

Grit Liebscher & Mathias Schulze
 University of Waterloo
 Department of Germanic and Slavic Studies

Challenges in designing an online environment for beginners' German courses

In Fall 2001, the Department of Germanic and Slavic Studies at the University of Waterloo was among the first recipients of a grant from the Wes-Graham-Fund for innovation in computer-based learning technology. This funding enabled us to start the *Geroline* project – the work on the conception, design and implementation of an on-line distance education course for university students who learn German *ab initio*. In this article, we will present the model we are using for this course and discuss some of the challenges that arose in designing this course.

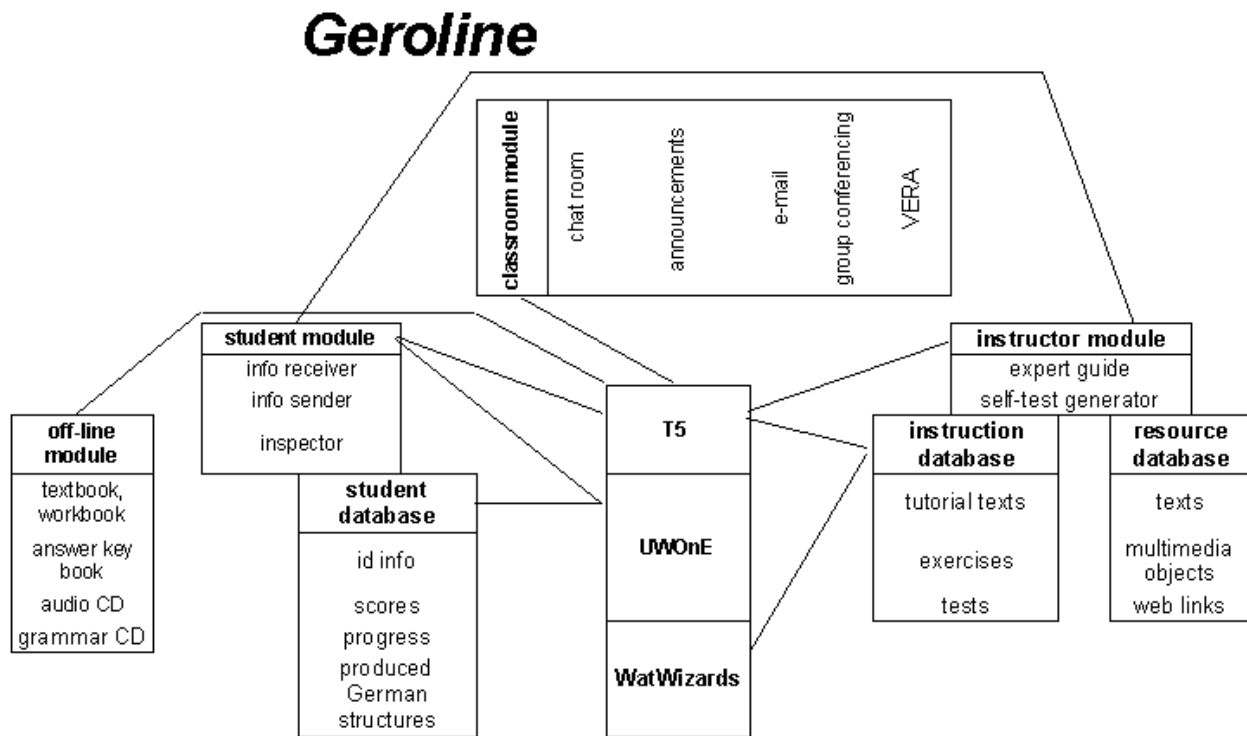


Illustration 1 General Architecture

Course Material – General Structure

Illustration 1 above provides a sketch of the overall architecture of the materials for the German 101 course. These materials rely on a variety of delivery media such as textbook, workbook, audio cassettes/audio CD, grammar CD, course CD and WWW server. The main material for this course is *Vorsprung* (Lovik et al.:2002). Students will use the textbook, the workbook and the audio materials which contain all listening texts (currently cassettes, but a CD version is due to be published soon). A grammar CD-ROM from the same publishers will be integrated as soon as it becomes available. This collection of language learning materials is listed under **off-line module** in Illustration 1.

