might be attempted, such as setting up a radio station, where internal communications take place on *Wimba* and broadcasts are carried out on *Traveler*.



Figure 4. Traveler environment

Lyceum

Lyceum is an audio-graphic resource, produced and used in-house at the British Open University. It is somewhat similar to NetMeeting and CU-See Me but does not include video conferencing. The reasons typically illustrate the altered instructional design paths taken by a group which includes active users of the resource. It was found that a video facility did not enhance group discussion, that students found the distortions of gestures and expressions distracting, and that screen management with groups of 15 students was very difficult (Hampel & Baber, 2003). The present author would add that the attractions of creating real information gaps and allowing students to choose anonymity far outweigh seeing a distorted moving image of the interlocutor. That is not to say that the inclusion of video may not be useful in other settings. I was recently contacted by a PhD student from Israel who is researching the topic of using ICT and English to "build bridges between Arabs and Jews in the Middle East" and who believes that the addition of video will be very useful indeed.

Lyceum has a very user-friendly and attractive interface (see Figures 5 and 6), through which students in various locations can communicate synchronously both orally and through text and graphical material. It is generally used for tutorial purposes in a variety of subjects and lends itself perfectly to project-based and collaborative work. The resource includes a text chat, a whiteboard, a browser, a document module and a collaborative concept map, by means of which users can discuss concepts and indicate links between them. This facility can be used for brainstorming, listing themes and important points related to a particular topic being discussed or clarifying difficult material.

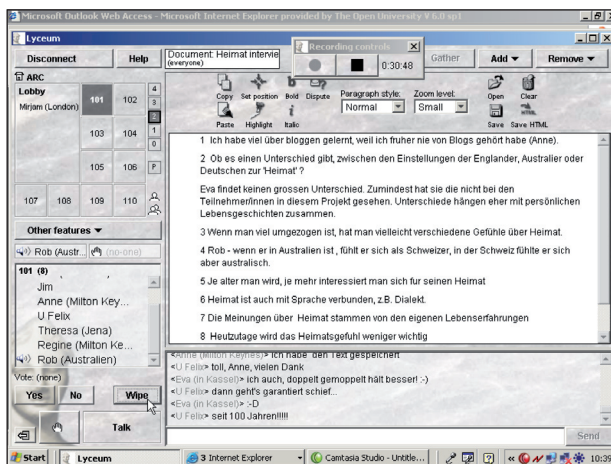


Figure 5. Lyceum (concept map) in use in a German tutorial

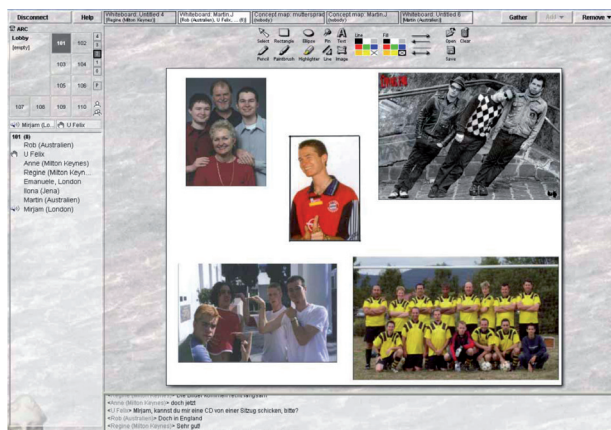


Figure 6. Lyceum (whiteboard) in use in a German tutorial

We are currently using *Lyceum* in an ARC-funded international linkage project in collaboration with colleagues at the British Open University (see Appendix). In this 12 week project students enrolled in advanced German at Monash and at the British Open University are assigned to groups of three to four, each containing at least one native speaker informant based in Germany. The students work collaboratively on the topic of *Identities in Contemporary Germany*, with the goal of producing a joint final piece of work in the shape of their own choice posted on a collaborative blog. Although students receive a set task to complete every two weeks, they have a great deal of freedom to interpret the outcome of that task. Groups are encouraged to use all the tools available in *Lyceum*, i.e. post ideas, photos or graphics on the document module, exchange views using the concept map and look at Web-based sound and video materials together through the browser function. They are also encouraged to meet as often as they wish outside the scheduled tutor facilitated 2-weekly sessions.

