Fostering Student Interaction and Engagement in a Virtual Learning Environment: An Investigation into Activity Design and Implementation

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ABSTRACT
Online tools, such as forums, wikis, and blogs lend themselves to learners negotiating meaning and co-constructing knowledge through interaction. However, not enough is known about how tasks need to be designed to make best use of the possibilities of complex virtual learning environments (VLEs) to motivate and support learners, foster interaction, and contribute to knowledge construction. This article reports on a two-year study exploring the design and implementation cycle of online activities as an integral part of a distance language course. When the course was introduced in 2009, activities had been designed on the basis of second language acquisition principles as well as sociocultural theories, providing a basis for student interaction and taking into account the affordances of the environment, a Moodle-based VLE. After the end of the first year an evaluation was carried out that examined quantitative and qualitative data (Moodle user logs, learner survey and learner interviews). It was found that students preferred forums to other tools and that assessment-related activities attracted higher participation rates than other tasks. It also highlighted a number of issues, including low participation in on-task discussions, a large gap between viewings and contributions, very large differences in individual engagement, low priority given to the online activities by some students, and varying levels of e-literacy amongst learners. Consequently, activities were re-designed and a number of changes were implemented in 2010 that included more teacher involvement, fewer tasks, a simpler structure, and a reduced number of tools. A comparison of learner participation across the two years shows that these changes had a positive impact on learner engagement.

KEYWORDS
Distance Education, Online Education, Virtual Learning Environments, Activity Design

INTRODUCTION
In recent years, developments in technology have contributed to blurring the traditional boundaries between face-to-face learning environments and distance settings, and many university language courses now combine more traditional course materials and face-to-face classes with virtual learning environments (VLEs, or learning management systems) and online communication, often made available through a VLE. However, the successful implementation of online elements into courses "depends on having clear pedagogical objectives in mind, knowledge of the technological options and an awareness of the needs, goals and skills of the learners" (Levy & Stockwell, 2006, p. 107).

Online (and increasingly mobile) environments offer learning opportunities for language focused interaction with peers and teachers. This is in accordance with two main theoretical approaches to language learning: Firstly, cognitive theories of second language acquisition,
in particular the interactionist approach with its focus on input, its conversion to output, and the role interaction plays in the process (Long, 1983, 1996; Gass, 1997, 2003; Swain, 1985; Swain & Lapkin, 1995; Chapelle, 1998, 2005) and, secondly, the social constructivist view of learning as a situated social activity centering around social interaction (Vygotsky, 1978; Warschauer, 1998; Wertsch, 1998). As Canagarajah (2007) argues, "[i]f language has a cognitive habitation, such a cognition is shaped, enabled and realized in social practice" (p. 928).

Yet, the use of complex VLEs for language learning is still relatively unexplored, and this article examines ways of using such theories as a basis for course design and to inform pedagogic practice. It does so in the context of the development of online activities for a distance language course using a Moodle platform.

**LITERATURE REVIEW**

Computer programs started to become popular in the language classroom in the early 1990s, followed by the World Wide Web and online instructional tools. Since then, researchers have been examining the potential of such tools for language learning as well as their effectiveness (Brandl, 2002; Felix, 2002; Levy & Stockwell, 2006; Nagata, 1998; Simina & Hamel, 2005). In the mid to late 1990s, communication tools started to become available to teachers and learners. Initially, the main focus of research was on the use of individual asynchronous communication tools in language learning, in particular forums. Following work done by Chun, Warschauer and Kern (e.g., Chun, 1994; Kern, 1995; Warschauer, 1996; Warschauer & Kern, 2000), researchers have identified positive changes in student perception and an increase in interaction that online activities offer. Other research examined the potential of email, with Stockwell & Harrington (2003), for example, demonstrating improvements in language output after learners engaged in computer-mediated communication with native speakers. More recent research has been focusing on web 2.0 technologies, such as wikis (Arnold, Ducte, & Kost, 2012; Mak & Coniam, 2008) and blogs (Comas-Quinn, Mardomingo, & Valentine, 2009; Murray & Hourigan, 2008), which allow users to generate and share content and offer opportunities for collaboration. Miceli, Visocnik Murray, and Kennedy (2010) found that blogs can play "a significant role in promoting learners’ interaction and nurturing a sense of class community" (p. 321). However, they also point out that attention needs to be paid to "the way in which the use of the blog is integrated into the course content and structure, and the teachers’ role in moderating and facilitating" (p. 321). Similarly, other researchers have called for appropriately designed online tasks to enhance motivation and help participants achieve intended learning outcomes (Doughty & Long, 2003; Felix, 2002; Hampel, 2010). These findings highlight the challenges of online learning in terms of the skills that both teachers and learners need to develop in order to deal with the pedagogical, cognitive and socio-affective implications of electronic communication (Lamy & Hampel, 2007).

Today’s learners and teachers not only have access to individual online tools, but integrated VLEs such as Moodle are available that have the potential "to create a successful e-learning experience by providing a plethora of excellent tools that can be used to enhance conventional classroom instruction, in hybrid courses, or any distance learning arrangements" (Brandl, 2005, p. 22). Yet, Brandl (2005) also adds that "[i]n whatever form of instruction Moodle is used, the design of the learning tasks must be grounded in theories of second language acquisition" (p. 22). A growing area of research accompanies the increased use of Moodle and other integrated VLEs. Beasley and Smyth (2004), for example, evaluated a complex online learning environment designed for engineering students. They described these as potentially "ideal constructivist learning environments that allow students to become more actively involved in developing their knowledge and
understanding” (p. 43) whilst also finding that students were not always using the resources and tools in the most effective ways.

However, there is as yet little research on combining a range of tools within a VLE as part of a language course. Exceptions are, for example, Yang and Chen (2007) who examined high-school students’ perceptions of an integrated environment in Taiwan. They identify issues around student participation and the implementation of the design (e.g., lack of adequate scaffolding, lack of appropriate tasks that foregrounded language inquiry over technological learning, and teachers who were not trained in online teaching). Stickler and Hampel (2010) present a pilot study using a trial version of Moodle augmented by blogs and video conferencing. Their findings show a link between students’ choice of tools and their learning preferences (focus on form or communication, preference for written and spoken language). Comas-Quinn, de los Arcos, and Mardomingo (2012) highlight low participation rates of distance language students in the online Moodle activities. Possible reasons given are anxiety, not liking the use of technology as a tool, the lack of adequate literacy, and technical problems.