This textbook with its accompanying material is already in use for the elementary German courses at the University of Waterloo (German 101 and 102). Adopting the same publications for the distance education course has a number of advantages:

- (a) We did not need to create the bulk of the learning objects for this course, but could instead rely on the wealth of exercises, tutorials, texts etc. from the commercially available publication.
- (b) Since we have been using the book and its support materials in the department for some years now, we benefited from the experience faculty members and instructors acquired in their teaching.
- (c) Using the same material for the on-campus as well as the distance education courses does not only minimise our efforts in terms of creating support material, lesson plans and assessment items, but will also benefit the students in that they can progress more easily from course to course independent of their choice of gaining course credits via distance education or on campus.

Students who register for the distance education version of German 101 will receive the *Vorsprung* package. Since these books have been produced with students in mind who attend classes on campus, it is the main purpose of the remaining materials to recreate aspects of the language classroom setting for adult learners who are studying not only from home, but also independently. This means

- these distance education students have a need for more guidance than is given in the book, for guidance that is normally provided by an instructor in class;
- they need to be given ample opportunity to use the second language in written and oral communication in the second language, opportunities that otherwise arise in the classroom setting in peer-to-peer communication mainly in pairs or small groups or in face-to-face communication with the instructor or the teaching assistant.
- they should have access and feel part of a social support network that a group of students who attend the same course have in many cases.

Most of the guidance students receive is provided on the course CD, we are currently designing and preparing for a pilot run in Fall 2002. This CD contains a variety of HTML documents and other resources that can be viewed in a browser. The material is structured within the **T5 model**. This model was developed at the University of Waterloo as a template for new on-line courses. The five Ts stand for Tasks, Tutoring, Topics, Teamwork, Tools. As can be seen from Illustration 2, German 101 covers the first three chapters of the *Vorsprung* material. (The other chapters are covered in subsequent courses.) Each chapter was divided into learning **tasks**. These tasks provide the student with two self-

tests, topics and instructions for the task completion.

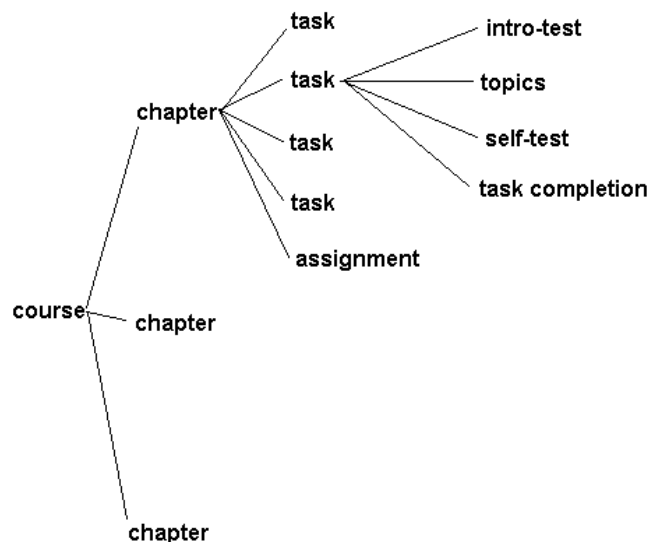


Illustration 2 Task-Based Course Structure

The learning **tasks** (Illustration 2) are authentic and relevant communicative tasks that provide an opportunity for the students to apply linguistic and factual knowledge they acquired during task preparation or in previous tasks. The course tools of the **classroom module** (Illustration 1), such as announcements, group conferencing (message board), chat room, VERA¹ and e-mail, facilitate student-student and student-instructor communication in the second language and provide an infrastructure for informal peer and instructor support in English. **Assignments** are the last phase of a related set of tasks. Consequently, they build on material covered and collected during the tasks and test knowledge and abilities acquired in the process of working on the tasks. In the assignments, students are asked to use information and structures from the relevant **task completion** phases. Students receive feedback from their instructor for the assignments.

