

THE ROLE OF TASKS IN PROMOTING INTERCULTURAL LEARNING IN ELECTRONIC LEARNING NETWORKS

Andreas Müller-Hartmann

University of Giessen, Germany

ABSTRACT

This paper focuses on the role of tasks in promoting intercultural learning in learning networks and is based on qualitative research from three e-mail projects between English as a foreign language (EFL) high school classes (years 11 and 12) in Germany, and English and Social Studies classes in the United States and Canada. The joint reading of literary texts formed the basis for discussion on the networks. A comparison between intercultural learning in the actual reading process and the negotiation of meaning in the network phases shows a close resemblance in the structure and use of tasks. Task properties, such as activity, setting, and teacher and learner roles, as well as the personal level (i.e., non-thematic exchange of information) in the asynchronous e-mail exchange, proved to be especially influential for intercultural learning in the design and management of task structure.

INTRODUCTION

The development of communicative language teaching in the 1990s was characterized by a growing stress on the merging of language and culture learning (Byram, 1997; Candlin, 1989; Kramsch, 1993). At the same time a close relationship was noted between the use of a task-based approach and the development of functional learning environments, and the potential of electronic learning networks for enhancing intercultural learning was recognized (Riel, 1994, pp. 457-458; Peterson, 1997, p. 31). To date, however, there has been little research on language learning environments that try to facilitate intercultural learning by means of establishing international learning networks. This article looks at the crucial role tasks play in shaping interactive processes in such learning environments. In contrast to research on moderated networks such as the AT&T learning circles (Riel, 1992), this study considers individually organized networks between classrooms in Germany, the United States, and Canada. The basis for all asynchronous e-mail exchanges among the 11th and 12th grade high school classes was the joint reading of young adult novels or plays.

The goal is to examine the way task properties, setting, the roles of teachers and learner, and the structure of interpersonal exchanges in asynchronous e-mail projects influence intercultural learning. At the same time, the study does not attempt to trace a possible increase in intercultural awareness, a development that is difficult to measure in the relatively short time span of an e-mail project (see Chen, 1998).

TASKS AND INTERCULTURAL LEARNING

In 1989, Candlin affirmed the importance of focussing on "the issue of the learner's personal identity versus his or her social identity and cultural identity within the process of language learning" (p. 3). Integrating the various facets of teaching language in context, Kramsch (1993, p. 183) describes the following goals of foreign language learning and teaching:

1. communicate appropriately with native speakers of the language;
2. get to understand others;

3. get to understand themselves in the process.

The degree to which one is able to understand others and oneself, and to learn interculturally, depends on learners' ability to open up to each other on an emotional plane, and on the degree to which they are involved in meaningful activities that allow for negotiation of meaning. In the meaning-negotiation process, learners might strive for at least partial understanding of the communication partner, changing their own perspectives in the process to incorporate aspects of the other's point of view, or even changing their own perspective completely (Bredella, 1992). Central to this process, which is obviously dialogic, are tasks that initiate possible negotiations of meaning. While many proponents of task-based language learning note the importance of negotiation of meaning (see Crookes & Gass, 1993), Candlin is notable for the emphasis he places on empathy and tolerance as well as critical stance in task design.

In addressing the educational goals of task design, Candlin (1987) affirms that the exchange between self and other can be enhanced by tasks that allow "learners to become more aware of their own personalities and social roles, and those of their fellow learners..." While tasks highlight "how language is used to reflect and reinforce our value and belief system," Candlin also sees the need "for tasks to take a critical stance" since the improvement of relations between learners' worlds inside and outside the classroom depends "upon mutual acceptance and tolerance of their members, and overcoming the barriers raised by ideology and prejudice" (p. 17).

In his language-in-culture curriculum model, Candlin (1989, pp. 14-15) thus puts "a range of problem-posing and problem-solving pedagogic classroom tasks" at the center. Through the tasks learners access and understand language data, that is, "socially and culturally situated texts," which need "to be problematized in the instructional model." The key properties of task design according to Candlin (1987, pp. 11-12) include *input* (data), *roles*, *settings*, *actions*, *outcome* (goals), *monitoring*, and *feedback*. Regarding learner and teacher roles in task design, Breen points out that the language task itself is open to interpretation by the learner on his or her terms, and Legutke and Thomas add an interesting aspect when they assert, "...the structure of a task, as well as the conditions under which it is undertaken in the classroom, will determine the amount of space and freedom for such interpretations" (Breen, 1987; Legutke & Thomas, 1991, p. 56). Consequently, questions of task structure, setting, classroom management, and teacher and learner roles are central to an understanding of a task-based language learning approach that facilitates intercultural learning, aspects that are also salient for the creation of a functional learning network in which participants attempt to engage in negotiation of various issues with their respective partners.