**CONTEXT OF STUDY**

This article attempts to contribute to the literature on the use of complex VLEs by reporting on the development process of a suite of online activities in the context of a distance language course using a Moodle-based VLE with forums, blogs, wikis, polls, and quizzes and on the evaluation of learner engagement with these activities in two consecutive academic years. The online part of the course was designed to give learners the opportunity to practice the language in self-study as well as engage with peers and teachers in communicative activities.

Activity design and production of the online material was carried out alongside the production of the rest of the course between 2006 and 2009 by a team of academics (which included the authors of this article and was supported by an editor and a software developer), and the first cohort of students started in February 2009. Throughout this first year, we collected quantitative and qualitative feedback from students and analyzed user logs to help us understand how participants were using the online environment. The design of the online activities was an iterative process, and feedback from the first year was used to inform changes, which were implemented for the 2010 cohort of students. User logs were again collected in 2010, and the comparison across the two years provides further insights into patterns of use and highlights potential effects of the adaptations made.

In this article, we present the theoretical and practical considerations that influenced the activity design, describe their implementation in the VLE, and examine participation patterns identified through Moodle statistics as well as student perceptions gleaned through surveys and email interviews.

**L203 Motive**

The blended distance language module under discussion here is "L203 Motive—Upper intermediate German" (CEFR exit level B2), the third course in the Open University’s German program. In terms of the academic demands made of the students, the course is equivalent to second year undergraduate study and is worth one sixth of a full honors degree, for example a BA in Language Studies. As a 60 credit course, Motive requires students to study approximately 15 hours a week, which is a big step up from the 6–8 hours weekly study time required for the beginner and intermediate German modules. Students who already have the requisite language level, can start their German studies at upper intermediate level, but may have studied other subjects with the Open University
previously. Ten to fifteen percent of course participants are entirely new to the university when enrolling for the course. With a total number of participants of around 150 annually, Motive counts as a low population course in the Open University system, where courses can be scaled up to several thousand students. Students are dispersed across the UK, Eire, and Western Central Europe and come from very diverse backgrounds in terms of age, educational qualifications, prior language learning experience, and digital literacy skills. Almost all students combine their studies with full-time or part-time employment, family commitments, etc.

The course runs over a period of nine months, from February to October, and integrates the study of content (covering topics such as social life, the world of work, history, and the arts) and language, with the main learning outcomes including linguistic competence as well as the development of cultural understanding and academic skills. Like all Open University language modules, Motive follows a model of supported distance learning, whereby students work independently with study materials but are also tied into an assessment schedule and supported by a tutor. The course was first introduced in 1998 and completely revised after ten years. The new version was launched in 2009 and coincided with the introduction of a new VLE and the implementation of blended tuition in Open University language modules.

Course materials and tuition
Course materials consist of four printed course books, interactive audiovisual materials (initially on 2 DVDs, now on Moodle), a Moodle course website with resources and online tools, a grammar book, and a film. Apart from the latter two, all materials were produced in-house. Screen prints showing how the online activities are presented on the Moodle website are included in Appendix A. All materials are written with a "tutor's voice" in mind, guiding students through their study, for example by introducing each activity, explaining learning objectives, and providing model answers.

Students organize their studies with the help of a printed study guide and an online study planner. They are asked to complete one course unit every five weeks and have to hand in a number of written and spoken assignments with specific deadlines throughout the course. At the end, students have to sit a three-hour traditional written examination in an examination center and take part in a group oral examination online. A one-week Residential School in Germany is also part of the course with an online alternative being offered to those students who cannot attend.

Throughout their studies, students are supported by a tutor and, for this purpose, are allocated to a regionally based tutor group of around 20 students. Contact between tutor and students increasingly takes place through an online tutor group forum; although telephone and email are also still used, especially for one-to-one communication. Each tutor offers a total of 15 hours of synchronous group tutorials, which are partly delivered face-to-face and partly online via the audio-visual conferencing system Elluminate. There is also an element of asynchronous tuition, with students discussing course topics in the tutor group forum. In addition, the tutor provides detailed individual feedback to written and spoken assignments ("teaching through feedback").

TASK DEVELOPMENT
The model that guided the development of the online activities is based on a three-level model consisting of approach, design, and procedure. It was established by Richards and Rodgers (2001) – albeit in a different context – and has been adapted to online task design by Hampel (2006) (see Table 1).
Table 1
Three-level model of online task development (based on Hampel, 2006)

<table>
<thead>
<tr>
<th>Approach</th>
<th>SLA theories</th>
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<tr>
<td></td>
<td>Sociocultural principles</td>
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<td></td>
<td>Affordances of online environment</td>
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<tr>
<td>Design</td>
<td>Function of tasks within course</td>
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<td></td>
<td>Syllabus</td>
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<td>Types of tasks</td>
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<td></td>
<td>Learner/tutor roles</td>
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<tr>
<td>Procedure</td>
<td>Implementation in the classroom</td>
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‘Approach’ refers to theories about the nature of language learning, which in our context include both second language acquisition theories and sociocultural principles – theories that increasingly are considered as complementary rather than conflicting. In this we are following Block (2003), who argues for a broader, socially informed, and more sociolinguistically oriented SLA that does not exclude the more mainstream psycholinguistic one, but instead takes on board the complexity of context, the multi-layered nature of language and an expanded view of what acquisition entails. (4)

As the context is language learning through a VLE, we also had to take into account the online medium and its possibilities and constraints. ‘Design’ takes account of the course in which the tasks are embedded, the types of tasks used as well as their role in this course, and the assumptions about what roles students and teachers are likely to play in the learning process. ‘Procedure’, finally, considers how the tasks are implemented in the virtual classroom, taking into account, for example, the resources used by the teachers (in our case the tutors as well as the team of academics responsible for the course), the interaction that takes place, and strategies used by both tutors and learners.