The **topics** are resources that facilitate students' successful task completion, e.g.,

- references to exercises, tutorials, texts in the *Vorsprung* materials;
- links to further on-line exercises that complement the material in *Vorsprung*. (Students receive instant feedback on these exercises, but their answers are neither saved nor monitored in any way.);
- links to an on-line glossary, answer files, recordings of written textbook material.

Illustration 3 below gives an example of a task description. The T5 model displays information in three different windows. The main window contains the course description. It has a navigation bar on the left

¹ For the classroom module, we are also planning a telephony component – **VERA** (at this stage still subject to funding). VERA is a "Voice Enabled Record Appender" that utilizes the OctelDesigner hardware. In essence it allows students to pick up the telephone receiver, dial a toll-free number, identify themselves through a student ID number and then record their oral assignment. This assignment is then automatically streamed to the course management server. Students will see an icon in their workspace and can listen to their recording simply by double-clicking this icon. Instructors are notified that the student has completed this oral assignment in the same way – an icon represents each students sound file. The instructor can listen to this recording and provide written or oral feedback via the course management system.

and provides links to the tasks for each chapter on the right. The next window (Illustration 3, top) explains the tasks and lists links to learning resources on the right (topics). These resources are displayed in the third window.

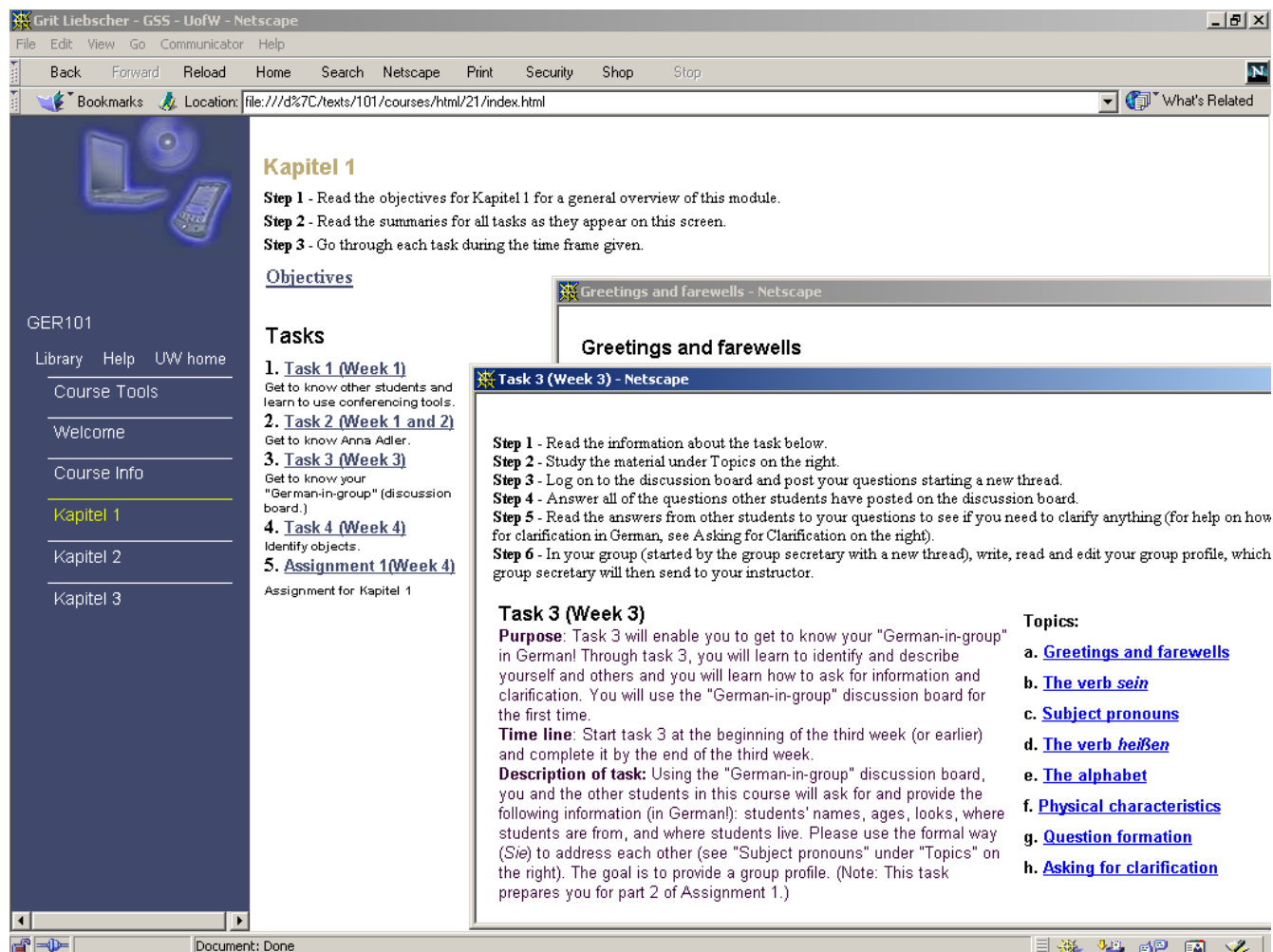


Illustration 3 Screenshot of one task

Part of each task are two computerized diagnostic tests (**intro test** and **self-test**), which consist of a variety of sentence-based language exercises. Feedback is provided by the computer, student answers and other relevant information is stored in order to be able to monitor student's progress and also for research purposes (learning impact study, second language acquisition research).

The overall structure of the course resources for German 101 (Illustration 1) contains some modules that are not visible to the student. **UWOnE** is the course management tool developed at the University of Waterloo. It manages student and instructors access to the relevant courses and resources and keeps track of students' progress. **WatWizards** are the design tools for self-test items; they allow the creation of test items that are easily classifiable in terms of content and that are capable of sending out information to the student module. The **student module** records data from the self-tests about each student. This data is used to provide feedback to the students and information for the **instructor module**. This module generates feedback on the tests for the students – feedback that should facilitate an improved approach to the learning material by students.

Challenges

When designing the course, we encountered the following challenges and tried to find possible solutions:

- to provide a personalized learning environment
- to foster communication between students while watching instructors' time constraints
