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Rethinking task design for the digital age: A framework for language teaching and learning in a synchronous online environment

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Abstract

This article discusses a framework for the development of tasks in a synchronous online environment used for language learning and teaching. It shows how a theoretical approach based on second language acquisition (SLA) principles, sociocultural and constructivist theories, and concepts taken from research on multimodality and new literacies, can influence the design and implementation of tasks for computer-mediated communication (CMC). The findings are based on a study conducted at the Open University, a study which examined all three levels of theory, design and implementation. The paper first presents the underlying theories in more detail before examining how these theories are translated into the design of tasks for language tutorials via an audio-graphic conferencing tool. Finally it looks at how the design was implemented in practice by focusing on a number of issues such as student–student and student–tutor interaction, feedback, use of multimodal tools, and the differences between teaching face-to-face and online.

1 Introduction

1.1 Task design in computer-assisted language learning and CMC

In 1997, Furstenberg pointed to the usefulness of technology in foreign language teaching. In her view, it provides "an extraordinary context of authentic cultural background and historical information" as well as allowing "the learner to make choices and thus provides autonomy, a sense of empowerment, and the opportunity to become an active participant in language learning" (Furstenberg, 1997: 22). She stresses that technology should not be seen as a panacea for language learning and teaching but as a tool that needs to be used appropriately. For her, the interactive, collaborative, and

process-oriented features of technology represent its best assets, assets which, however, necessitate the development of new pedagogical practices. She calls for tasks that foster students' creativity and stresses the need for them to be appropriate to the medium used, exploiting its nature. Furstenberg concludes on the basis of these deliberations: "Our main role, then, is to design tasks" (*op. cit.*: 24).

In the area of computer-assisted language learning (CALL) much has been done in the ensuing years to follow this call and there are many examples of good practice (e.g. Cameron, 1999a, 1999b; Debski & Levy, 1999; Felix, 2001). At the same time, however, technology has moved on from CALL to computer-mediated communication (CMC), and we can now make use of networked, Internet-based applications that not only present learners with information in various modes (visual, audio, and verbal/textual), but also require learners to engage in productive tasks and activities in a variety of modes. These environments can include synchronous and asynchronous methods of student collaboration, and they employ video, images, sound, and text for both the presentation and the negotiation of information (Chun & Plass, 2000: 152).

Although these modes are gradually approaching those available in a conventional face-to-face classroom (written text, images, audio and video), the computer medium in terms of its materiality is different from the resources used in a face-to-face setting and task design needs to take account of this.

Yet even today, the large majority of studies of CMC – which are mostly concerned with the examination of written forms of communication and collaboration – deal with task design only tangentially and teachers frequently transfer tasks used in face-to-face settings to online environments without adapting them to the new setting. Svensson (2004) calls this the 'you do what you did before' approach where "traditional classrooms are often virtualized, with their 'old' structures", instead of, as Chapelle (2003:135) points out, expanding the scope of this basic approach to task theory – which has been developed directly from research on face-to-face tasks in the classroom – "beyond the types of tasks that have been examined in the past to the types of CALL tasks of interest to teachers and learners today." So the central focus of this article is on the one hand to examine what can be learnt from existing theories about tasks in face-to-face classrooms and applied to CMC and on the other hand to explore how tasks that are appropriate to a multimodal virtual environment can be devised.

1.2 Study of CMC learning tasks

In order to find out more about the kind of tasks that are appropriate to such an online environment, a study was set up at the Open University in 2003. It examined the design and implementation of tutorial tasks in a level 2 and a level 3 course (i.e. post A-level) for a synchronous audio-graphic environment called Lyceum, which has been used for the delivery of online tutorials in distance language courses at the Open University since 2002 (see Hampel, 2003; Hampel & Hauck, 2004; Hauck & Hampel, 2005). Lyceum is an Internet-based application, which allows learners to interact synchronously using a range of modes which include audio, writing and graphics. Apart from the voicebox, there is a whiteboard which allows users to write, draw and import images (as well as text) from anywhere on their computer (including the World Wide Web), a concept map for writing and organizing information, a document which works like a simple word

processor, and a text chat facility for written interaction (for more information on Lyceum and other audiographic environments see Hampel & Baber, 2003). This technology creates a multimodal environment for learners which – although seemingly offering similar modes of communication to a conventional face-to-face classroom – has very different affordances, that is, possibilities as well as limitations, which have an impact on its use.

