Going in Cycles: Courseware and Material Development for Written Communication

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Abstract

We discuss the development of courseware in a virtual learning environment for a university-level, German as a foreign language writing course. We view both the language learning of students in this hybrid course and the development as activity systems (Engeström, 1987; Mwanza & Engeström, 2005), describe the individual components of each system in their interrelation and show how the two systems are interconnected. Such an approach to the description of materials development enables us to conceptualize the complexities of the development process in that it goes well beyond traditional software documentation.

Keywords

courseware development, material development, virtual learning environment, VLE, Activity Theory, Task-Based Language Teaching, TBLT, online learning

Introduction

Software development has to go through a cycle of analysis, design, development, implementation, and evaluation (for CALL see Colpaert, 2006). Moreover, this cycle is usually repeated several times, as was the case with our courseware and material development. The factors influencing this reiteration are numerous, complex, and interrelated. In this paper, we are analyzing this complexity for one particular course, the German language course entitled ‘GER 203 Written Communication’.
The initial work on this hybrid, intermediate, university-level German language course was done as part of a funded project called WatPal, which studied the development and implementation of group-oriented and task-based learning designs in a technology-rich language learning environment. The project started in the Fall term of 2003 and the course 'Written Communication' took its full implementation in the Fall 2005. The courseware\(^1\) has been used in five semester-long run-throughs with approximately 120 students. The online course has been and still is being developed further: additional learning objects are implemented, the overall structure of the course is improved, and minor errors and flaws are corrected.

We describe GER 203 as a hybrid course and not as blended language learning (Banados, 2006; Kallenbach, 2006) because we want to emphasize, on the one hand, the balance of classroom contact with face-to-face interaction among students and with the instructor, small-group student meetings outside of class time, individual consultations with the instructor during office hours, and on the other, technology-mediated discussions and other exchanges, e.g., by e-mail, through synchronous chat, and discussion boards, online self-study with interactive language exercises and other electronic learning objects, the use of multimedia learning objects (sound files and simple animations) for practice activities, and the use of print media (textbook, workbook) and audio materials (audio CD).\(^2\) This interrelation and integration of different teaching and learning media is better described as hybridity, because they co-exist rather than

\(^1\) Within the confines of this paper, we are using the labels ‘online course’ and ‘courseware’ and sometimes even ‘virtual learning environment’ (VLE) interchangeably. Our choice will become clear when considering that this online course or courseware consists of a large number of electronic learning objects which are all situated on the same course site of a virtual learning environment. On ‘courseware’ see also Colpaert (2006).

\(^2\) See also ‘artifacts’ section 4.
being smushed and mashed together as the term ‘blended learning’ and its association to cooking suggests.

We see our work as theory-driven CALL development, which has been advocated by Levy (1997b) who is particularly concerned with the “materials development process” (p. 43). He emphasizes that development has to be reconciled with the “technological environment in which it is realized” (p. 53). Levy’s and our approach is very similar to what Colpaert (2006, p. 115) describes as pedagogy-based courseware design, because our work is grounded in Task-Based Language Teaching – a theoretical framework in language teaching pedagogy, which we will sketch below.

In this paper, courseware development takes centre stage. We will first provide a sketch of the theoretical framework—Activity Theory—which informed our approach to the post-hoc description of courseware development. We do not only use Activity Theory to discuss the language learning in our hybrid course, but also as the main framework to explain the development process of the courseware. The two main sections—which focus on the description of the learning processes by student groups in the course and on the development of its online component, respectively—are structured by viewing both learning and development as individual, but interconnected activity systems. This vantage point enables us to tend to the discrete components of each system (Engeström, 1999). We will conclude our discussion of courseware development by providing an outlook on ongoing and future work.

With relevance to the same project, we have discussed the conceptualization and the pedagogic design, the role of task-based language teaching, the use and perception of language learning strategies, the computer-aided analysis of learner texts, a qualitative analysis of the task-based group work, and the use and perception of learning technologies in group work by our students elsewhere. Selected presentation slides and manuscripts are available at http://germanicandslavic.uwaterloo.ca/~mschulze.
When we describe the language learning in the course and the courseware development, we turn to Activity Theory\textsuperscript{4} as “a powerful and descriptive tool rather than a strongly predictive theory” (Nardi, 1995, p. 4), because it “provides a broad theoretical framework for describing the structure, development and context of human activity” (Uden, Valderas, & Pastor, 2008, n.p.). In our case, Activity Theory brings to the foreground the collaborative and social nature of the learning process and the development cycle (see Uden & Willis, 2001, p. 1), which are both described as activity systems.