LITERARY TEXTS AND THE PHASES OF LEARNING NETWORKS

Literature plays an important role in many language curricula. Literary texts' rich symbolism and reader-response approach allow readers to create personal meaning during the reading process, which they can negotiate with other readers. The potential of literature as a basis for learning networks has been previously pointed out (e.g., Bee-Lay & Yee-Ping, 1991, p. 288; Christian, 1997, p. 9; Warschauer, 1999, p. 29). Analysis of literature fulfills still another function that makes it highly suitable for activities or tasks in intercultural learning. Literary texts (and as in this case, especially those for young adult readers) offer alternative worldviews to their readers. They invite readers to compare and contrast their views and thoughts with those of the perspectives created through the text, as they try to understand them at the same time. Reading a literary text thus involves two kinds of understanding. Foreign language learners have to come to a linguistic understanding of what is written, and they have to come to terms with the views and conflicts between characters.

These processes of (mis)understanding and negotiation of meaning in the reading process are replicated, mirrored, changed, or revised through the exchange with other learners in the classroom as well as on the

electronic learning network. This opens the doors for a rich and complex learning environment in which learners create their interpretations for a peer audience and engage in joint interpretations and processes of negotiation that can potentially hone critical literacy skills.

Since this study looks at the potential of tasks for intercultural learning in a networked environment which is based on the common reading of literary texts, three main fields of inquiry present themselves: a) the learning network, b) the procedures in the local classroom, and c) the actual content of the task, that is, reading a literary text and writing about it. For all three fields, structural guidelines have been suggested (see next section; Riel, 1992; Candlin, 1989, Caspari, in press) to assist in their analysis. However, only a combination of the different perspectives of all three fields of inquiry will produce the multiple perspectives on the research context that the author considers necessary to analyze the role of tasks in such a complex learning environment.

The Learning Network

In her description of the procedural phases of AT&T learning networks, Riel (1992) points out that learners should deal with "interdisciplinary themes to be explored through activity-based projects in new patterns of social engagement," allowing "students to become active problem solvers, working cooperatively and using and constructing knowledge in flexible ways" (pp. 16, 18, 27). In delineating the general task structure, Riel defines six phases which strongly resemble a project-oriented approach to language learning (Legutke & Thomas, 1991, pp. 75-150): a) getting ready, b) opening the circle (introductions), c) project planning, d) exchanging the work, e) creating the publication, and f) closing the circle. After an introductory phase, partners "shared a well-defined group task," which allowed "for cooperative planning" leading "from the more personal exchanges during the beginning of the circle to collaborative work on educational projects" which were eventually published (Riel, 1992, pp. 16, 18, 27; 1994, p. 454; see also Warschauer, 1997, p. 477).

The Classroom Level

Looking at the classroom procedures or syllabus level of such a learning environment, Candlin's (1989, pp. 20-21) phase model is helpful to look at the local classroom level. His sequence of activities and modes of participation delineates the intercultural learning process of working with texts in the classroom.

Table 1. Methodology of a Language-in-Culture Curriculum

Phase I	(Individual)	INVESTIGATING	(What do you see?)
Phase II	(Individual or pair work)	THINKING	(What do you need to know?)
Phase III	(Pair work)	CODIFYING	(How does it apply to you?)
Phase IV	(Group work)	DIALOGUING	(Who to work with? How to get further information?)
Phase V	(Group work)	CRITIQUING	(What are the underlying issues?)
Phase VI	(Plenary)	ACTING	(What action is to be taken? What can you do?)

While Candlin highlights the importance of the social structure of the setting (individual, pair, group, and plenary work), his model includes the key properties for intercultural learning, which Byram (1997, pp. 34-38) postulates as knowledge, skills, attitude, and critical reflection. Consequently Candlin (1989) explains

classroom work is focused on the relativising, personalising, and problematising of experience, the enhancing of skills of intercultural understanding, in particular seeking social and cultural explanations for language use, and the extending of knowledge and awareness gained in the classroom setting to address learners' personal life issues in the wider social context of intercultural behavior outside the institution. (pp. 20-21)

He thus highlights the process which will lead to what Cummins and Sayers (1995, pp. 13, 11) describe as a "critical literacy" approach that facilitates the development of important skills, such as "critical thinking, and creative problem-solving" as well as "basic literacy skills" (see also Riel, 1994, p. 455; Warschauer, 1999, pp. 28-29).

Working with the Literary Text

In her insightful exploration of creative tasks for intercultural learning through working with literary texts, Caspari (in press) delineates four stages. She starts with pre-reading tasks that make learners curious about the text, followed by attempts to make learners aware of their own cultural identity so that they are able to articulate their own position towards the world created by the text. The third stage is characterized by intensive reading, with the goal of understanding the text, seeing positions through the eyes of fictional characters, and reflecting on expectations that might not have been fulfilled by the text. This intensive reading phase eventually leads to interpretation and evaluation of the other culture. The last stage, based on a number of post-reading activities, involves coordination of the reader's own perspectives with other perspectives represented in the text. These tasks help readers to possibly alter their perspective. The tasks also support readers in accepting unchangeable differences in perception between cultures in the process.