What has been observed in the trials so far is that the multimodal nature of this versatile resource appeals to students a great deal. In contrast to face-to-face tutorials or traditional distance learning, they have the freedom of choice to move from speaking to writing, to listening, to reading, to multi-tasking as and when they see fit. It is interesting to observe the different approaches students take according to their own learning style and strategy preferences. In one of our training sessions this author noticed two of her own students starting up a sophisticated written exchange in the text chat while the newer participants familiarised themselves with the speaking function and some of the 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 saw. The fact that they were able to speak, write, listen and take note of what was posted on the various document tools demonstrates that a seemingly chaotic environment such as this can indeed be used most constructively.

However, it is important to remember that metacognitive skills and knowledge cannot be assumed in all students working with these resources, an observation supported by Benson and Voller (1997), Chan (2001) and Hauck (2003). It is often necessary to train participants in *learning how to learn* in such challenging environments which strongly supports Garrison and Anderson's (2003) emphasis on teaching presence. Hauck (2003) suggests the integration of systematic training in metacognitive skills in collaborative online project work. However, it is interesting to observe that the students themselves tend to help each other, again pointing to a potential time saving. In a previous project this author observed mature aged students teaching their younger partners appropriate learning skills while the latter helped the older students with IT skills

The Role of the Tutor

Naturally the role of the tutor needs careful consideration in these environments. While much has been written on the tutor becoming a facilitator rather than a transmitter of information, the teaching of oral language skills presents unique challenges for online tutors. Finding the right balance between allowing students to make errors in a safe and unthreatening setting and attending to reducing these errors has been the subject of much debate (Shield & Hewer, 1999, Felix, 2002; Shield & Hassan, 2003; Hauck & Hampel, 2004). It is

refreshing, therefore, to see Garrison and Anderson's (2003) inclusion of structure and direct instruction in their model of a successful community of enquiry. A great advantage of the multimodality of these tools, in particular in the case of *Wimba* and *Lyceum*, is their potential for differential communication modes for specific purposes. In contrast to face-to-face settings, tutors have a greater range to deal immediately with individual students' problems. Moreover, as mentioned above, they have the choice between private and public communications which is most useful for error corrections if that is something that students are particularly wanting. (In our experience this varies from student to student and from group to group.)

In each learning event it is important to establish the goal to be achieved, and participating students should ideally participate in the negotiation of this. Using an environment like *Traveler* hardly lends itself to the achievement of accuracy – constant corrections of grammar or pronunciation would not only seriously interrupt communication and fluency but also compromise the positive aspects of authenticity and anonymity. While we have seen mature-aged distance students complain about the absence of a focus on form in an online collaborative project (Shield & Hassan, 2003), this author is inclined to agree with Shneiderman (1994) who believes that the majority of students prefer to create, communicate, build, explore, discover and collaborate than engage in drill and practice, acquiring facts or accessing information. However, an asynchronous tool such as *Wimba* lends itself perfectly to careful reflection on form if accuracy is part of the goal to be achieved.

The biggest challenge for language teachers, of course, is how to assess students' achievement in these endeavours, a problem beyond the scope of this paper. Suffice it to say that at the very least the nature of the assessment has to match the nature of the task and that in collaborative project work assessment needs to be continuous and cover processes as well as outcomes (see Felix 2003 for a more detailed discussion).

Conclusion

There is no doubt that the innovative resources discussed here provide opportunities for creative teachers to set up meaningful social constructivist (oral) activities and communities of enquiry at all levels of proficiency. A powerful additional feature of these environments is that they allow students to choose their preferred mode of communication, to select anonymity or public exposure, and to move freely between real and imaginary worlds, which not only caters for different learning styles and preferences but also offers real opportunities for addressing the problem of performance anxiety.