- to address different learner styles and language proficiency levels

Our initial intention was to provide each student with a **personalized learning environment**. Such environment adjusts to students' abilities and their preferred course of learning. Students profit from such an environment in that they are given information about their own strengths and weaknesses. The web pages would be built on the fly. The system would use not only content information from the data base but also information about the individual student. The result of such an approach is that each student's screen looks different. In this version, the student would only have access to material that the computer deems necessary for the student. This material would help the student to overcome weaknesses. Thus, based on an analysis of what the student can and cannot do and the student's correct and incorrect answers, the computer displays only the material the student has to work on and suggests the next course of action for the student.

The problem with this approach is both technical and pedagogical. Changing the T5 model in such a way that it could accommodate an adaptive system would have posed immense technical challenges. From a pedagogical point of view, students are offered only a slice of the entire material of the course or the unit. They have access only to the material that improves their abilities. This does not allow for students' choices in reviewing material in an area in which they are proficient. This problem is compounded by the fact that the computer's analysis of the student ability might or might not be accurate.

We decided to implement a version of the personalized environment, in which the content on screen is not modified for each student, i.e. students have access to the same material. The environment we envision provides students with suggestions for the focus of their learning activities and the next actions (tailored guidance). For example, all students will have equal access to the topics for each task. Through individual feedback on the self-tests (Illustration 2), students are advised to choose among the topics and to proceed in a particular order for their own benefits.

Feedback the student receives after completing the first diagnostic self-test (intro-test) will be in the form of guidance as to what resources will prove particularly useful to her or him for the successful completion of the task at hand. This tailored guidance is necessary, for example, because we are dealing with a relatively large number of so-called 'false beginners' in this course, i.e. students who have prior knowledge of German but who did not qualify for any of the higher-level courses. The short test at the beginning of each task will improve student motivation by helping them to concentrate on the material that proves most difficult to them. Since with some students we might be testing knowledge which has not been taught yet, we are allowing them to pass all or selected questions. The second test (self-test) provides the student with information on how successfully or otherwise she or he covered the material that was provided for successful task completion. The student is advised to only attempt the task completion after having passed the second test with success.