Since the focus here is on the processes of students' intercultural learning on the network as well as in the local classroom, four phases of negotiation of meaning can be identified. These phases, which correspond very closely with Caspari's four stages, trace a) familiarization with the partners' respective cultural identities, b) the developing dialogue between partners, c) the intensive negotiation of cultural values and norms, and d) the coordination of the different perspectives.

Riel's procedural phases two through five of organizing on-line collaborative projects correspond with these phases on the organizational level. Since my projects had no outside moderators, however, teachers organized everything by themselves. Riel's first phase of "getting ready" presents in my context an intensive phase of negotiation on the teacher level prior to the actual project. This phase is characterized by intercultural learning in its own right, but solely on the teacher level (see Müller-Hartmann, in press).

While Riel does not deal with procedures on the classroom level, Candlin's model of what actually happens in the local classroom can be taken as a basis for instructional planning. The author merges his first two phases of "investigating" and "thinking" (that is, the phase of creating awareness toward the text) into one phase in which learners establish contact with their partners and become aware of their respective cultural identities. Once learners begin to interact with the literary text and talk about it with their partners, Candlin's "codifying" and "dialoguing" phases (III + IV) come into play, since now, in what I am calling the second phase, learners negotiate meaning on the basis of the views they have established through the reading process. It is my third phase, Candlin's fifth (critiquing), which proves to be very

productive for intercultural learning, especially in the area of critical intercultural readings. As will be shown, in all these phases the social activities as described by Candlin play an important role.

While Caspari is not concerned about classroom procedures, she delineates the hermeneutic structure of the reading process, that is, the attempt at understanding the represented other. This model mirrors the establishment of an intensive exchange between partners from different cultures, in which the participants attempt to "read" each other.

The fourth and last stage of coordinating perspectives, which is similar in all models (Riel's phases 5 + 6; Candlin's phase IV), involves the reflection of the prior negotiation process and a coming to terms with possible results in the form of various products, such as a common Web page or a formal essay or creative forms of evaluation.

After a description of the research design and the context of the e-mail projects I will look closely at the roles that tasks played in the different phases.

CONTEXT AND RESEARCH DESIGN

In the school year of 1998-1999, nine e-mail projects were organized among 11th and 12th grade EFL classrooms in German high schools in the Giessen area (north of Frankfurt) and English and social studies classrooms in American and Canadian high schools. Among the 20 schools involved, the distribution was as follows: In one case, four classrooms in four different schools (two in Germany, one near Giessen, the other in southern Germany, and two in Canada) formed a network, while in the other eight cases, one German classroom and one American classroom formed a dyad. German teachers offered their project descriptions over the St. Olaf lists (Intercultural E-Mail, 2000). Over several weeks, partner classes were established and the projects were organized by the teachers to run over a period of 3-4 months. Together the classes either read Drew Hayden Taylor's *Toronto at Dreamer's Rock* (1990/1995), a play about the meeting of three Native Canadian boys who discuss their fears and hopes, or Gloria Miklowitz's *The War Between the Classes* (1985/1996), a novel based on a sociology experiment that deals with issues of conflict and understanding among different classes and ethnic groups in California.

The German teachers took part in an in-service teacher training course on the integration of electronic media in the foreign language classroom, which was taught by the researcher and a colleague at the University of Giessen in conjunction with a seminar entitled "Intercultural Learning and the Internet." Teachers joined university students during two sessions of the seminar while students were allowed to visit the classrooms to observe the projects in action. Although teachers received some input as to the organization of learning networks, they organized their respective learning circles individually, without outside support.

To understand the complex processes of learning in a networked environment, experienced in multiple ways by the various participants, an ethnographic approach is necessary. The triangulation of various forms of data (e.g., e-mail letters, interviews, questionnaires, field notes) illuminates classroom processes and allows conclusions across the researched learning environments. The researcher observed most of the classroom sessions, which were audiotaped.

A larger ongoing research project, covering all classrooms, looks at the integration of telecommunication in EFL and, in particular, at its potential for intercultural learning. In contrast to organized learning networks that profit from support through an organizing and monitoring agency (Riel, 1992, p. 26-27), individually organized networks are prone to many difficulties, from technical problems and diminishing interest to time and institutional constraints (see an interesting recent discussion on NetPBL in *Global Schoolhouse*, 2000, which tries to come to terms with these difficulties).