This article is based on the experience of a team of designers (one of whom is the author of this article), who created the tasks for use in the virtual classroom by a number of different tutors. Data about how the tasks worked in practice was collected employing mainly qualitative measures, namely tutorial observation and recordings as well as tutor logbooks, questionnaires and interviews. Thus the dimension of task design was compared with that of task implementation in actual tutorials; how the tutors handled the tasks and whether their desired objectives were achieved was also examined. The focus was mainly on issues such as student–student and student-tutor interaction, input and output, and feedback, as well as on how the multimodal environment was used in practice.

2   A three-level approach to task development

The design process, as well as the evaluation of the design, follows a three level approach based on Richards and Rodgers (2001) that consists of approach, design and procedure. They use this model to describe different teaching methods in language teaching and explain the three levels as follows:

- "*Approach* refers to theories about the nature of language and language learning" (*op.cit.*: 20);
- "*Design* is the level of method analysis in which we consider (*a*) what the objectives of a method are; (*b*) […] the syllabus model the method incorporates; (*c*) the types of learning tasks and teaching activities the method advocates; (*d*) the roles of learners; (*e*) the roles of teachers; and (*f*) the role in instructional materials" (*op.cit.*: 24);
- Procedure, finally, "encompasses the actual moment-to-moment techniques, practices, and behaviours that operate in teaching a language according to a particular method." (*op.cit.*: 31) It is thus the 'practical realization' of the method".

Hubbard (1992) and Levy (1999) apply this model to inform their methodological framework for CALL, thus recognizing the importance of theory – "because it can provide a direction for research and development and a basis upon which to evaluate designs to see if they work or not" (Levy, 1999: 94). I would like to argue that this model can also inform our work with CMC (see Table 1), and this paper suggests a range of theories to approach the design process, discusses a number of different aspects of the design and examines the procedure of implementation.

Under the heading 'approach', this article focuses on theories about the nature of online (language) learning. While SLA theories and sociocultural principles used to be seen as diametrically opposed, researchers have recently started to consider them

Table 1. *Three-level design and implementation process for online tasks*

Approach	SLA theories Sociocultural principles Affordances of online environment
Design	Function of tasks within course Syllabus Type of tasks Learner/tutor roles
Procedure	Implementation in the classroom

alongside one another and stress their complementarity (Block, 2003; Ellis, 2000, 2003). However, as the context here is online language learning, it is also necessary to take into account the online medium of the computer with the multiple modes the audiographic environment allows and their possibilities and constraints. 'Design' refers to the courses that the tasks are embedded in, the type of tasks used as well as their role in these courses, and the assumptions about what roles students and teachers are likely to play in the learning process. 'Procedure' finally examines how the tasks are implemented in the virtual 'classroom', taking into account the resources used by the teacher, the interaction that takes place, and strategies used by both teachers and learners.

It is important to note that this model does not depict a one-off process but an iterative one, with the approach influencing not only the design and implementation, but also the experience gathered in the evaluation of these in turn impacting on the approach.

3 Approach

3.1 Second language acquisition

SLA theories have been heavily influenced by psycholinguistic research. According to Ellis's useful overview of recently published psycholinguistic research, this approach is based on a perspective which sees a task as a device that guides learners to engage in certain types of information-processing that are believed to be important for effective language use and/or for language acquisition from some theoretical standpoint. This perspective is predictive, and, in some cases, deterministic. That is, it assumes that there are properties in a task that will predispose, even induce, learners to engage in certain types of language use and mental processing that are beneficial to acquisition. (Ellis, 2000: 197, see also 2003)

One of these properties is the opportunity for the negotiation of meaning when interacting with another person or a text. "A crucial site for language development is interaction between learners and other speakers, especially, but not only, between learners and more proficient speakers and between learners and certain types of written texts, especially elaborated ones" (Long and Robinson 1998,: 22). On the basis of this 'Interaction Hypothesis', different task features have been identified (by e.g. Pica, Kanagy & Falodun, 1993). These features are likely to have a positive effect "on the

quantity of meaning negotiation likely to take place" and Ellis outlines them as follows:

- information exchange required
- two-way information gap
- closed outcome
- non-familiar task
- human/ethical topic
- narrative discourse (vs. description/expository)
- context-free, involving detailed information (Ellis 2000: 200).