The approach – and to some extent also the original design – have already been analyzed in Hampel (2010) but are summarized briefly below. The remainder of this paper concentrates on the implementation in year one and then examines the redesign of the activities and their re-implementation in year two.

**Approach**

In terms of the approach, the development of online activities was informed by a number of considerations, including theories of second language acquisition and sociocultural theory. Firstly, the idea was to give students language input, provide opportunities for message-focused interaction and negotiation of meaning, and encourage output – which then functions as input for other learners. This reflects the interactionist view that interaction forms the basis of language development and that more active involvement is likely to lead to better results (Gass, 2003). A large number of studies in this research tradition provide mounting evidence how, for example, episodes of meaning negotiation can promote second language learning (Mitchell, Myles, & Marshen, 2013). When speaking of the language learning potential of a CALL environment, Chapelle (2009) refers to the utility of the selected input and the quality of the interactions and practice learners may engage in. The juxtaposition of target-like and non-target-like forms in discussion forums, for example, may lead learners to notice discrepancies and act as a trigger for self-correction (Chapelle, 1998). While input is amply provided in the printed course materials and the DVD, access to
interactionally modified input and the opportunities for interaction afforded by the VLE as an "intensively interactive and linguistically rich environment" (Chapelle, 2009) were a novel feature in a distance-learning course at this university. Secondly, sociocultural theory played a crucial role. We were following a social constructivist view where learning is not solely a cognitive activity of individuals but a situated social activity, which requires interaction with others. According to Ellis (2000), "learning arises not through interaction but in interaction" (p. 209). In sociocultural approaches all human activity – including learning – is seen as mediated through language, through interaction with others, and through tools (Vygotsky, 1978; Wertsch, 1991). This recognition of the importance of tools led us to the third aspect, that of the consideration of the affordances of the environment for (language) learning. This meant determining how to use the Moodle website with its tools in the design of the activities appropriately and how to maximize the possibilities and limit the constraints.

**Design**

While Hampel (2010) examined task types in terms of design, in the context of this paper, it is more appropriate to see how the approach outlined above is reflected in a number of objectives that guided the design of the online tasks.

1. To develop linguistic skills and content knowledge
2. To foster intercultural understanding
3. To provide opportunities for practicing content and language introduced elsewhere in the course
4. To provide updated content of the print and AV materials and make it more relevant to individual interests
5. To combine focus on meaning with focus on form
6. To promote joint knowledge construction
7. To create a community of learners
8. To develop learner autonomy
9. To encourage as many learners as possible to engage with the tasks
10. To appeal to different learning preferences
11. To foster digital literacy

Objectives 1—5 relate back to second language development and they were translated into design in various ways. Through Web searches, for example, students can extend the input contained in the course materials and find written and spoken sources that are more up-to-date and of greater relevance to their own interests; the forums, wikis, and blog provide them with opportunities to use, consolidate, and extend their language skills through communicative activities, whereas quizzes target form-focused revision of vocabulary and grammar as well as cultural background knowledge. All online activities are linked to the topic areas covered in the course and fully integrated into the overall course structure. They combine a focus on meaning with a focus on form and give learners the opportunity to practice and revise content and language introduced elsewhere and to expand and update the existing content. Apart from the synchronous tutorials, which are offered via the computer conferencing system Elluminate, all student interaction on the VLE is in asynchronous written mode, but our expectations were that the activities would have a beneficial effect on students' overall language development. There has been a blurring of boundaries between spoken and written modes in online environments, with research demonstrating features of spoken language in synchronous written communication online (Sotillo, 2000; Weininger & Shield, 2003) and showing how in digital environments more generally written language is taking over some of the functions of spoken language.
Similarly, asynchronous interaction is somewhere on the continuum between the spoken and the written mode.

Objectives 6—8 are influenced by sociocultural theory – particularly by the notion of situated social practice with the online tasks facilitating the construction of knowledge interactively and collaboratively. In addition, they were set up to bring students together into a learning community as well as develop their autonomy – a crucial attribute of a successful distance learner. This was achieved by combining individual activities (e.g., doing web searches, taking part in surveys, posting blog entries, doing quizzes) with interactive tasks on the one hand, and moving from highly structured interactive activities (e.g., introducing oneself in the tutor group forum and responding to one other person’s introduction) to more open collaborative ones where learners can take more control (e.g., through creating wiki pages or participating in forum discussions) on the other hand.

The final objectives, 9—11, have to do with using the functionalities of the tools. The idea was to use a variety of different tools and ways of learning to get as many students as possible to engage and to help them develop their digital literacy, which many of our learners did not have the opportunity to develop prior to their studying. Clear task instructions provided scaffolding for the learners and tools were introduced incrementally. Tasks were timetabled in the study calendar and instructions and links to all main tools could be accessed from it. Separate forums and wikis were created for each activity. In order to make the online activities more manageable for students and reduce anxiety, some online activities were restricted to the individual tutor groups (consisting of up to 20 students). The assumption was that students would be more willing to make contributions in their own tutor group with known participants and that the involvement of tutors in some of these activities would have a positive influence. Activities conducted in tutor groups included weekly discussions of course topics in forums, collaborative writing and sharing of information in wikis as well as synchronous tutorials on Elluminate (which are not the focus of this article). However, we also wanted to give students the opportunity to communicate in the larger year group in order to learn from each other and feel part of a community. Therefore, a social forum (Café Motive), a study skills forum (for sharing study tips and learning strategies), a course glossary (created by students for students), and various polls on issues related to course topics (with outcomes published on the course website) were created in a way that they were open to all students in the course. Blogs were also visible to all, but not all students knew how to access the blogs created by their peers or make their own blogs accessible. In the first year of the course, we created a dedicated forum where blog addresses were meant to be posted; in the second year, a glossary with blog addresses was used to facilitate access to all student-created blogs.

Although the online activities were an integral part of the course they were not assessed as such as the departmental policy at the time favored individual assessment. However, some of the tasks were explicitly linked to the assignments and helped students prepare for the individual oral presentations or the written tasks they had to complete.

**Procedure: Implementation in the ‘classroom’**

The third level of the model is the implementation in the ‘classroom’ (albeit an online classroom) and its evaluation.