In this study, 3 of the 9 projects were chosen for inclusion because they were all well developed and moved through a series of phases from the initial introductions to the final phase of coordinating perspectives. Data come from the three German EFL classrooms in the Giessen area, each participating in an e-mail project with partners in Canada or the United States. Besides the e-mail exchange between participants, data consist of field notes, interviews with teachers, and questionnaires given to students before and after the projects.

Project	Partners	Text
Project A	Germany (Richter)- U.S.A. (Stevens)	<i>The War Between the Classes</i>
Project B	Germany (Skubich)- U.S.A. (Adams)	<i>The War Between the Classes</i>
Project C	Germany/Ulm (Meier)-Germany/Giessen (Maurer)- Canada/Quebec (Spencer)- Canada(Survival school) (Wendler)	<i>Toronto at Dreamer's Rock</i>

In their project proposals, German teachers were explicit about their goals. Both Anke Richter and Imke Skubich¹ describe *The War Between the Classes* as lending "itself especially well for engaging the two partner groups into issues of intercultural understanding and learning, which would be our main aim" (Project A: Richter, e-mail 7-7-98; and Project B: Skubich, e-mail 8-30-98). Skubich's American partner, Karen Adams, favored this approach as well: "I teach a global studies class and this would be an appropriate unit" (Project B: Adams, e-mail 9-1-98). The triangle between two classrooms in Germany and one in Quebec, which was later joined by a classroom from a survival school in Quebec, had already successfully organized a project the year before, and all were interested in promoting intercultural learning.

The input data, as presented above, were young adult literary texts. After an introductory phase (see [Phase I](#)) during which students were matched and got to know each other, the exchange in the learning networks was based on the common reading and discussion of the chosen literary text. During the interviews all teachers expressed the belief that comparison between the different cultures involved was the best way to initiate intercultural learning. This was achieved through the collaborative work on tasks which differed in form in the respective teams (see [Phase II](#)). Having thus set the stage for intensive negotiations in the third phase, projects were concluded in a last phase by attempting to coordinate the different perspectives through different tasks as well as projects (see [Phases III](#) and [IV](#) below).

ANALYSIS OF THE PROJECT PHASES

All exchanges worked on the basis of class transmissions in which messages from one classroom were usually sent in one general file to the respective partner(s). After the introductory phase, these class transmissions occurred about once a week.

During the discussion of the literary texts, partners in the dyads exchanged in one case six transmissions each and in the other case six transmissions from the German and five from the American side. In the triangle, two German classes sent nine and ten transmissions, respectively, and the class in Quebec sent six. The survival school class only joined for a short while and participated with two transmissions. The

length of texts varied according to contextual factors. In the triangle, average text length was quite similar, with 173 words on the Quebecois side, and 174 and 169 in the two German classrooms. In the dyads, the length differed substantially. In Richter's and Stevens' case, the American students wrote most of their texts in German. Since they knew less German than the German students knew English, their texts were only half as long as the German students' messages, 124 words compared to 240 words. In Adams' and Skubich's dyad, the American students had other partnerships besides the German one, which might help to explain the difference between 280 and 210 words in average text length. Another explanation for the shorter text length on the American side in the dyads could be the fact that the German side initiated all of the tasks while the American partners reacted, except in one case where the American partner initiated a task from her classroom, and the text length rose from the average 210 words to 285. Although initiation of tasks can be seen as a factor enhancing participation, one must be careful not to overestimate the importance of message length, since content, even of very short messages, is much more important for initiating intercultural learning.

Even though discrete phases are delineated in what follows, in practice there was considerable overlap. Although different aspects of intercultural learning appear in all parts of the projects, a phase model helps to understand the concomitant classroom procedures that changed with the development of the learning network.

Phase I: Getting to Know Each Other--Establishing Cultural Identity

Just like readers of literary texts, partners in an intercultural exchange have to become curious about each other in order to lay the foundation for intensive interaction. While this was important in learners' original introduction letters, the personal level remained a decisive issue throughout the exchange to establish cultural identities.

In all projects, teachers influenced learners to go beyond the enumeration of siblings and pets and to create introduction letters that would help to really engage the partner. Tasks included short problem-solving activities and exchanges of cultural information packages, such as in Richter's case, when classes exchanged videos about the schools and taped TV-shows, initiating the partners into the cultural context. Another activity in the matching process ensured personal as well as socio-cultural exchanges. Just like in a pre-reading task of speculating about a book's contents by looking at its title, group identities in the German-Quebec triangle offered a basis for speculation. Students formed groups in each class based on common hobbies and gave themselves an expressive name, such as "Graceful Dancers" or "Metal Maniacs." Groups were then matched based on these identities.