This has given rise to a definition of task which has been widely advocated by a number of researchers (see, e.g., Nunan 1989: 10; Skehan 1998a: 95; Skehan 1998b: 268; Yule 1997) and which Klapper (2003: 35) summarizes as follows:

> Tasks […] are meaning-based activities closely related to learners' actual communicative needs and with some real-world relationship, in which learners have to achieve a genuine outcome (solve a problem, reach a consensus, complete a puzzle, play a game, etc.) and in which effective completion of the tasks is accorded priority.

3.2 Sociocultural theories

As Lave and Wenger (1991: 47) point out, "conventional explanations view learning as a process by which a learner internalizes knowledge, whether 'discovered,' transmitted' from others, or 'experienced in interaction' with others. This focus on internalization […] leave[s] the nature of the learner, of the world, and of their relations unexplored". So the psycholinguistic approach to tasks fails to uncover a number of factors which also contribute to the success or failure of a given task. In our context of classroom learning, these are setting the role of the teacher, and the nature of the environment. We therefore need to turn to a second perspective on tasks to complement the first, psycholinguistic one, namely the sociocultural perspective. This is based on the notion "that participants always co-construct the activity they engage in, in accordance with their own socio-history and locally determined goals" (Ellis, 2000: 208). Thus learning arises not through but in interaction.

This exemplifies a general development in SLA that started in the 1990s, a development which Block (2003) terms the 'social turn' in second language acquisition. This new take on SLA is an interdisciplinary and socially informed approach and rejects "a narrowly framed SLA whereby an overly technical model of interaction predominates […] in favour of a broader frame that integrates this narrow approach into a broader sociolinguistically driven model which can account for some of the less easily defined characteristics of communication." (Block, 2003: 4)

The growing importance of the social in language learning has been influenced by developments in psychology, where "we seem to be in the midst of multiple efforts to merge the social and cognitive, treating them as essential aspects of one another rather than as dimly sketched background or context for a dominantly cognitive or dominantly social science." (Resnick 1991: 3). Wertsch (1991: 86) summarizes the sociocultural approach to mind as follows:

a view that seeks to encourage a fundamental compatibility between the analysis of psychological processes on the one hand and the two types of social situatedness on the other. The basic tenet of a sociocultural approach to mind is that human mental functioning is inherently situated in social interactional, cultural, institutional, and historical context. Such a tenet contrasts with approaches that assume, implicitly or explicitly, that it is possible to examine mental processes such as thinking or memory independently of the sociocultural setting in which individuals and groups function.

This approach that sees human mental functioning as socially situated goes back to the work of a number of Russian researchers – among them L.S. Vygotsky – in the 1920s and 30s. Examining the role of interaction in children's learning, Vygotsky (1978: 86) showed, for example, that problem-solving under adult guidance or in collaboration with more capable peers contributes to learning more than independent problem-solving. Although Vygotsky dealt with children's learning and development, it is now widely accepted that these ideas can be applied to second language development and adult learners (e.g. Oxford, 1997; Warschauer, 1997; Levy, 1998). For them, too, learning occurs in a social context, and interaction between adult learners and their peers is a necessary part of the learning process (see Dalgarno, 2001: 185).

We therefore need to add another element to our definition of task (see section 3.1), that is, collaboration with other learners. Meskill (1999) thus talks about sociocollaborative learning tasks, which she bases on Cohen's (1994) 'multiple ability tasks'. Apart from driving conceptual work, these are active, participatory and meaning-centred. They value "various perspectives – more than one way of seeing and solving a problem – and differing sorts of contributions on the part of learners [which] are particularly relevant for heterogeneous language classrooms representing a range of cultures and social educational strata" (Meskill, 1999: 145). These tasks