Six interacting components—subjects, artifacts, objects, rules, communities, and division of labour—determine an activity system (Engeström, 1987, 1999; Mwanza & Engeström, 2005, p. 461). The artifacts are the material, cognitive, and social tools which mediate between the subjects involved and their purposeful goals—the objects. The rules include general conventions and guidelines as well as specific instructions that are relevant to the other components of the system. Communities are other individuals and social groups involved in the activity system, most notably the group of individuals who share a common object, as well as the social context in which the activity system is embedded. Division of labour captures the ways in which work is divided and organized among the collective subject.

Activity systems in general and our two in particular—the learning and the development systems as part of the WatPAL project—are linked and are part of an iterative cycle. This means

\textsuperscript{4} This theoretical framework has been discussed and employed using a number of labels (Thorne, 2005, pp. 393-394): cultural-historical approach (Vygotsky, Rieber, & Carton, 1987), Activity Theory (Leont’ev & James, 1981; Leont’ev, Leont’ev, Judin, & Viehweger, 1984), and the sociocultural theory (e.g., Lantolf & Thorne, 2006)). We use ‘Activity Theory’ for two reasons: (1) discussing both software development and language learning, we found that Activity Theory is the term employed and recognized in both areas, and (2) our descriptive analysis grid is based on the activity system by Engeström (1987, p. 32) who also uses Activity Theory as the main label.
that the outcomes of the development process are used as artifacts in the learning process, the outcomes of the learning process are analyzed in the analysis phase of the development process, and students who are subjects in the learning process are part of the community in the development process.

**The Learning Process**

Learning of writing with a focus on German grammar is done through meaning-focused and contextualized tasks (Bygate, Skehan, & Swain, 2001; Ellis, 2003) and through collaborative knowledge construction in group projects. We follow Willis' (1996) description of task as a “goal-oriented communicative activity with a specific outcome, where the emphasis is on exchanging meanings, not producing specific language forms” (p. 36). Given our understanding of the learning processes as an activity system, a task can also be described as the collaborative construction of knowledge (Edwards & Willis, 2005, p. 24).

Our discussion of the learning process gives priority to components of the activity system which are relevant to the discussion of the development process. The course GER 203 *Written Communication* comprises several collaborative activities, which could each be described as activity systems on their own. In this paper, we discuss the activity system of the entire course, i.e., we abstract somewhat from specific factors of each of these activity systems by focusing on their similarities to form a whole: GER 203.
**Rules**

In discussing the rules, we focus on the information students have received in the course syllabus and individual handouts. In addition to this information, the general policies, rules, and guidelines which govern learning and teaching at the University of Waterloo apply to the course, and thus the activity system, too. According to the syllabus, the GER 203 group meets twice a week \((2 \times 80\text{ minutes})\). The course grade is calculated on the basis of coursework for three projects \((3 \times 25\text{ points})\) and a final examination \((25\text{ points})\). Students work on each four-week-project in groups of four to five. In each of the three projects (the verb project, the noun project and the sentence project), the students of one group have to produce three texts together in collaborative production tasks: a grammar card \((\text{Grammatikkarte})\), a text \((\text{Text})\) on one of three topics given, and a portfolio \((\text{Portfolio})\) (see Table 1). The output for all three tasks has to be in German.

<table>
<thead>
<tr>
<th>Task type</th>
<th>Description</th>
<th>Length</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grammatikkarte</strong></td>
<td>notes on grammatical phenomenon which are relevant to the group, list rules, show tables, use keywords and graphics</td>
<td>max. 1 page</td>
<td>5 points</td>
</tr>
<tr>
<td><strong>Text</strong></td>
<td>written collaboratively; on a set topic</td>
<td>1200 words</td>
<td>15 points</td>
</tr>
<tr>
<td><strong>Portfolio</strong></td>
<td>record your learning activities, submit an evaluative summary of the group activity as well as the activities of individual members</td>
<td>800 words</td>
<td>5 points</td>
</tr>
</tbody>
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Table 1: Task types in each of the three projects with weighting for group grades

For the grammar card—limited to one page—the group determines what grammatical constructions and rules are relevant and important within the project and describe these. Since
each group writes the grammar card with the members of the other groups in mind, the outcome of their activity becomes a learning artifact for all students on the course. The text production task sheet explains that the output assessment would concentrate on linguistic accuracy and complexity of the written text and asks the students to focus particularly on constructions relevant to the project at hand. The communicative scenario set for these texts was located in the students’ realm of experience and thus the content could easily be constructed based on general knowledge. The Portfolio is a report and a critical reflection on the group’s project work and the project as a whole. The graded group portfolio, however, was eliminated after the first times of teaching the course, since students argued for a decrease of group-graded assignments and that a reflective task was not appropriate for collaborative writing.