In their study materials, students were shown how the different elements of the module work together, with the course website acting as the hub of the course, and all materials – including print, audio and video materials, online activities, assessment, and tutorial
provision – feeding into their studies. The course provides 600 hours of study in total, of which around 100 were set aside for work with the online activities.

The course spearheaded a new generation of courses that made more extensive use of online activities, and so evaluation was particularly important. The idea was to identify issues, propose solutions, and make changes for the following year in an iterative process. After the first implementation of the course, an extensive qualitative evaluation was carried out in November 2009 by the course chairs (and authors of this article) and the Institute of Educational Technology, which forms part of the university and carries out annual course surveys.

Online student surveys and email interviews were used as instruments in the study. We also had feedback from the tutors both informally throughout the course and in scheduled asynchronous and synchronous de-briefing meetings at the end of the first year (2009). The questions for the online survey and email interviews and a list of topics for discussion in the tutor de-briefing can be found in Appendices B and C, respectively.

In order to explore student interaction and engagement with the online activities, statistical information about student participation was collected from Moodle logs in 2009. This was repeated in 2010 to gauge the effect of the changes made for year two.

This mixed-methods approach allowed us to get a rich picture of learner behavior in the first year of the course, combining direct insights into their participation patterns through user logs with students’ own opinions on the various activities with the help of an online survey and more detailed interviews. This allowed us to understand some of their behavior. The user logs charted learner participation in the various activities in great detail. The survey took place on five occasions throughout the module. Each time the entire cohort was targeted, but the number of respondents varied—ranging from 13 to 55 with a steep decline in responses towards the end of the course. Twelve students were involved in the interviews, which were carried out via email. After changes to the course were made in 2010, user logs were collected again to see whether these changes had had an impact on learner participation.

LEARNER ENGAGEMENT

User logs of the course website were downloaded and analyzed covering the period from 6 February to 31 October 2009, the time from the official start date of the module to the end of the examination period. The logs were first scrutinized in terms of usage by students and staff respectively and data files were created in Excel and SPSS, which related exclusively to student use of the website. Overall 146,561 hits were recorded, giving a mean number of hits per student of 939 (median 514, range 6—6764, STD 1170, N=156). These figures include a wide range of activity on the website, such as accessing it to view the study planner, viewing resource pages and eBooks, accessing the electronic assignment system, logging into Elluminate tutorials, repeated attempts at viewing, editing or updating forums and wikis, viewing and reviewing individual quiz questions, subscribing, unsubscribing, searching, deleting, and many others.

Despite the fact that there was a fair amount of traffic on the website, closer analysis of the logs shows very clearly that although some students engaged extensively with the online activities, many did not or did so less than the course team and the teachers had hoped. Also, some survey results point to a preference for those activities that can be completed independently, such as web searches and quizzes, over those that offer opportunities for interaction and collaboration.
Quantitative data: uptake of online activities

In this section, we will concentrate on an analysis of how the main course tools were used by students to support their learning. These tools include the tutor group forum, the wikis, the quizzes, and the polls ("choice" tool). An overview of participation rates is given in Table 2. In addition to the activities listed here, students created 18 blogs and 93 entries were made to the collaborative course glossary.

Table 2
Use of relevant tools 2009

<table>
<thead>
<tr>
<th>Course Tools</th>
<th>Activity</th>
<th>Views</th>
<th>Posts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tutor group forum (10 tutor groups)</td>
<td>22 forum activities</td>
<td>5578</td>
<td>525</td>
</tr>
<tr>
<td>Wikis (10 tutor groups)</td>
<td>12 wiki activities</td>
<td>2271</td>
<td>55</td>
</tr>
<tr>
<td>Quizzes (course-wide)</td>
<td>41 quizzes</td>
<td>4315</td>
<td>2249</td>
</tr>
<tr>
<td>Polls (course-wide)</td>
<td>9 polls</td>
<td>753</td>
<td>164</td>
</tr>
</tbody>
</table>

Within the main course tools, the Tutor group forum and the quizzes were the most active, although the number of views was very much higher than actual participation. This is in line with findings from other studies of online environments (e.g., Nielsen, 2006), which show similarly discrepant ratios of views and posts as well as huge differences in participation between the most and least active users of a tool. While forums received over 40,000 hits altogether, further examination of the data reveals that it was mostly the social forum (Café Motive) that was fairly active, whereas student participation in content-related discussions in the Tutor group forums was much less impressive (525 posts across 156 students and 22 activities). In the following, we will look at the usage of individual online tools in more detail starting with the Tutor group forum, where discussions were held across within 10 separate groups. Either students or tutors could initiate them, and tutors had a (limited) time allocation for moderation. The course writers posted the actual topics and activity instructions in advance.

Figure 1 below shows viewings and postings in the Tutor group forums during the course. A total of 22 discussion forums in the target language were offered to students throughout their studies. Each forum consisted of one activity, which was fully integrated in the course and directly linked to course topics. Some forums were also labeled as "Preparation for Assessment." The graph depicts the Tutor group forums only and does not include the separate, course-wide social forum (Café Motive) or the study skills forum (Lerntipp-Forum). It includes the actions of "view discussion" and "add post", i.e., shows activity during which students—through reading or writing—actually engaged with the discussions. It does not show hits from students who merely accessed the forums to have a look at the instructions or perform other administrative tasks.

Across the 22 discussions, we recorded 5578 viewings and 525 postings with the most popular discussion in terms of views being the very first welcome activity, in which students introduced themselves. This is the only activity in the Tutor group forum where social interaction rather than the discussion of course content is in the foreground. Forum 6, which attracted 139 postings, is linked to assessment and explores student experiences in Germany, Austria, and Switzerland. Discussions in forums 7, 9, 16, and 20 are also directly linked to assignment tasks, which may have positively affected participation figures.
Although all forum activities were viewed by at least some of the students, many discussions only attracted very few contributions. It is clear from the figures that in many tutor groups some of the discussions simply did not happen at all.
Figure 1
Number of views vs. posts in the Tutor group forums in 2009

Tutor group forums 2009: view discussion vs. add post

Figure 2 gives an insight into the participation in wiki activities. Course designers had taken care to introduce tools incrementally, in order not to overload students with learning to use many new tools at the beginning of the module. Wikis were used either for collaborative writing or for information gathering from unit 3 onwards. As can be seen, participation was much lower than in the forums. However, as with the forums, the number of views was very much higher than that of posts and students generally showed more involvement with those wiki activities that were assessment-related (wikis 1, 2, 4, and 6). In total, 2271 views and 276 edits led to 55 actual contributions. As most active students contributed more than once, this means that the large majority of students never posted in any of the wikis.