While the first diagnostic test is especially important for 'false beginners', the self-test at the end is crucial as a performance check before students use conferencing tools. Almost all of the tasks require students to use conferencing tools for task completion, i.e. students communicate with each other in

German using the message board or chatroom.

A **second challenge** has been to foster communication between students while considering instructors' time constraints. By communication we mean oral as well as written exchanges among students and between students and instructor(s). It has been argued that communication is not only necessary to apply linguistic knowledge in the form of output but also that communication is at the heart of the acquisition process itself (interaction hypothesis). Warschauer (1997), for example, has argued that collaborative writing activities using conferencing tools foster language acquisition.

As compared to "paper-and-pencil" distance education courses, computer technology used in online courses allows for a wider range of learning activities in which students communicate with each other. Examples of this technology used in our course design are message boards² and chatrooms³ fostering written exchanges in the second language, and the oral communication system VERA.

One challenge in the design of tasks requiring the use of conferencing tools has been the time factor, i.e. the question how much of instructor resources and time should be devoted to check and provide feedback on students' exchanges using these tools. Since "paper-and-pencil" distance education courses do not include the use of conferencing tools, any additional work for the instructor as a result of students' engaging with conferencing tools has to be considered carefully. This is particularly challenging since "paper-and-pencil" distance education courses are not part of the regular teaching load at Waterloo. The new on-line version has to consider the time constraints for the instructor. Alternatively, the distinction between teaching a distance education course and a regular classroom course may need rethinking.

For now we have tried to address the time constraints in the design of the course itself. One point in our teaching philosophy is that students ought to use these tools for meaningful language practice. Each of the tasks we have designed requires students to engage with others in groups. These exchanges do not require the participation and intervention of the instructor. The instructor sees only the final product, an assignment that is based on these exchanges.

Naturally, students will make mistakes, just as they do in the classroom. In the regular classroom, the instructor corrects some mistakes in class activities with the whole class or with single students in pair work; at other times, such mistakes go unnoticed. Conferencing tools are not different in that the instructor may or may not correct a mistake when students are engaged with each other. Just because the outcomes are in written form does not mean that the instructor has to read every single exchange and correct mistakes. There is no clear evidence in the research literature that incorrect forms in conferencing exchanges get passed on. Some studies have shown or cautioned that this may be the case (Kern 1995: 470; Swain 1985: 77-79); others did not find that incorrect forms were passed on (Blake 2000: 133). As discussed earlier, the second self-test of each task is designed to limit the number of mistakes that students may make using conferencing tools.

² A message board is a tool that lets students post messages and read messages that others' have posted. It works on an asynchronous basis, which means that different students do not have to be on-line at the same time. A student can go on-line and read a message that somebody else has posted there a day or so ago. At the same time, a message that the student posts gets read by others whenever they choose to go on-line to the message board which may be a few minutes or days later.

³ Chat rooms are for synchronous exchanges, which means that participants have to be online at the same time in order to write to each other and read each other's messages. They have an immediacy that some researchers have compared to oral conversation.

For a number of tasks, students are working together and only one of them, the group secretary, submits a summary to the instructor. This again makes better use of the instructor's time. The submission of the results of group tasks is commonly used in other distance education courses, especially in those with a high number of students. Obviously, group tasks have other advantages such as working collaboratively and learning from each other. We may find the effect that some more proficient learners are able to pass on knowledge to others. Group assignments and group conferencing also foster a "community of learners," something that we hope to accomplish in having students use conferencing tools. This was also a consideration in offering a conferencing space, in which only the students communicate with each other. This space is intended for them to solve problems and questions among themselves first (in English), before the instructor is asked to step in.

While the instructor is indispensable in designing the activities for students and setting clear tasks, students have control of many aspects of their learning. Without instructor intervention, students design their own discourse; they control (and are responsible of) what they say. Students also structure the discourse; they may create their own threats on the message board. In addition, students may use chatrooms as an option to message boards, in which case they would have to find a time when they could meet on-line. In my experience, students prefer chatrooms to message boards because they enjoy the immediacy of the interaction, even though chatrooms are more demanding than message boards because students are required to keep up with a faster pace than on message boards (Beauvois 1998). Research has found that chatrooms are more like conversations and they would be the preferred medium of student exchanges in their effect on language acquisition. However, we want to leave it optional to students to find a common time to be on-line or to go on-line individually.