Students took this phase quite seriously, as for example in the Quebecois case, when word numbers soared from an average of 173 to 250 words. Even though their German partners did not write as much, all German students stressed the importance of the personal level in the exchange in retrospective questionnaires. When asked which activity they considered most suitable to develop a dialogue with their partners, the item most often mentioned in all classes was the introduction letter and the writing about personal aspects (Projects A-C: questionnaire II).²

Although learner choice of the partner based upon the introduction letters and initial activities was important in facilitating the matching process in the learning network, the personal level remained highly relevant during the exchange in order to establish a good working relationship. As Richter points out, the personal or private level was the most important for the students during her project (Project A: interview II, p. 7).³ Since exchanges were closely structured and were tied to set periods in the classroom and the computer room, teachers had to decide on the amount of time they would allow for personal exchange of information. All teachers supported the exchange of personal letters from home computers, and allowed for personal space in the class transmissions as long as set tasks were completed beforehand.

Learners developed various ways of incorporating off- and on-task exchange. Some students clearly separated the two modes of exchange, and a few even warned their partners: "We are really SORRY, but we have to write about the book now" (Project A: Richter, Sabine, & Steffi, e-mail 12-4-98).⁴ In many letters the two modes of exchange merged to the degree that work and personal information formed an ensemble, which was full of linguistic playfulness, thus establishing a specific bond between students. On a five-point scale, Christian (1997, pp. 53, 64) describes this "talking writing" as the most valued form in e-mail exchanges which establishes "a real connection with a reader." It

1. "sounds" like dialogue
2. often includes direct questions or answers
3. often asks for elaboration and clarification
4. builds a "conversation" on previous talking writing
5. refers to cultural, regional, and personal material not apparently related to the text, frequently contains slang, humor, and a sense of playfulness.

These messages, when compared to those of less proficient writers, also show that negotiation of meaning in the task-related area, that is, the discussion of the novel (to be addressed later), is also remarkably intensive. This intensity makes these exchanges especially helpful for establishing personal identities in the respective social contexts and thus for initiating a process of understanding. At the same time, other factors such as typing speed and language proficiency played an important role as well. Some students complained about the fact that they were not good enough typists or proficient enough in the language to devote a sufficient amount of time to personal matters; a fact that highlights the general time constraint--and thus institutional constraint--all German participants had to deal with since they only had three English lessons per week. However, one example will highlight the potential of rather proficient students engaging in "talking writing":

Hi!!!!!!!!!!!!!!!!!!!!!!

Our names are Andrea and Meike. (...) We like your introduction. It was really interesting what you do in your freetime ... [long personal introductions follow] So, now, let's come to the fun part - hahaha! We have to discuss the book with you. How do you like it so far? In class we decided to talk about the problems that could come up while playing the color game. Well.... here comes okay - brainstorming!! So, okay! Now we can go on! We think that the color game is kind of dangerous for friendships ... Do you think the color game is realistic ??? We don't know, because we've never felt any big class differences. What about you ? [long discussion of the characters follows] Well, that was it so far. What do you think ? (...) Okay then, have a nice time and write back soon!!

Hugs' n kisses Andrea and Meike (Project B: Skubich, e-mail 11-12-98)

Letters like the one by Andrea and Meike created a positive and warm atmosphere for building relationships. Their two partners reacted in kind and in the course of the project these four partners also had an intensive discussion of the book's topics. Names played a similar important role for bonding between students in all three exchanges. For example, Christine from America felt closer to her partner in Germany because she had the same name (Project B: Adams, e-mail 11-26-98). And the group-forming task in the German-Canadian exchange led to a whole range of exchanges on names. Partners inquired about strange group names such as "Starfrucht" and were told that this is a common yogurt in Germany, or they found out that the group "Earth Tones" from Quebec had chosen the name because members represented different cultures (Project C: Spencer, e-mail 10-1-98), which then led to the following

transmission: "Hi Earth Tones ! We are a multi-cultural group like you too. We decided to write to you" (Project C: Meier, 5th Element, e-mail 10-11-98). When native Canadians joined one of the projects their descriptive names led to a number of questions by their German partners as well as research on the etymology of their own German names.

Although learners did not engage with outside texts during this phase as in Candlin's first two phases, they began to investigate each others' culture by creating their own texts. Since learners carefully read their partners' texts (i.e., the introduction letters as well as other texts, such as video or cultural packages) they began to understand their partners' and their own cultural contexts. By beginning to establish the respective cultural identities of their partners, learners' work in this first phase was crucial in laying the groundwork for possibly negotiating those identities in subsequent phases.

Phase II: Setting up the Dialogue--Project-Based Exchanges

Setting up a dialogue by jointly reading literary texts on a learning network implies a two-level approach to ensure meaningful communication. While each learner in the network reads the literary text, teachers need to support learners in their endeavor of becoming aware of their own experiences, knowledge, and emotions in relation to the world of the text before they venture out on the network (see also Caspari, discussed previously). Teachers adopted a reader-response approach and supported the reading process with reading journals. Reading journals allow learners to note the thoughts, ideas, and questions that come to their mind. They provide the basis for classroom discussion as well as for developing tasks for the network level (e.g., discovering questions and comments for the partners to react to). Moving into the literary text in this way, learners started working collaboratively, trying to come to terms with their partners' and their own identities and culture(s) in the process.