Figure 2
Number of wiki views, edits, and posts in 2009
On further examination of the user logs, it becomes apparent that in assessment-related wikis in particular, some students repeatedly tried to edit the wiki without ever posting a contribution. Our assumption is that in these cases a strong motivation to participate (preparation for assignment) conflicted with a lack of technical expertise and familiarity with the tool.

Figures 3 and 4 below show participation rates in the quizzes and polls, respectively. As opposed to the forum and wiki activities, participation here does not involve the co-creation of meaningful discourse, but is much more reactive and usually limited to making a selection from a choice of answers. Quizzes focus on grammar revision and vocabulary or cultural content and are mostly, but not exclusively, multiple-choice. Matching and gap-fill activities with type-in boxes were also used. Polls are typically based on a previous activity in which students have to research information and/or reflect on an issue related to the course topics.

The figures here show actual participation only, i.e., attempting to complete an entire quiz that may contain up to 20 questions (see Figure 3) or making a choice in the polls (see Figure 4). Altogether there were 2249 attempts at answering 41 quizzes; and students made a total of 164 choices across 9 polls. For the wikie quizzes, the figures show a clear decrease of activity over the course. We will discuss these figures further when looking at student participation across two years in the section below.

Figure 3
Use of quizzes 2009
Use of quizzes 2009

No. of attempts

0 20 40 60 80 100 120 140

1 Online tools 2 Vocabulary 3 Grammar 4 Grammar 5 Grammar 6... Content 35 Content 36 Vocabulary 37 Vocabulary 38 Grammar 39 Grammar 40 Grammar 41 Content

No. of attempts
Qualitative data: student feedback

While course developers saw the online activities as an integral part of the course and felt that the potential for interactivity and collaborative learning they offered was invaluable in a distance education setting, student reaction to the new VLE and its affordances was more mixed. This was apparent both from the data extracted from user logs presented above and the qualitative responses students gave in the surveys and email interviews. The latter provided more in-depth information on students’ attitudes towards the online activities and revealed motivators and barriers to participation online.

When analyzing responses, we found a number of motivators for engaging with online activities. They were perceived as useful in terms of language use, promoting creativity, checking progress, preparing for assessment, interacting and communicating, learning language and content (including about German culture and way of life), and developing literacy skills. This is reflected in the comments below.

"I really like to think and write in German. The activities helped to engage my imagination. The activities also help to keep you up-to-date with your studies due to the nature of the week by week layout."

"...practising of communicating with others, which makes language come alive. But there is a good deal of factual information and grammar which can be learned from these activities as well. On a larger, non course specific scale..."
it teaches vital online skills like the use of search engines, participation in forums or the creation of a web log."

"I found the ideas useful in preparation for TMAs [tutor-marked assignments] and for discussion with personal friends."

"Grammar and aspects of German culture and life."

Other students also mentioned that the online activities had affective benefits, easing loneliness and isolation.

Barriers to using the activities included lack of technical expertise, lack of time, concerns about being exposed to incorrect language used by their peers, the clash between interactive activities and individual assessment, and the fact that there was little point in participating because of the low number of students who were getting actively involved. The following statements from four students underline this.

"Definitely not useful when I could not understand the technological requirements or felt I was too short of time to fit them into my programme."

"I decide for myself what needs to be done for a TMA and if I need clarification I ask my tutor."

"...no benefit in communicating with other students. I don't want to read texts with grammar, spelling or vocabulary mistakes. I need to read correct German."

"If few students use them what do you gain? very little ... so I took the view What's the point creating work for yourself .... the volume of course work allows little time to enjoy the language you are attempting to learn."

Other students mentioned in their feedback that they found the VLE confusing and that they did not see the point of having various different tools. Some students only engaged with those activities they considered useful, quick, or interesting; or they engaged because they saw them as obligatory. A detailed description of this qualitative analysis and its results can be found in Price, Hampel, and Pleines. (2010).

Some of these findings correlate with the results gleaned from the quantitative investigation of learner engagement. On the one hand, students were more willing to participate in assignment-related interactive online activities (accounting for the high numbers of views and posts as shown in Figures 1 and 2 above) and in the quizzes, which are quick to complete. On the other hand, many learners lacked technical expertise; many did not have enough time to engage. In addition, the fact that so few students took part in the interactive tasks prevented those who wanted to participate from having meaningful exchanges. This is confirmed by tutors who mention lack of time and lack of interest from students as the most common reasons for the low levels of participation.

**REDESIGN OF ONLINE ACTIVITIES AND EVALUATION**

Based on the feedback from students and the conclusions we drew from the Moodle logs participation figures, we decided for the following year to reduce the number of activities overall, to reduce the complexity in navigation, and to provide more support and scaffolding. We removed all wiki activities, reduced the number of polls and forum
discussions and combined all forum activities in one tutor group forum rather than using separate forums for each activity. We also instructed the teachers to post the task instructions themselves (previously this had been done centrally for all tutor groups) and provide more feedback to students. However, there was limited scope for this because of teachers’ contracts, which restrict the time they can spend on synchronous tutorials and asynchronous support.

Before examining participation patterns in 2010, here is some information about how the student cohort compares with the 2009 cohort (see Table 3).