Subject

Learning is understood as a social activity, so ‘subject’ has to be viewed as collective and not as individual. In our course, each four-week project has groups of 4-5 students who are heterogeneous in terms of prior grammatical knowledge and German proficiency: from two semesters of German instruction at the University of Waterloo to a prolonged study of German and/or extended periods of schooling in a German-speaking country or upbringing in a German-speaking family in Canada. They are also different with regards to their experience in group work, the extent of their prior learning of German (mixed number of majors and minors, sometimes continuous education learners), and other first and second languages. Students are assigned to groups by the instructor based on the results of a diagnostic test which assessed the grammatical knowledge of the project-relevant domain (verb, noun, sentence). The groups are comparable in that they are put together to have stronger, middling, and weaker members, based
on some simple statistics of performance ranks within the larger group (Penner & Schulze, forthcoming).

Community

Under community we capture the main social context of our learners of German. First and foremost, this is the community of (German) students at the University of Waterloo, students who come in with a good grade average from high school and mostly live in south-west Ontario. Since this online course is a hybrid course with class meetings on campus, it requires the presence of students for these contact hours, in contrast to online courses with no class meetings on campus. The community also includes the professors, instructors, and teaching assistants in the department, in particular those teaching the course at the time but also those who have been part of the development (see section 4) and others who may have or will act upon the course in one way or another. This community cannot be understood as ‘snapshot’ in time. To the contrary, particularly as viewed by (experienced) instructors of German, these communities change and evolve over time.

Object

While the overarching motives for the course may vary somewhat by individual student, there has to be a common object for the activity system to function. Frequently, students⁵ give their main object as passing the course at the end of the semester, whereby the more specific goal (or grade) varies from just getting a course credit to obtaining an excellent mark. Expectedly,

⁵ This information has largely been obtained through questionnaires, interviews, and observations as part of the research component of the WatPAL project.
language-related, more intrinsic motives are also frequently given: improving the accuracy or fluency of (my) German, or more generally, improving or sometimes simply ‘keeping’ (my) German. For some students, the object is tied to motives which pertain to grammar in particular. In other cases, the motive could be described as instrumental: to be able to communicate with German-speaking family (in Kitchener-Waterloo, these are often the grandparents), friends, fellow-students, or with German speakers when visiting central Europe. Beyond language-related objects, students—especially those in upper years—also name the participation in an innovative course as a motive for participation, referring to the VLE and the collaborative focus of the assignment. The strength and sustainability of these motives varies and students combine them and do not see them in isolation. The intrinsic, language-related objects coincide best with the motives of the developers and the instructors. A transparent course and courseware structure, the VLE and the classroom as a venue for meaningful interaction (in the foreign language), and a clear definition of expected learning outcomes are all the foundations for this (partial) overlap of motives and facilitate the strengthening and prolonged sustainability of the students’ objects.

*Division of labour*

Due to the learner-centered (Weimer, 2002) nature of the course, the students are involved as agents in this course, in particular in the projects. The assigning of students to the projects, however, is done on the basis of a diagnostic test. Before starting each of the three four-week projects, students are required to complete a diagnostic test measuring their knowledge of project-relevant morpho-syntactic constructions. Each item in this multiple-choice test contains one correct answer and a minimum of three distracters for which partial credit was given as well
as a “I don’t know” option. At the end of the diagnostic test, each student receives robust error-contingent feedback coupled with each answer choice, general feedback on this question, and the correct answer. Scores, however, are not disclosed and are used exclusively to determine group membership. The decision of how to divide the work among the members of each project group is left to the group. The instructor gives some advice in a mini-session on group work at the beginning of the semester as to how to assign useful roles such as group coordinator, secretary, proof-reader, and submitter to individual group members.

Contradictions occurred between the tasks as part of the rules of the activity system, which stipulate group work for the graded assignments, and the division of labour. These contradictions became apparent in an analysis of students’ perception of technology (Penner & Schulze, forthcoming) and these are in large part the reason if even successful group work has not been experienced positively. Students who were unhappy about their role and function in their group also perceived the VLE and its electronic learning objects less positively.