Students' reactions to the reading journals were varied. While many students commented negatively on the task because it involved more writing (i.e., a higher workload) others welcomed the possibility of jotting down their thoughts for classroom and network discussion (Projects A-C: questionnaire II). It needs to be pointed out that most of the positive remarks were made by students in Richter's class (Project A), where the reading journal became an integrated part of daily classroom work and thus made students' efforts more worthwhile than in the other two classes.

Having set the frame for scrutinizing the literary text as to its importance for each individual reader, teachers then designed tasks to initiate the dialogue on the network by having students compare the different cultures involved. This was achieved on the basis of various tasks, such as one clearly structured task that one of the American teachers initiated: "I had each student highlight a moment from the book that impacted them. In the second paragraph I had them make a parallel with our community. The third paragraph (if they had time) was to personalize the message with a 'social' comment or two" (Project A: Adams, e-mail 11-24-98). These structured messages were considerably longer as pointed out above (285 words in comparison to the average of 210), and they triggered interesting comparisons and thus negotiations of meaning between the two cultural contexts.

In Richter's dyad (Project A) the dialogue consisted of strands. One was a summary of the American students' comments on each chapter, discussed in plenary or group work fashion, while the other consisted of reactions of German student pairs to these comments in individual letters. By building on the classroom discussion, students had a greater number of remarks to choose from, and often questioned their partner's condensed versions, thus eliciting different responses from individual partners and creating a dialogue in the process.

The most open form was chosen in the triangle, in which each class developed a prompt, nicely reflecting the actual reading process. The Quebecois created the following pre-reading prompt, which sparked a

discussion not only about Columbus and questions of racism and oppression, but also about whether Columbus and Hitler were comparable--a question that was discussed throughout the entire project.

In fourteen hundred and ninety-two
Columbus sailed the ocean blue.

But raped, invaded,
Killed and slave-traded.

Now, does he seem as good to you ? (Project C: Spencer, e-mail 10-20-98)

The German class in Ulm contributed a prompt about the book itself, calling for a comparison between the book and the learners' cultural context:

What do we get to know

a) about Rusty's world and problems in the play (first half of it)

b) about ourselves/about the social reality around us? (Project C: Meier, e-mail 10-25-98)

The second German class in Giessen finally devised a post-reading prompt that already moved into Candlin's fifth phase (critiquing), since it focused on the issue of gender. Since in Taylor's play only boys meet, the prompt read as follows: "Do you think the atmosphere of the meeting would have been different if girls (the boys' girlfriends) had come together at Dreamer's Rock? (Project C: Maurer, e-mail 11-18-98) To initiate the discussion, students wrote their own fictitious dialogues among three girls and sent them off to their partners for completion. It was this creative writing task that eventually led to a critical incident (described later) and offered the chance for an even deeper discussion of gender as well as necessary skills for intercultural competence.

During this process, teachers felt considerable time pressure. Commenting on the fact that the third prompt was "developed" in teacher-dominated teaching with insufficient learner participation, Maurer suggests that it would be better to leave the extremely tight "timeframe" to ensure more student participation (Project C: Maurer: Journal, p. 3).

On the whole, though, the prompts as well as the tasks in the two dyads resulted in the creation of multiple perspectives on the literary text, which was compared to social and personal issues from the students' different cultural contexts. Peer response led to knowledge-building, as, for example, when students in the creative writing task (about the meeting of three girls at Dreamer's Rock) commented on their partners' description of pre-Columbus natives as "Indian": "We think that Nunghons would not call herself an Indian because this term didn't exist in her time. One suggestion is: N.: No, I am Nunghons, I am from the tribe of Odawa" (Project C: Meier, Computer group, e-mail 11-18-98).

As in the above case concerning Native people, students discussed a number of crucial issues, such as race, class, and gender. They also led intensive multilogues on the role of alcohol and drugs in their lives, and considered questions of first love and friendship.

While all tasks contributed to the multilogue, creative writing tasks (for example, the initial "fourteen hundred and ninety-two" prompt from Quebec) seemed to spark more discussion than others. Although more research needs to be done to confirm this finding, some of the intensive "readings" of the third phase were based on creative writing tasks.

Phase III: Intensive "Readings"

As mentioned earlier, instructional phases often overlapped. This was clearly the case when intensive reading began. Emerging discussion threads were combined with new prompts that intensified the exchange of ideas. During the project, critical incidents or misunderstandings sometimes occurred.

Although these incidents can happen at any point, they were most noticeable during this phase once learners had moved into a process of negotiation.