Table 3
Comparison of 2009 and 2010 student cohorts

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>10 teachers</td>
<td>10 teachers (no changes)</td>
</tr>
<tr>
<td>Students</td>
<td>156 students (at course start)</td>
<td>182 students (at course start)</td>
</tr>
<tr>
<td>Women</td>
<td>54%</td>
<td>64%</td>
</tr>
<tr>
<td>Under 30</td>
<td>19%</td>
<td>26%</td>
</tr>
<tr>
<td>Qualification</td>
<td>48% higher education qualification</td>
<td>55% higher education qualification</td>
</tr>
<tr>
<td>Pass rate</td>
<td>71% Pass rate: 68%</td>
<td></td>
</tr>
</tbody>
</table>

In summary, while there was no change in the group of teachers, all students were new to the course in 2010, and their numbers increased by about 17%. There was an increase in the number of women; in 2010 women accounted for almost two thirds of the cohort. The 2010 cohort also had a greater number of students under the age of 30 and more students who already had a university degree, which, however, did not have a positive impact on the overall course results. As in many courses where students combine part-time study with employment and other commitments, there is a degree of attrition throughout the module, which is reflected in the pass rate. Although a small number of students do fail the final exam, most students who are struggling with the demands of the course, drop out much earlier.

The following section gives an insight into student participation in the online activities in 2010 as compared to 2009. Graphs for individual years show absolute numbers, graphs that compare participation across the two years show the increase or decrease from 2009 to 2010 in percent. For this, the 2010 figures were adjusted to take account of the higher student numbers using the 2009 student numbers as a baseline.

*Participation in forums*

While the social forum and study skills forum had remained unchanged after 2009, the Tutor group forums were re-organized substantially as described above. As can be seen from Figures 5 and 6, there was an overall increase in use of the forums in absolute figures.
When adjusting the figures to account for the increase in student numbers from 156 to 182, we also find a real overall increase in the use of the social forum, despite a smaller number of threads that were created (‘add discussion’) (see Figure 7). At the same time, there is a drop in the use of the study skills forum, which had not attracted many hits in the previous year either. The further decrease in participation may be due to the fact that students were more likely to post in the more popular social forum, which had gained additional momentum in 2010 in terms of viewings and postings. Looking at actual contributions in the social forum confirms that study advice was indeed posted here more often than in the dedicated “Study tips” forum.
Of particular interest are the Tutor group forums where the course designers had made the biggest changes with 22 discussions held in separate forums in 2009 and 15 discussions held in one large forum per tutor group in 2010, with the additional benefit of increased tutor input. The 67% rise in contributions ("add post") in these forums indicates that the changes were successful in promoting more student engagement with forum discussions. The fact that the number of added discussion strands went down can be ascribed to the lower number of prescribed discussion topics. In 2010 we had fewer discussions in Tutor group forums, but significantly more interaction per strand than in 2009.

**Use of quizzes**

Both cohorts of learners used exactly the same 41 quizzes, and Figure 8 shows that patterns of use were generally similar across the two years. The year 2009 shows a slightly more even decline in participation as the course goes on, while the figures for 2010 more clearly reflect the popularity of particular quizzes. In some cases, a different activity type (matching rather than multiple choice, as in quiz 37) led to more attempts. The end-of-course assessment in 2010 was centered on the last two course units, which may explain the higher usage of quizzes related to these units (quizzes 28—41). Overall, participation in quizzes increased in 2010.

**Participation in polls**

In terms of affordances, course developers had decided to use the choice tool not so much for developing language skills but for community building. Much of the study materials represent or try to elicit attitudes and personal opinion on a range of topics, but in a distance setting students rarely get to share their opinions with others. Although not ideal for a detailed discussion of personal attitudes, the polls are useful for getting an idea of how everybody else feels about a particular issue. However, as figure 9 shows, participation in polls was low; even the most popular one (National anthems 2010) was answered by less than a quarter of the student population, meaning that the potential for community building of this tool was not fully realized. The last five polls were not re-used in 2010, which led to a
further drop in engagement with this tool from 164 choices over nine polls in 2009 to 126 choices over four polls in 2010.

Figure 8
Use of quizzes in 2009 and 2010

Figure 9
Participation in polls 2009 and 2010 [study week #]
The polls varied in how much work they required students to do prior to participating. In the very first "choice" activity, for example, students had to evaluate tourist websites from Germany, Austria, and Switzerland using a number of criteria and then vote for the website they thought was best. This meant that learners had to do some fairly time-consuming research before making their choice. The activity on National Anthems, by contrast, asked students about their views on the usefulness of National Anthems. Although they were also meant to go through a number of steps beforehand, familiarizing themselves with the German, Austrian, and Swiss anthems, thinking about the respective lyrics etc., it was possible to answer the question in the poll by just giving a personal opinion. Equally, poll 4 on definitions of art required students to select definitions of art that they personally agreed with and could be entered without prior knowledge. In view of the considerable role the time factor seemed to play in all feedback from students and tutors, our expectation was that polls that involve less effort would attract higher participation. This is borne out to some extent by the figures.
A future redesign of “choice” activities could show whether different tasks might prompt students to engage more with this particular tool, or whether more encouragement from tutors and more integration of the issues and results of the polls into tutorials are needed to improve participation figures.

**Overall use of website**

Looking at the overall statistics across the two years shows a slight upward trend in participation for the redesigned 2010 website with fewer activities (see Figure 13Table 4). This could be explained by a range of factors including design (e.g., better navigation), increased e-literacy of the learners. The gap between reluctant and enthusiastic participants was greater in 2010 than in 2009, with a wider range in numbers of hits per student and a very large standard deviation. At least some of the increased participation in 2010 can be ascribed to one particularly active student (12,840 hits).

Table 4
Comparison of overall use of the course website in 2009 and 2010

<table>
<thead>
<tr>
<th></th>
<th>2009 (n=156)</th>
<th>2010 (n=182)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean No. of hits per student</td>
<td>939</td>
<td>959</td>
</tr>
<tr>
<td>Median</td>
<td>514</td>
<td>526</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1170</td>
<td>1439</td>
</tr>
<tr>
<td>Minimum/Maximum</td>
<td>6—6764</td>
<td>4—12840</td>
</tr>
<tr>
<td>Interquartile range</td>
<td>237—1177</td>
<td>194—1145</td>
</tr>
</tbody>
</table>

When testing the statistical significance of the changes in overall participation using a non-parametric test to compare the median number of hits per student, we found that the difference in participation across the two years is clearly not significant (Mann-Whitney U, Asymp. sig (two-tailed) = 0.7).