- provide ample opportunities for differing perspectives and opinions, for controversy, disagreement, resolution, and consensus building;
- motivate active participation and interaction by having no one single answer or process to employ in accomplishing them;
- offer some form of problem-solving (something for which computers are particularly well suited);
- designate roles for individual learners and teams to take on as they engage in these processes, helping situate learners within a community of participants;
- and include a motivated awareness of the forms and functions of language used. (Meskill, 1999: 146)

3.3 Medium, modes and affordances

While most of the psycholinguistic demands of effective tasks can be fulfilled by individual learners interacting with a text (written or spoken) or a CALL program, sociocultural and constructivist principles could in the past only be implemented in the classroom or in other face-to-face encounters or possibly within a small group of learners in front of a computer. However, since the arrival of computer networks, it is possible for learners to work together collaboratively *via* the computer.

For a number of years, online learners have been able to communicate through the written mode asynchronously and synchronously; with the advent of audio conferencing, communication is now also possible through the spoken mode. Multimodal learning environments have been developed which enable us to use a multiplicity of modes and, for example, combine audio, text and graphics. Yet the availability of this multiplicity of modes with the new media should not lead us to the conclusion that we can now replicate in CMC what we do in the face-to-face classroom. The materiality of the resources in question – the traditional classroom in the face-to-face setting, and in CMC the computer conference – has an impact on what the different modes offer us. As Levy (1999: 84) observes, "the hardware and the software development tools that are employed exert a wide-ranging influence on design". Therefore, an easy (and cheap) transposition of face-to-face tasks to a virtual environment is not possible; instead, we have to ensure that tasks are appropriate to the medium used and that we develop tasks that take into account the affordances (i.e. the constraints and possibilities for making meaning) of the modes available.

Consequently, the features of effective computer-supported tasks described by Meskill (see section 3.2) are necessary but not sufficient. In contrast, Doughty and Long (2003: 50) try to take account of the medium by paying "special attention to the use of technology" to realize a number of methodological principles for task-based language teaching (TBLT). While their paper is useful insofar as it takes into account the affordances of the different media and identifies exemplary CALL applications that can best support these principles, it is restricted to research on TBLT for CALL and only touches on CMC. In the context of the principle of elaborate input, they observe that although CMC fosters interaction, online interaction in larger groups is not automatically beneficial for SLA – in text chat, for example, the way contributions appear has an impact on turn-taking. Therefore task design has to provide for this and, for example, make sure that CMC discussion is limited to two learners and that the task goals are clear (Doughty & Long, 2003: 62).

In the context of written CMC, much research has been done on the impact of the materiality of the computer resources on the modes available and the affordances of these modes. Peterson (1997: 35–36) gives a useful list of positive and negative effects of written online conferencing, effects which are the consequence of the computer medium, the mode of writing, and the synchronicity or ascynchronicity of the communication. He contrasts, for example, the opportunity for reflection before responding with the loss of impetus to rely in asynchronous conferencing. While synchronous conferencing allows for immediate response, users can suffer from technostress; and although it provides users with the opportunity for more authentic dialogue, it can require a skilled moderator to facilitate or control dialogue. He also points to the removal of time-distance constraints one the one hand versus 'contextual deprivation' on the other.

A synchronous audiographic environment like Lyceum with its written, spoken and graphic modes might resemble a face-to-face setting more than an asynchronous written environment but the materiality of the resources and the affordances of the modes still have a significant impact on interaction and communication. The following list gives some examples of the affordances of Lyceum:

- joint production of texts and images;
- online connection allows users to import text or images from the World Wide Web;
- texts and images can be saved;
- simultaneity of certain modes (e.g. audio and text chat)
- no privileges inbuilt into software for tutors: all participants have equal rights, at least technically;
- existence of sub-conferences (which can be used for group work);
- lack of body language: consequences for turn-taking, for socialization and community building;

These factors have to be taken into account when developing tasks and when implementing them in the virtual classroom. We cannot expect learners to be competent users of the new media who are aware of the affordances and how to use them constructively. Instead, we have to help them to develop 'electronic literacy', which Warschauer (1999: 11) explains as being able to cope with "the decentered, multimedia character of new electronic media [which] facilitates reading and writing processes that are more democratic, learner-centered, holistic, and natural than the processes involved in working with precomputer, linear texts". Tasks thus have to foster an electronic literacy that not only includes the technical use of the tools but also certain approaches to learning. Learners, for example, who are more familiar with more hierarchical and instructivist learning contexts need to be encouraged to make the most of the democratic and learner-centred features that are inherent in many online environments.