In her description of the reading process, Caspari calls for slowing down the reading process at this point, allowing readers to question the perspectives presented, to take on other perspectives through creative writing tasks, and also to consider additional background information in order to achieve a deeper understanding of the text and its various perspectives on it. Candlin makes a similar recommendation with his category of critiquing. The potential for developing a critical intercultural perspective at this stage depends to a large extent on teacher flexibility, a high degree of learner-centeredness, and an awareness of setting. Teachers often chose especially interesting or contentious messages out of the evolving dialogues for closer scrutiny in the classroom. Two examples show the potential and possible problems.

In the Richter-Stevens dyad (Project A), the intensive discussion of race, gender, and class issues in the novel and the respective societies during the dialogue phase was capped by the incidence of a newspaper article published in the American students' hometown, in which the students and teacher were interviewed about the project. In the interview, Mark's comments that the book "makes (German students) think Americans are more racist than they are," and that "the German students think that a lot of Americans smoke and do drugs," put the literary discussion into a new perspective through its reference to these stereotypes, questioning the positive approach to cultural comparisons between the United States and Germany that had prevailed so far in the exchange. Richter took almost a double lesson (1 1/2 hours) to have students understand the article linguistically and to discuss its content before she gave them the task of writing a letter to the editor. This creative task led to a number of interesting evaluations of the entire project, in which students rejected Mark's argument (Project A: Richter, Britta & Kerstin, e-mail 1-18-99) or in which they themselves made a critical attempt to trace their possibly stereotypical views on the U.S. to other sources: "We think it aren't books like 'War Between the Classes' that make people think Americans were extremely racist. We think the causes for our impression of Americans are mainly films. We had expected that the racism in America would be much worse than it is written in the book" (Project A: Richter, Karin, & Julia, e-mail 1-18-99). Teacher choice of intensive plenary discussion, the right task, and the freedom of the students to react in the computer room, combined with multiple reactions on the earlier dialogue, led to new negotiations of meaning when American students joined the discussion. They either supported Mark, though in a very careful manner ("I agree a little bit with Mark. It is difficult to describe people." [Project A: Stevens, Wendy, e-mail 2-4-99]), or excused themselves for Mark's words (Project A: Stevens, Karen & Pam, e-mail 2-4-99).

In the German-Canadian exchange, a similar incident occurred. To the second prompt about a possible meeting between girls, some German students reacted in an ironical and exaggerated way: "Girls often talk about fashion, make-up, music ('they are sooo cute!!!!'), films ('Titanic-mania') horses, the future of their children and boys. Well maybe it's not THAT bad ;-)" (Project C: Computer group, e-mail 11-24-98). A group of female students in Quebec reacted accordingly, "We find what you think girls talk about VERY insulting. You make it sound like women are narrow-minded ... Please do not stereotype! I NEVER talk about fashion and make-up [a refutation of all the arguments follows]" (Project C: Spencer: Chris, e-mail 12-16-98). The German teacher organized a plenary discussion around this letter after an intensive group work phase (Task: What is your partner angry about? How would you answer this letter?) which led to a heated discussion in the classroom, which allowed learners to read between the lines, and thus to comprehend the nuances and possible insinuations of their partners' text. It also allowed them to negotiate their views of gender among themselves on the classroom level. As in the Richter-Stevens dyad, two aspects provided the basis for intercultural learning processes. One was the learner-centeredness of the task, which enabled students to discuss the issue in their groups as well as with the whole class, thus bringing different opinions out into the open. The other was the following session in the

computer room, in which German students were free to answer their respective partners. This allowed the voicing of different opinions to the partners. The students who had been attacked responded, "We think that you perhaps misunderstood our ironical letter. We wrote only in an ironical way. Our letter referred to a creative task." (Project C: Maurer: The Computer Freaks, e-mail 12-16-98). Three female students, who had not had a chance to participate in the classroom discussion because of their weaker language skills profited from the chance of now being able to voice their opinion in writing in the computer room. They wrote (even though those specific students in Quebec were not their partners), "We have the same opinion as you. There were some girls who said that your reaction was hysteric and wasn't objective. We don't think so. (...) We think your reaction was right, we would react in the same way" (Project C: Spencer, Reading group, e-mail 12-23-98). And Thomas, deducing from the class discussion that different tones and writing styles might lead to intercultural misunderstandings, warned his partners in Quebec, "Hi Canucks!!! (...) Did you get the letter with the story about the three girls at Dreamer's Rock? We wrote one with the students in Ulm. I think it is funny and don't forget it's written by some boys!!!" (Project C: Spencer, Metal Maniacs, e-mail 12-23-98).