**Mediating Artifacts**

For the GER 203, mediating artifacts include the *Handbuch zur deutschen Grammatik* (Rankin & Wells, 2004) with its accompanying workbook and audio CDs. Students and instructor work in a technology-rich classroom, which includes access to the VLE (UW-ACE, see below), data projector, speakers, screens etc. While tablet PCs with wireless capability were distributed to every student during the first two times of teaching the course, students now either bring their own computer to class, check out a tablet PC to use during class time, or work on the computers

6 Robustness of the feedback, simplicity of item analysis, and the speed of automatic feedback were the criteria that influenced our decision to employ a multiple-choice test.
in the laboratory. However, although the courseware was developed initially for use on state-of-the-art table PCs, it has been used successfully on a variety of different hardware platforms.

The Development Process

Two very practical concerns triggered the development process: First, in any given semester, the course attracts a heterogeneous group of students as described in the section above. Teaching this course with both class contact and a virtual learning environment (VLE) opens up further opportunities for individualized instruction for students and enables the instructor to pay more attention to individual students either in class or through the VLE. Second, the University was looking for a suitable ‘test bed’ of tablet PCs in teaching and learning. The course usually had an enrolment of about twenty students, which was an optimal number of participants given that all students received a tablet PC for the duration of one semester, and the course instructor and other colleagues in the Department had experience and expertise in the development of online courses, evaluation of learning objects and learning designs, as well as in efficacy studies of new technologies (Schulze, Liebscher, & Su, 2007).

Object

The complex object of the development aspect of the project was to implement task-based learning designs (Leaver & Willis, 2004; Willis, 1996, 2004) for small groups (Alley, 2005; Storch, 2005) and to support these with learning objects which students could use to prepare for and plan (Ellis, 2005) successful task completion. Our goal was to increase the quality of teaching and enhance the learning experience of the language students by providing further
opportunities for peer-to-peer interaction and individualized self-study. However, it is important to note that the original project brief by the funding body of the University set a much simpler objective: determining possible efficiencies through the use of technology (based on a hardware-focused, return-on-investment model, not a pedagogy). With the knowledge of the funding body, we augmented this objective with our quality-oriented, pedagogic research and development goals.

Artifacts

CALL developers (and researchers and practitioners) often use two different metaphors for the artifacts—the computer as tool or the computer as tutor (Levy, 1997a, 2009). Hubbard and Bradin-Siskin (2004) notice that the tool role of the computer is a dominant one in CALL at the beginning of the twenty-first century but “believe that the tutor role for the computer is still eminently justifiable and that the field of CALL will be more robust if efforts in developing both tutor and tool-oriented applications and techniques for using them appropriately continue” (p. 449). In their discussion, they arrive at an understanding of tutorial CALL as implemented computer programs “that include an identifiable teaching presence specifically for improving some aspect of language proficiency” (p. 457). As Hubbard and Bradin-Siskin themselves note, this definition of tutorial CALL eliminates the tutor-tool dichotomy and permits a more integrative view of computers in language learning. Our courseware gives students access to

7 Put simply the model can be described as follows: the University invests in tablet PCs, students using these PCs save time, can take more courses in one term and complete their studies earlier, the University gets more revenue from taking more new students sooner.
communication and information tools, but also provides learning objects such as small online (grammar and vocabulary) exercises which, of course, have an “identifiable teaching presence.”

The online environment for the course was UW-ACE (University of Waterloo Angel Course Environment),\(^8\) designed by Angel Learning.\(^9\) Besides containing complete information on the course—the syllabus, a course calendar, announcements, task descriptions etc.—the UW-ACE site provided the students with a wealth of exercises and online resources. This online environment made it possible to record a wide range of data, such as results of online quizzes and exercises, participation in chats and discussion boards, student’s background information and data in several diagnostic tests, questionnaires and surveys.

To facilitate effective task processing, we created a large number of computational learning objects which are all ‘housed’ in the VLE:

- interactive online exercises with automated feedback, which focused on a variety of grammatical constructions, relevant semantic fields;
- discussion boards for writing tasks (collaborative writing and peer-editing) as well as for group discussion (task planning, preparation, and completion),
- chat rooms for informal student-student interaction and for discussions of learning strategies,
- audio files for listening comprehension;
- PowerPoint animations to illustrate grammatical processes such as conjugation, word order and relative pronouns;
- textual and pictorial resources to illustrate the range of language learning strategies,
- diagnostic and graded, online language tests;

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\(^8\) See http://uwace.uwaterloo.ca

\(^9\) See http://www.angellearning.com
• assignment submission boxes and other course management tools.