Ideally, this leads to the kind of informed use of a multimodal environment that Kress (2003: 49) describes:

In a multimodal environment the realisations of [the design] are aided by the varying affordances of the modes and the facilities of the new media of information and communication. It is possible to choose, not merely with full competence within one mode […] but with full awareness of the affordances of many modes and of the media and their sites of appearance.

4 Task design for online tutorials

Let us now examine how the approach described in the previous section has influenced the design of online tutorial tasks for two level 2 and level 3 German courses at the Open University using Lyceum.

Both *Motive: Moving on in German* at level 2 and *Variationen: German Language and Society* at level 3 are nine-month distance courses which combine the study of language and culture. Students are given a range of materials (including books, CDs, videos and a website), which they study at home. Oral practice consists of exercises on CD, a bimonthly spoken assignment (in the form of a presentation on tape) and an oral group exam at the end of the course. On top of the course material, students are offered up to 21 hours of group tutorials, which are not a compulsory part of the course. These used to be held face-to-face in regional study centres; in 2003 they were changed to online group tutorials, using Lyceum. Because Open University courses are taught at a

distance, students do not get the chance to interact with their peers (a one-week compulsory summer school at level 2 in Germany and the interactive oral exam are the exception to this) and the contact with their tutor is usually limited to feedback on the assignments. So the main purpose of the tutorials is to give students the opportunity to interact with their tutor and with fellow students as well as practising the language learnt with the help of the course materials and discussing content.

The overriding focus of the online tasks is therefore on meaning; tasks are communicative and do not feature any planned form-focused activities. The topics of the tasks relate closely to the syllabus of both courses, which focuses on social, political, cultural and historical issues in German-speaking countries and the effect these have on the individual. Despite this link to other parts of the courses, the tasks provide detailed information and do not necessitate detailed contextual knowledge. They represent what Ellis (2000: 200) calls human/ethical topics and encourage students to use narrative discourse when interacting with one another.

The tasks are designed around a variety of outcomes which are embedded within different scenarios, providing participants with roles. The outcomes include a panel discussion about town planning developments in an East German spa town; a meeting of newspaper editors deciding on a page 1 story; an interview with a film director; organizing an event around environmental issues; or putting together an exhibition about German history. Students work in groups, preparing for these outcomes with the help of predominantly authentic materials that they are able to access via the course books or the World Wide Web in advance. Often, these materials create an information gap between the groups and at times between individuals within the groups. Exchange of information usually leads to discussion both in the small groups and when the groups come together in the plenary or are re-grouped with other learners. The goal is to complete the task and carry out an activity such as a discussion, interview, or a meeting, with all learners interacting and participating actively. The tasks are designed in such a way that by working together in order to complete the tasks, learners build upon the knowledge they have already acquired both within and outside the course.

The role of the tutor is less that of a traditional instructor than that of a facilitator, supporting student learning. Tasks are thus designed to be student-centred – students are encouraged to take an active role, finding and evaluating material, collaborating in groups, negotiating positions and discussing ideas (see Hauck & Hampel, 2005). Table 2 gives an outline of a typical task, including the resources used and the skills practised.

In line with recent SLA research, the tasks thus show a number of criteria which Chapelle (2000: 8) has summarized for CALL and CMC. These are language learning potential through beneficial focus on form; learner fit; meaning focus; authenticity; positive impact on participants; and practicality (that is, the adequacy of resources to support the use of the CALL activity). Yet at the same time they allow for collaboration with other learners, providing opportunities for active participation and discussion.

The tasks also take account of the affordances of the different modes in the online medium by using certain modes for certain purposes. Thus images 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. The tasks are also designed in such a way that learners are gradually introduced to the active use of text and graphics tools, thus not only being able to develop an awareness of how different modes can be used but also to build up competence in being able to choose between modes for their

own purposes. Thus they are encouraged to use the concept map for brainstorming, taking notes and summarizing information; the whiteboard for importing images, drawing and writing captions; the document facility for writing, importing and working on longer texts; and text chat for brief written queries or comments. All this can be done jointly and much more easily than in a face-to-face classroom.