It is interesting to note, however, that when looking only at the use of the Tutor group forum, which may be the most important of the online teaching tools and the one where the most substantial changes were implemented, the increase in participation in 2010 is just significant at the < 0.05 level (Mann-Whitney U, Asymp. sig (two-tailed) = 0.047). The numbers below (Table 5) are based on the number of students who visited the Tutor group forum at least once, i.e. 138 out of 156 in 2009 and 174 out of 182 in 2010.

Table 5
Comparison of the use of the Tutor group forums in 2009 and 2010

<table>
<thead>
<tr>
<th></th>
<th>2009 (n=138)</th>
<th>2010 (n=174)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean No. of hits per student</td>
<td>99</td>
<td>130</td>
</tr>
<tr>
<td>Median</td>
<td>50</td>
<td>70</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>140</td>
<td>189</td>
</tr>
<tr>
<td>Minimum/Maximum</td>
<td>1—860</td>
<td>1—1673</td>
</tr>
<tr>
<td>Interquartile range</td>
<td>18—129</td>
<td>26—164</td>
</tr>
</tbody>
</table>

As with the overall figures, the wider range and larger standard deviation in 2010 are due to a small number of very active students, who also, in part, account for the higher mean. However, the significantly higher median indicates increased engagement with the tutor group forum discussions across the course population in 2010.
DISCUSSION AND CONCLUSION

As Canagarajah (2007) states, “[m]eaning does not reside in language; it is produced in practice” (p. 931). Researchers as well as teachers and course developers see interaction and collaboration as vital for language learning and are looking to online environments to provide these elements. This is particularly relevant in distance learning courses, such as the one here, where, apart from a very limited number of hours of synchronous and asynchronous tuition, students study independently (with some support from their tutor). However, learners may not share this view; many students in this study showed a preference for working with the more traditional distance learning materials. Nevertheless, the study also suggests that there are certain ways of increasing student participation in online activity, including linking it to assessment, integrating it into the course, making navigation easier, giving students enough time to engage with the online work, and ensuring that there is sufficient teacher input and feedback.

As was apparent already from the overall participation figures in 2009 and further confirmed by the upward trend in student participation across the two years, students did engage with their course website, and a large number of them made use of the increased opportunities for interaction the VLE offers. Others may have benefitted from reading the contributions of their peers. The figures also need to be seen in the general context of distance study. Although courses surveys and research into distance education have investigated study patterns and use of course materials by distance learners (Adams & Nicolson, 2008; White, 2003), no other study element has been scrutinized in the same way as the online activities, where detailed user logs are available. There are likely to be offline elements of the course that are used only by a fraction of the course population. Participation figures in face-to-face tutorials are known to fluctuate greatly and they are often low. Adult distance learners make many choices in the way they study, and it is important to offer them an environment and mix of activities that is motivating and conducive to learning. Results from the surveys and email interviews show that the time factor plays a large role as adult distance learners in particular have to deal with competing demands of working, studying, and family commitments (see also Fung, 2004; Rovai, 2003). Hence, in our study, time and a perception of the course being overloaded were the most cited barriers to engaging with the online activities in 2009.

Our comparison of user logs across two years indicates a trade-off between increased engagement with some tools (forums, quizzes) and a fall in the use of others (wikis, polls) as the reduction in activities offered in 2010 did not lead to a decrease in participation figures. In particular, data collected in this study strongly suggest that the changes to the forum activities, i.e., combining the separate forums into one large forum, thus, easing navigation and providing more teacher support (see Miceli et al., 2010), had a positive impact on students’ involvement with the tutor group forums, with students not just viewing the discussions more but also posting more messages.

Apart from our deliberate changes to the VLE there are, of course, other variables that also could have affected 2010 usage, for example, a greater number of younger students in 2010 and markedly more women. Statistics also show that individual students can play a significant role in generating traffic in the VLE and in the forums in particular. In 2010 a total of 178 students engaged with the forums (social, tutor group, and study skills) in some way, but the five most active students accounted for over 25% of all postings, thus, raising participation figures both through their own postings and through encouraging responses from others.
In comparison with the increase in the use of the Tutor group forum, student engagement with those tools that remained unchanged did not increase at the same rate. It is probably important to note that tutors were not required to engage with any of the other online activities in the same way as with the Tutor group forum and that lack of integration of course design and tuition may be a factor in the lower take-up of some of the online activities. Course designers are not tutors on the course, and tutors do not design the materials their students are working with. While some of the course materials are exploited in face-to-face and online tutorials, others are used for independent study only. Course designers provide suggestions for tutorials, which, in some cases, include the exploitation of online activities, but it is up to individual tutors to decide what to include in their sessions and how best to support their students.

In terms of course design, this study has thus shown the importance of research examining student engagement and interaction in online environments to increase the potential for learning that VLEs offer. It is based on the premise that course design is an iterative process that needs continued evaluation and change.

One of the central findings is that uptake of online activities increases the more these are tied into the course and assessment structure, with greater participation in those activities that are related to assessment. This is in line with Miceli et al. (2010) findings, which highlight the importance of online activities being integrated into the course content and structure.

Future research will confirm in how far the participation in online activities in a blended environment will increase in line with the increasing familiarity of Open University students with web 2.0 technology. Further possible avenues for research are as follows:

- To investigate participation figures beyond 2010 and examine how they relate to changes made to the course;
- To explore relationships between tutor and student activity, e.g. in terms of tutor engagement and tutor style;
- To further investigate patterns of use by individuals and explore links with demographic data;
- To conduct a qualitative analysis of contributions, particularly to the forum.

\[i\] This is equivalent to 30 ECTS credits.

\[ii\] For each of the 10 tutor groups separate forums and wikis were set up where groups of students interacted with support by their tutors.