Access to the different learning objects is structured in three ways: (1) by complex grammatical phenomenon and textbook chapter, (2) by activity type, and (3) in instructional sequence. The textbook (Rankin & Wells, 2004) contains thirty chapters on different complex grammatical phenomena and combines them with vocabulary acquisition and writing and listening activities. Between nine to eleven grammatical phenomena are covered in each of the three projects. For each phenomenon, students are provided with a list of activities grouped in the following rubrics: Das Schreiben (individual and group writing activities to be done online in a discussion board or wiki), Das Erkennen (language awareness activities in which students are asked to recognize and identify certain linguistic phenomena), Das Sehen (small animations which illustrate inflectional processes and word order, for example), Das Üben (exercises of various formats such as multiple choice, fill-in-the-blank, one-sentence answer), Das Hören (listening exercises). In some chapters, we also provide activities that focus on the acquisition of new vocabulary, particularly in the semantic field ‘computer’ because this enables the instructor and the students to discuss technological issues in German. In others, we have activities which familiarize students with a wide portfolio of language learning strategies. All these activities can also be found by browsing a list of similar activities (language practice, listening, …) for the whole course. All learning objects which are either used in class or in guided self-study are listed in the course calendar under the relevant class-contact time. Here, the online diagnostic test and the three graded online tests as well as task descriptions and submission boxes would also be listed and linked in. The three different ways of accessing the same set of learning objects, which are supplemented by a search facility, give students sufficient flexibility on the one hand and a guiding structure on the other to navigate the learning materials.
Subjects and Division of Labour

Similarly to the project described in Ayres (2004), we worked as a research and development team, which consisted of a project coordinator (a German professor), course designer and four other German professors involved in the project to varying degrees in development and research, eighteen graduate students who worked as assistants who developed sets of individual learning objects or gathered and analyzed data for evaluation and research. We had members with varying levels of expertise in and perception of new technologies. Some only supported the use of computer technology in general, but not necessarily in (language) learning. Colleagues, more so than students, worried about our possible contribution to the industrialization of education through the move of on-campus courses online, but also clearly saw the courseware development as helping to increase student access and as an answer to student demand. This large group of people involved—few at the core, many at the periphery—contributed useful components to the development process, but this also meant that communication processes were slow initially and concerns with the division of labour resulted in an uneven stakeholdership within the group.

Rules

There are, of course, multiple rule systems on different levels: relevant policies and practices at the Department and the University, criteria and models of software engineering, widely accepted guidelines and norms in CALL design and development, and widely accepted practices and approaches in second language acquisition and language didactics. We focus on software engineering in courseware development and follow Colpaert who identifies the following requirements for courseware: authorability, accessibility, standardisation, normalisation, open
content, scalability, multi-carrier output, portability, reusability, and exchangeability (2006, p. 113).

Our course was developed in a VLE called UW-ACE—University of Waterloo Angel Course Environment. The functionalities and design philosophy of UW-ACE determine to a large extent in our case how the courseware requirements by Colpaert can be met. The VLE works essentially like a content management system ("CMS," 2009) by fetching all content from a database and then generating the relevant sections of the webpage in the VLE. This means that as long as all learning objects and other resources carry a unique name, they are easy to retrieve, edit or view (authorability) for all users, may they be developers, designers, instructors, or students. User logins are authenticated through a connection to the University’s student and employee database, in other words, only if you a registered for a course, will you be able to access it via any internet connection (accessibility). Learning objects can all be displayed and function in the same browser—dynamic web pages or PDF—with one exception: the animations created with Microsoft PowerPoint (standardization). Scaling the course database is easy within this VLE, the number of users, learning objects, and resources can be increased without sacrificing or weakening the overall structure (scalability). In addition to the learning objects provided by the course developers, students can create their own content by contributing to discussion boards which are used as semi-public spaces for collaborative writing and/or peer-editing (open content).¹⁰ As any other course which resides in a web-based VLE, our course can be loaded in a variety of browsers which in turn sit on a variety of operating systems and hardware platforms. Through a common repository to and from which learning objects can be

¹⁰ At the time of writing the implementation of wiki-based writing tasks is ongoing. They will be available to students in Fall 2009.
copied, an exchange with other content developers is possible (exchangeability). Our course or parts of it can be exported in IMS Content Packaging format ("IMS Content Packaging," 2004; IMS," 2008) and could then be exchanged with other VLEs (reusability).