5 Classroom implementation of tasks

In 2003 the tasks were made available to all tutors teaching on the German level 2 and

Table 2. *Outline of tasks*

Steps	Sequence	Activity	Resources	Skills
1	In advance of tutorial (voluntary)	Reading preparation document (tutorial summary)	Course website	Reading
2	In advance of tutorial (voluntary)	Preparatory activity: finding information about the topic	Course materials; WWW (via selected links on course website)	Reading; processing information from different sources
3	Tutorial (plenary)	Sound check; warm-up activity	Lyceum (audio, images, text)	Listening; speaking
4	Tutorial (plenary)	Introduction of the topic through brainstorming or preliminary discussion; instructions for group work (e.g. allocation of roles)	Lyceum (audio, images, text)	Listening; speaking
5	Tutorial (group work)	Preparation for final activity (e.g. preparing roles, arguments, presentation or written text)	Lyceum (audio, images, text)	Summarizing information; negotiating positions; collaboration; preparing presentation or discussion
6	Tutorial (plenary)	Final activity (e.g. discussion, presentation)	Lyceum (audio, images, text)	Taking part in presentation or discussion
7	After plenary	Feedback on task, error correction	Lyceum or email	Reflection on learning
8	After the tutorial (voluntary)	Additional group activity: expanding the task	Lyceum and/or email	Writing; collaboration

level 3 courses (13 tutors at level 2 and 11 at level 3). There were 13 tasks for level 2 and 12 tasks for level 2, all designed for 75 minute sessions. The tutors were not required to use the tasks but were free to adapt them or even replace them with their own activities. In order to find out more about how tutors dealt with the tasks and how they worked in practice, tutors were identified who were willing to participate in the study. Three tutors on each course volunteered to write regular logbooks; three of them agreed to be observed in their tutorials (and occasionally also recorded); and all six plus one other tutor were interviewed by two research assistants at the end of the course. All 24 tutors were also sent a final questionnaire; ten were returned. Overall, 50% of all tutors contributed to the study. So even if the tutors who volunteered to write logbooks, to be observed and interviewed are perhaps more likely to be interested in the tools and materials – which could affect the outcome of the study – the other tutors were also able to put forward their views, thus balancing the results.

Tutors generally felt that the tasks designed for the tutorials worked well, an assessment that was confirmed by the observations. Yet while almost all tutors used the tasks, they also adapted them. There were three main reasons for this. Firstly, student numbers in the actual tutorials fluctuated, making it more difficult or even impossible to implement the tasks as suggested. As mentioned above, tutorials are not a compulsory part of the course and so group size can vary considerably from tutorial to tutorial. Secondly, students' needs and interests sometimes diverged from the tutor's plans and impacted on the direction the tutorial took. Thirdly, the timing of the activities within the tasks was not always right – generally it was too tight for everything to be done as suggested in the time available.

The tasks proved to be generally student-centred, encouraging student interaction and communication, especially – as one tutor stated – once students realized that the onus was on them, that is, that the success of the sessions depended on their input and ideas. Interaction took place both in small groups and in the plenaries, and the tasks also encouraged students to meet outside scheduled tutorials, an opportunity which some students took up. It was considered particularly beneficial for interaction where the task stipulated that students had to come to an agreement. The tasks allowed students to be in charge, and with time, a number of students began to rely less on the tutor to keep the discussions going. However, not all were able to do so. One tutor identified the danger of tasks becoming more tutor-centred with very small student numbers. It was observed that some of the weaker students did not always participate very actively in oral interaction, especially when working in a group that was dominated by more competent speakers. Some students also tended to take over when the tasks required learners to jointly produce a text – due to better typing skills, more advanced technical knowledge or greater linguistic competence. Other students were not motivated to participate since the tutorials were not assessed. Some of these issues have to do with the nature of the online environment; others are similar to problems that tutors face in a face-to-face classroom.

Although the tasks designed by the course team generally did not feature any form-focused activities, focus on form tended to arise during the tutorials in the context of communicative activities. Students turned their attention to linguistic features and discussed endings or explained vocabulary. One tutor, however, changed the focus of the tutorials by introducing pre-planned grammar exercises, which students were asked to complete individually. As a result, students had less opportunity to interact with one another.