Last but not least, some comments on **learning preferences and multiple intelligences**. We are trying to accommodate different learning preferences. For example, the linguistic material is presented in a variety of ways. In conjunction with the written text in the printed materials and on screen, students are provided with a recording of these texts by native speakers. More difficult texts have been recorded twice at different speed. The *Vorsprung* textbook (Lovik et al. 2002) frequently uses cartoons. In the on-line version of the course, students cannot only listen to the dialogues and follow the text in the cartoons, but they can also combine the recording with a version of the cartoons with English captions or one without any written text.

Besides learning preferences, the multiple intelligence (MI) theory by Gardner (1993) influenced our design choices. Gardner's MI theory proposes 8 types of human intelligences: linguistic, logical/mathematical, spatial, musical, bodily/kinesthetic, interpersonal, intrapersonal, and naturalist. In the kinds of tasks we have been designing, we offer students possibilities to learn the material as it best suits their intelligences. The personalized environment will also leave students choices that may accommodate their intelligence type. For example, some students may want to start with analytical and spatial aspects as part of language learning (grammar descriptions, charts, pictures), while others will want to get a feeling for the language first. The conferencing environment gives students all options for creating with language, even for creating their own language games. Some students may want to work more independently, while others may want to make use of the English message board as a safety net in exchanging ideas, problems and concerns with other students on-line. In the attempt to consider learning preferences and multiple intelligences, we will not go as far as creating different tasks or assignments for different types of students, as is done in some curricula.

The main goal in all our language teaching endeavor is a students who can produce adequate German as well as listen to and read German texts. We have to take into consideration the different routes which students take to this destination. Although we sometimes tend to dismiss the on-line

environment as “second class” to teaching and learning in the classroom, we may find that some students prefer one or the other, not because one is easier, but they are different and one may be more suited to their needs. Comparing on-line distance education courses with regular classroom courses, some of the activities we have been suggesting, for example extensive writing using conferencing tools, in combination with an oral component, offer ways that may be as conducive to language acquisition than the classroom environment. Certainly, components of on-line teaching should be and will be considered in regular on-campus courses.

Comparing this new on-line version of the distance education course German 101 with the current “paper-and-pencil” course, two main advantages are apparent:

- We are offering students interactive exercises on the computer, for which students receive immediate feedback.
- More importantly, students are given a medium that facilitates peer-to-peer communication in their second language. Thus, it recreates an important facet of the language classroom for the distance education students. Of course, this medium can also be used by the students to overcome the potential isolation of a distance education learner.

Bibliography

- Beauvois, Healy Margaret (1998). E-Talk: computer-assisted classroom discussion: attitudes and motivation. In Janet Swaffar, Susan Romano, Philip Markely, Katherine Arens (Editors), *Language Learning Online*. Austin: The Daedalus Group Incorporated, 1-15.
- Blake, Robert. (2000) Computer mediated communication: a window on L2 Spanish interlanguage. *Language Learning & Technology*. 4/1, 120-136.
- Gardner, Howard. (1993). *Multiple Intelligences: The Theory and Practice*. New York: Basic Books.
- Kern, Richard. (1995). Restructuring classroom interaction with networked computers: effects on quantity and characteristics of language production. *Modern Language Journal*, 79, 457-476.
- Lovik, Thomas A; Guy, J Douglas; Chavez, Monika (2002) *Vorsprung*. Boston: Houghton Mifflin.
- Swain, Merrill. (1985). Focus on form through conscious reflection. In C. Doughty and J. Williams (Eds.), *Focus on Form in Classroom Second Language Acquisition*. Cambridge: Cambridge University Press, 64-81.
- Warschauer, Mark. (1997) Computer-mediated collaborative learning: theory and practice. *The Modern Language Journal* 81/iv, 470-481.