**Community**

Of the six components of an activity system, the boundaries of community are probably most difficult to define. We will focus on two relevant communities of the collective subject of developers: the University and the students. The University of Waterloo was very supportive of this project and the following units were part of this community: the Centre for Learning and Teaching through Technology (hardware and software support; questionnaire design for the study of technology perception (Penner & Schulze, forthcoming)); Distance and Continuing Education (consultancy on online learning models); Institute for Computer Research (consultancy on database design), and Information Systems and Technology (support for the VLE). We also gratefully acknowledge the financial support of the Learning Initiative Fund of the University of Waterloo (2003 to 2006), which enabled us to train and involve a large number of graduate students. The University also loaned our two groups of students the tablet PCs and provided tablet PCs for the researchers. The funding provider was part of initial project discussions and decision making processes, but soon the research and development team had free reign in all design and planning decisions.

The community first and foremost on the mind of the developers were and still are our students. The course and the group of students has been discussed in the previous section. Comparing the two activity systems—learning and development—one realizes that developers and students ‘have switched position’. During the development, students are part of the
community and the collective subject is formed by the developers. In the learning activity
system, students are the subject and the developers are part of the community. Like Chenoweth
& Murday (2003), the courseware developers in this project were and still are interested in the
community of learners, but we do not focus on their learning outcomes in this paper. The
course—GER 203 Written Communication—had been run twice without a substantial online
component, before the courseware development started. After an initial development phase, we
had two semester-long pilot runs, during which extensive amounts of learner data were gathered.
Essentially, this meant that students were involved in all phases of the project—Analysis,
Design, Development, Implementation, Evaluation (ADDIE) (Colpaert, 2006, p. 39)—they
participated in the analysis, provided feedback on design and development particularly in our
evaluation studies, and the course was offered and running normally during all five development
phases (ADDIE).

Division of Labour

This large group of people involved—few at the core, many at the periphery—contributed useful
components to the development process, but this also meant that communication processes were
slow initially and concerns with the division of labour resulted in an uneven stakeholdership
within the group.

Outcomes

In our opinion, the innovative features of the learning designs and learning objects we developed
for our Written Communication course are:
• task-based language teaching in small groups (between three to six students in four or five groups) in a foreign-language writing class (about twenty students);
• foreign-language learning and collaborative second-language writing in a technology-rich environment (e.g., tablet PCs, a virtual learning environment, wireless technology and communication software);
• enriched student-student interaction through computer-mediated communication;
• computer-aided, diagnostic tests with individualized feedback at the beginning of each of the three projects which provide guidance for individual learners throughout the four-week project;
• online learning resources (e.g., language exercises, explanatory animations of selected grammatical phenomena, listening texts) in addition to the textbook and workbook material were all integrated in the online learning environment.

Conclusion and Future Work

The activity systematic analysis and description of our courseware development and implementation enabled us to provide a detailed and comprehensive view of the entire process in its social, theoretical, and practical determination. Looking back on about five and a half years of courseware development, we can certainly say that this was an iterative and slow-moving development process, which repeated the ADDIE cycle each time the course was offered. The continuous engagement of language learners and the involvement and training of graduate students during all phases added to the complexities and challenges during development, but was also one of the strengths of this process. We continue the development each time the course is
offered. Currently, we are working on the development of instructional sequences—what learning object to use when, how and for what purpose—in the online component of the course and thus move them from the classroom component to the VLE. We will also augment the reference sections of the textbook with short videos explaining the same phenomenon, construction, or rule differently. This further development of the courseware will facilitate access by students who would otherwise be prevented from taking this course due to geographic or time constraints. We will also make available all course materials outside of the VLE, which currently restricts access to registered students, to enable past students on the course to use the materials for further references and practice and to open the materials to any interested learner of German.

References


Authors’ Biodata

Grit Liebscher and Mathias Schulze are both Associate Professors of German at the University of Waterloo. With a number of other colleagues, they worked on the WatPAL project and collaborated on the design and implementation of other online language courses. Grit’s research interests are interactional sociolinguistics and foreign language learning. Mat’s main research has been in Intelligent CALL.