While the tasks recommended that tutors give general feedback to students at the end of the tutorial, tutors used a number of different ways to give linguistic feedback, depending on the specific classroom situation. Many tutors turned to the text chat facility for giving instant feedback (e.g. on vocabulary) as well as giving oral feedback where appropriate (during or after a task). One tutor commented that she preferred the text chat facility (which is less intrusive than audio) to feed back during plenary sessions but used the audio facility to correct students' errors when they were working in small groups. Several tutors also used email as an additional medium for feedback, especially on vocabulary and structures but also for comments on the content.

When it came to the use of specific tools, it was observed that there was a general pattern of employment for particular purposes (see Table 3). Some of this had been part of the design process; other uses for particular tools the tutors found out for themselves through trying them out. It was found that tutors used the tools more frequently and more competently in the second year of teaching online, as they had become more familiar with them and realized their potential. A couple of tutors commented that their students were not very keen on using the writing and graphics tools as they found they got distracted; they preferred to concentrate on speaking. As a consequence, the tutors in these groups tended to use the tools more themselves, for example, for taking notes while students were speaking. Another tutor used the tools sparingly as in her case they tended to affect the technical stability of the system. It was also pointed out that it helped to load all material at the start of the tutorial to avoid problems and save time during the tutorial.

Another finding was that not all students had tried out the software, or they lacked a basic familiarity with the tools when they attended the first tutorial – even though online training tutorials were offered and students were also advised to work through a CD-ROM tutorial that accompanies the software.

When it came to differences between teaching online and teaching in a face-to-face classroom, a number of points were observed. For the implementation of the tasks in the virtual classroom, tutors needed few visual or other aids and tools outside the medium, apart from perhaps an e-mail sent out in advance of the tutorial to remind students of the tutorial topic and point them to the tutorial information on the web site. Tutors pointed to the usefulness of the tools and commented on the very good student interaction the medium and the tasks encouraged.

However, a conferencing environment such as Lyceum is – as one tutor described it – "a dead silent environment", with the immediacy of the face-to-face contact missing. There is no body language and it can be difficult to judge other users' behaviour. Silences, and knowing when to intervene, can be an issue. As one tutor pointed out, "students may just be thinking!" But they may also be unsure as to what to do or may not be paying attention; they may even have left the computer. Lack of body language also has an impact on turn-taking. Turn-taking in an online audiographic environment is less straightforward than in a face-to-face setting and teachers as well as students have to work out strategies in order to ensure that communication runs smoothly. Although Lyceum offers a number of resources that can be used to compensate for the lack of body language and help with turn-taking ('yes/no' buttons to indicate agreement/disagreement; a 'raised hand' button to indicate willingness to speak; an 'away' button to indicate that the user has left the computer; text chat for quick

messages), not all students were confident or competent enough to always use these tools to good effect.

For these reasons, communication can be slower and often less was covered in a session than the pre-prepared tasks had suggested. Tutors realized that sometimes they had to be more structured than in a conventional class and that the online atmosphere could be more formal – especially at the beginning of a course when students did not know each other. Finally, tutors commented that they had to be flexible and prepared to adapt a task when implementing it – especially in the case of technical problems occurring or student numbers in the class being lower or higher than expected.

6 Discussion of task design and implementation

We can draw a number of conclusions from these findings. Firstly, they show ways in which the pedagogical principles about the nature of language teaching were realized through the design and the implementation of the tasks. The tasks fostered interaction among students and between students and the tutor and thus promoted the negotiation of meaning needed for language acquisition. The focus of tutorials was generally on meaning, and communication was the most important overall outcome. Yet students were not barred from focusing on form if they wished to do so and tutors were