...participants in synthetic environments often feel as if the machine-based agents they encounter are real human beings, an illustration of the general principle that users tend to anthropomorphize information technologies (Weitzenbaum, 1976). As a complement to responding to knowbots as if they were human, participants in a virtual world interacting via avatars tend to treat each other as imaginary beings. (Dede, 1996, p. 26)

Naturally in all these endeavours it is important that the technology does not dominate the learning experience but remains in the background in the shape of one of many tools at

the disposal of both teachers and students, used for the unique potential it offers in different settings and in catering for different learning needs. The goal must not be to replicate or simulate what can be done in the natural classroom but to maximise the potential for student engagement in a non-threatening climate. It goes without saying that teaching presence, while unobtrusive, is vastly more complex in these environments than in face-to-face settings.

We have here only begun to explore the role of voiced synchronous and asynchronous applications for reducing performance anxiety in oral language acquisition but hope to have provided an impetus for systematic research in this important but hitherto unexplored field.

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Appendix: *Identities in Contemporary Germany* project

<p><i>INDEX</i> <i>Introduction</i></p> <p><i>Schedule</i></p> <p><i>Some useful resources</i></p> <p><i>Contact the ARC team!</i></p> <p><i>Page last updated: 3rd May, 2004</i></p>	<p>IDENTITY IN CONTEMPORARY GERMANY</p> <p>In this project, we will be comparing our own British, German and Australian notions of identity and using different conferencing and publishing tools to discuss what we mean by Heimat. You will get the chance to:</p> <ul style="list-style-type: none">• exchange ideas in large and smaller groups• find out more about your colleagues• interview the German participants• work on a group blog which will be posted to a website. <p>Tasks</p> <p>Your tasks for the project will not be revealed all at once. You will need to visit this website regularly to find out what your next activity is! As each new piece of information becomes available, you will be able to access it by clicking on the link from the Schedule page.</p> <p>Resources</p> <p>We have identified some resources that you may find useful when taking part in the activities. These include lists of German words and phrases that can be used in discussions, computer-related vocabulary and information about searching for information on the Web. You can read these documents online or download and print them out.</p>
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Since we would like to collect information from you about taking part in the project, we will also be using the resources page to provide links to questionnaires. You will be able to download these questionnaires and complete them at your leisure using your word-processing programme. You can then send the completed questionnaire back to the project team by clicking on the link to the ARC Mailbox on the left of this screen and attaching the completed questionnaire to your message.

The ARC Mailbox

If you have any questions or comments about the project, please click on the link to the ARC mailbox on the left of the page. This will automatically open a new message addressed to the ARC team.

Tools

You will talk to each other using the audiographics tool, Lyceum. Don't forget that Lyceum is available 24 hours a day, 7 days a week, so if you want to talk to members of your group outside scheduled meeting times, you can do so. Simply arrange with them when you want to meet - you can do that while you're using Lyceum or you can send email to each other.

As well as Lyceum, we will be asking each group to use a publicly-available blogging tool. The contents of your group's blog will not be available to the other group immediately, but we will eventually make live the link to each blog so that you can compare your experiences and ideas.

We hope you enjoy taking part in *Identity in Contemporary Germany!*
Jim Coleman, Uschi Felix, Mirjam Hauck, Regine Hampel & Lesley Shield
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- Hilde's Hexenwelt <http://www.arts.monash.edu.au/affiliates/hexe-hilde/>
- Lyceum <http://www.open.ac.uk>
- Traveler <http://www.digitalspace.com/traveler/>
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All websites cited were verified on 4.6.2005

Notes

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Another version of the paper was given by invitation at the 10th International Colloquium on Foreign Language Teaching at Limerick University, Ireland.

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