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APPENDIX A: Online activities 2009 and 2010 (selected screenshots)

Online activities 2009 (First study weeks)

Online activities 2010 (First study weeks)
Online Activities Unit 4 (Study weeks 17-20) 2009
Online Activities Unit 4 (Study weeks 17-20) 2010

(This is the course unit with the most cuts in the online activities)
APPENDIX B: Survey and interview questions

Survey questions
Delivered via the ‘choice’ tool on the module website after each Tutor Marked Assignment (TMA)

Web search (TMA 1)
Did you complete the online activity “Unsere Welt in der Zukunft” (Study week 4) in preparation for TMA 1? {yes/no}
How much did the online activity “Unsere Welt in der Zukunft” help you with completing TMA 1? {it helped a lot / it helped quite a bit / it didn’t help much / it didn’t help at all}

Elluminate meeting (TMA 2)
Did you meet with other students in Elluminate to prepare for TMA 2? {yes/no}
How much did the discussion in Elluminate help you with completing TMA 2? {it helped a lot / it helped quite a bit / it didn’t help much / it didn’t help at all}

Forum (TMA 3)
Did you complete the formative part of TMA 3 (Aufgabe A: discussion in the forum)? {yes/no}
How much did the discussion in the forum help you with completing the TMA? {it helped a lot / it helped quite a bit / it didn’t help much / it didn’t help at all}

Web search, forum, wiki (TMA 4)
Did you use the online activities to prepare for TMA 4? {yes, I used all of the online activities / yes, I used some of the online activities / no, I did not use the online activities}
How much did the online activities help you with completing TMA 4? {they helped a lot / they helped quite a bit / they didn’t help much / they didn’t help at all}

Elluminate (TMA 5)
Did you meet with another student / other students in Elluminate to prepare for TMA 5? {yes / no / I used another medium to communicate with (an)other student(s)}
How much did meeting with (an)other student(s) help you with completing TMA 5?

Forum (TMA 6)
Did you use the forum “Das Glück” to prepare for TMA 6? {yes/no}
How much did the forum discussion help you with TMA 6? {it helped a lot / it helped quite a bit / it didn’t help much / it didn’t help at all}
Email Interview questions
An evaluation of students’ experiences of the online activities in L203

Targeted after TMA04

1. The TMAs for Motive included some preparatory or formative online activities. What was your experience of these online activities?
   a) Why did you (or did you not) engage with the online activities which were linked to assignments?
   b) Why did you (or why did you not) find them useful?

2. What is your view on the value of the online activities, which were linked to assignments?
   a) Would you improve these or replace these? If so how, or with what?
   b) Would you prefer not to have these preparatory activities and move straight on to the TMAs?

3. Did you experience any technical difficulties?
   a) Can you describe these?
   b) What could be done to address these?

4. Did you have any tutor involvement in the formative activities?
   a) What was the nature of this involvement?
   b) Was it useful?
   c) Could it be improved?

5. Do you feel there is benefit in communicating with other students before the TMA as a way of helping you with your assignment?
   a) Did you do this?
   b) How did you do this?
   c) If not - is there another way that this could be supported?

6. In general, do you feel the online activities can offer something the other course materials can’t?
   a) Which types of activities did you/did you not engage with?
   b) What did you learn from them?
   c) Did you enjoy interacting or collaborating with your peers?

7. Where there any barriers (other than technical problems?) that prevented you participating in the online activities?
   a) What were these barriers?
   b) How could they be addressed?

8. Can you describe how the tutorial support worked in your group?
   a) Did you have any face-to-face meetings? - When did they take place?
   b) How did your tutor get involved in the online activities?
   c) How did your tutor support you during your studies?

9. Have you any other comments that you’d like to feed back to the course team about the online activities?
APPENDIX C: Course De-briefing 2009

Course De-briefing: Read this first

Dear tutors on L203

We’ve already contacted you about the debriefing for this year’s presentation of the new Motive, which will take place on Elluminate on 25 November 2009 at 7pm. It’s great that almost all of you can make that date and we’re very much looking forward to speaking to you then.

To prepare for the debriefing, we would like to encourage you to discuss your experience of Motive in the Tutor Forum. We’ve started five separate threads to discuss five separate aspects of the course. You may wish to participate in all or just some of the threads. We realise that there were some teething problems during the first year of presentation with a course which used new tools, and we very much welcome your comments – positive and negative, as your feedback will form invaluable data for us to improve the course.

We will incorporate your contributions into the debriefing session on 25 November and you will, of course, have the opportunity to discuss further during the actual session.

Schon mal im Voraus ganz vielen Dank für’s Mitmachen!

Herzliche Grüße Euer KursTeam

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Course De-briefing 1: Course materials

In this thread, we would like you to give your feedback on the print and audiovisual materials (Study Guide, Grundkurs, Aufbaukurs, DVD-Rom).

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Course De-briefing 2: Course website and online activities

In this thread, we would like you to comment on the usefulness and user-friendliness of the course website as a learning tool and as a support tool. We would particularly appreciate any comments regarding the online activities.

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Course De-briefing 3: Tutorials

In this thread, we would like to have your thoughts on the blended mode of delivery and students’ attendance at tutorials. We would also appreciate discussions about Elluminate functionalities and tutoring on Elluminate. How does your approach to tutoring differ when in a classroom or when online? Please, also comment on the tutorial materials provided by the course team.

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Course De-briefing 4: Assessment

In this thread, we would like to have your comments on the TMAs, the Speaking Test and the Specimen Exam Papers prepared by the course team, and on how your students worked with the assessment materials.

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Course De-briefing 5: Tutor support

In this thread, we would like to know what you think about the support you received from the course team, other OU colleagues and from your fellow tutors, for example in the Tutor Forum. Is there any further information or guidance that would have been useful to you, but wasn’t provided? Please, also comment on the usefulness and user-friendliness of the Tutor Resources area.
AUTHOR’S BIODATA

Regine Hampel is a Senior Lecturer in Modern Languages at the Open University and Associate Dean (Research & Scholarship) in the Faculty of Education and Language Studies. Her research focuses on the impact of using digital media for language learning and teaching. She is particularly interested in the affordances of new technologies, task design, learner interaction and collaboration, online literacies, and teacher training. Her publications include the book *Online communication in language learning and teaching*. She is co-editor of *System: An International Journal of Educational Technology and Applied Linguistics*.

Christine Pleines is a Lecturer in German at the Open University where she designs courses and study resources for online and distance language learning. She is currently responsible for the upper intermediate German module described in this article. She is interested in how distance learning environments can best be exploited to facilitate second language acquisition and has researched the development of spoken learner language and, more recently, the use of Open Educational Resources for language teaching.

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