Table 3. *Use of tools by tutors and students*

	Concept map	Whiteboard	Document	Text chat
Tutors	• Tutorial programme • Introduction to tasks • Notes • Vocabulary work • Instructions for additional activity after tutorial	• Images • Welcome message • 'To get into the topic' (with picture, questions, vocabulary)	• Lesson plan • Texts • Grammar exercises	• Error correction • Feedback • Quick answers to questions • Help with vocabulary (without having to interrupt the conversation) • Alternative to audio when sound problems occurred
Students	• Notes • Keywords	• Notes • Images	• Writing texts • Editing prepared or imported texts	• Quick questions or quick responses (while others were speaking) • Alternative to audio when sound problems occurred

encouraged to give language as well as content feedback at the end of tutorials or afterwards via email. While scenarios and roles were not authentic, they simulated authenticity and were supported by authentic input and thus raised student interest. However, as pointed out above, not all students found the tasks motivating for a number of reasons, which included being dominated by technically or linguistically more dominant peers or because of lack of assessment.

The tasks encouraged active participation and interaction. The input provided by the materials as well as by the other learners and the tutor gave each student a structure that they could use as a safety net and as a scaffold to advance their language skills. It encouraged them to bring in their knowledge gained through the course as well as their personal experience and to transform this knowledge by building on it through collaborative activities. The implementation of the tasks also made it possible for the teacher to pass control of the classroom over to the students. Again, this was not the case for all students or for all tutors, one of whom at least seemed to be following a more instructivist approach; it was also more difficult to work in groups with smaller numbers of students.

Secondly, the findings illustrate the effects of an online multimodal environment on learning and teaching. The computer medium cannot be used in the same way as a conventional classroom setting and both the design of tasks and their implementation needed to reflect the affordances of the environment. Thus the tasks took account of the fact that Lyceum makes it easy to use images and that it offers different tools for writing which offer different possibilities and constraints from those in a face-to-face classroom. The whiteboard, for example, makes it possible to combine text with images, the concept map is useful for notes or for showing connections between different ideas, and the document is useful for jointly producing longer texts. In some cases the complexity of the technology with its multiple modes had – at least initially – an adverse effect on communication. This highlights the need for training in order for students and tutors to familiarize themselves with the tools, as well as the importance of introducing these resources gradually and encouraging students to use them as much as possible, thus developing their electronic literacy.

While oral communication was at the centre of all tasks, an audio tool like Lyceum without a video facility showing participants has particular implications for communication, implications which have to be anticipated and dealt with. Unlike in face-to-face interaction, body language cannot be relied on as a communication tool, and this study has shown that this has an impact on interaction. Instructions, turn-taking and feedback have to be managed differently. Tutors as well as most students quickly realized, for example, that the text chat facility can be used for quick queries or comments, thus also compensating for the lack of body language. The tutors also had to realize and communicate to students that technical problems are not a reflection of students' poor linguistic skills.

All this also shows that flexibility in implementing the tasks is vital. If, for example, a student has problems with a particular aspect of the technology (e.g. if the audio does not work, s/he loses a connection or has not had enough practice using the tools) or if fewer students attend a tutorial than the task requires, the task will have to be adapted by both tutor and students.

7 Conclusion

This paper has followed Chapelle's (2003: 137ff) assumption that while certain task characteristics which have been shown to foster language learning will hold true in different contexts, other factors are context-dependent. I have shown how task features, based on SLA and sociocultural theories, and developed for face-to-face teaching can be transferred to CMC. However, factors that depend on the specific materiality of the resources and on the affordances of the modes available also have to be factored in when designing and implementing tasks for an online classroom. As we have seen, this includes new possibilities as well as constraints. Synchronous environments such as Lyceum allow for easy access to materials which can be shared, manipulated and saved, both in the plenary and in small groups. They also enable students both individually and jointly to create their own material, using a range of modes that include text and images.

Even though (some) online environments are relatively democratic, tasks need to reflect these democratic features and tutors have to help students make use of them in order to create a setting for language learning and teaching that is genuinely interactive and student-centred. Tasks also have to take into account the fact that students may be overwhelmed by the resources that are on offer as well as the greater anonymity of the environment (because of the lack of body language and the fact that software such as Lyceum does not allow for private chat unless participants move into a different room) that can lead to lack of motivation or anxiety.

This article has concentrated on providing a framework for using tasks in synchronous CMC and examining one realization of this framework in practice. Further research is needed on how tasks in multimodal virtual environments contribute to language learning in more detail, by, for example, analyzing the multimodal discourse in such settings.

Acknowledgement

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