This example, as well as those cited above, hints at the importance of the form of the social activity in the classroom and computer room. In the classroom three kinds of social activities can be delineated which are combined according to the work at hand: individual or group work on incoming messages, and plenary sessions which take up group work results in a whole-class discussion. When students move from the classroom to the computer room, they then work individually or in pairs in front of the computers. Since they now *all* write to their individual partners, they have the freedom to negotiate the aspects they are interested in. They are not hindered by the restrictions of turn-taking in the classroom (only a few students can participate), by their weaker oral skills (reducing participation in whole classroom discussions), and by possibly too much frontal teaching (when the teacher does not resort to a combination of pair or group work and plenary session).

These incidents can, on the one hand, facilitate intercultural learning by fostering comparisons of different perspectives, which sometimes leads to change in students' views on certain issues. On the other hand, they also represent very critical moments that can result in communication breakdowns, as in Mark's case, when students are not sufficiently supported by the teacher or through intensive personal exchange with the partner. In opposition to Andrea and Meike (Project B), Mark had more of a perfunctory exchange with his German partner (very low average word length of 85 versus 124 in the class corresponded here with rather bland content). After having been criticized for his rendition of the exchange in the newspaper article, Mark did not write anymore.

Cultural knowledge, attitudes, skills to handle such a situation, and the opportunity for creating critical awareness of both cultures all merge in such incidents, putting a high demand on the teacher's own intercultural competence. Teachers need to try to choose those letters among the incoming messages that seem to promise the initiation of intensive dialogues, for example, by focusing on possibly provocative statement. And when they are also capable of developing tasks at that moment which engage learners more deeply with the text and their partners' views, then it is especially these incidents that students can learn from and remember, as [questionnaires](#) in the German-Canadian exchange show. While several students commented on the gender issue, one student wrote that he was annoyed by the fact that the Quebec students had misunderstood their letter, but he added that this feeling did not last long, because the problem was discussed with the whole class (Project C: questionnaire II).

Phase IV: Coordinating Perspectives

Candlin's final phase of acting, "plenary debate on the appropriate out-of-classroom action" (1989, p. 21), did develop to a certain extent at the end of all three projects. Except for Project A, teachers had negotiated a final product that grew out of the joint reading of the literary texts. In Richter's and Stevens'

case (Project A), the American newspaper article and the discussion it initiated presented an opportunity for evaluation of the project since it put the whole project into perspective. The other two networks used the book discussion to generate topics for further collaborative projects, reflecting once again the issues that had been brought up in the partner or group exchanges as well as in class discussions.

Skubich and Adams (Project B) agreed to have their students write book critiques (US) or essays (Germany) on topics they developed out of the network negotiation, such as "social classes and class differences" or "the relationship between men and women in different cultures," while having the respective partner add views to the critique or essay in question. Based on the same project task of deducing themes for collaborative projects from the interaction, German students⁵ in the German-Canadian exchange (Project C) either cooperatively wrote the end of a short story by sending paragraphs back and forth, looked at representations of Native Americans in film, or developed a questionnaire on the views their fellow students held about Native Americans, collecting data in both schools and comparing the findings (see Anna-Essinger, 2000). By giving final form to their products, learners not only had to consider different perspectives and try to integrate them, but also had to accept different opinions, tolerate them, and integrate them into their texts, thus reflecting the different perspectives that were presented on the network.

At the same time, this phase remained the most difficult one in the project, mainly because of time constraints. The discussion of the book already took a lot of time, and only the two German classrooms in the German-Canadian exchange--the three of which had already worked together the year before--were able to finish and publish their product in the 3 months after Christmas, because they worked in the same institutional context. In the Skubich-Adams team (Project B) this proved impossible, because the American teacher got a new group of students in mid-January. Joint publication thus didn't take place here. Although the partners realized the potential of this phase for their endeavor of supporting intercultural learning, time and institutional constraints made collaboration difficult. They felt that these problems could only be dealt with in the process of gaining experience through further projects.

DISCUSSION

Considering Candlin's (1987) emphasis on tasks that allow "learners to become more aware of their own personalities and social roles, and those of their fellow learner" (p. 17), as well as Byram's four aspects of intercultural learning (i.e., attitude, knowledge, skills, and critical cultural awareness), this study shows that the tasks in these electronic learning networks have supported these aspects. The preliminary exchanges, the matching of students on the basis of group identities, and the opportunity to integrate personal comments with classroom content have allowed learners develop positive attitudes and an awareness of the cultural identities of their partners in the network. The learners have also gained in factual knowledge about each other's cultures. For example, based on the drinking problems of one of the protagonists in the play, learners exchanged their views on the use and abuse of alcohol in their respective cultures. The prompt about Columbus from Quebec led to an intensive discussion of the role of Columbus in North American history and the question of his guilt in the extinction of Native people. This exchange also included the question whether Columbus could be compared to Hitler, thus highlighting the potential of selected tasks to initiate cultural comparisons. Learners also acquired interpretive skills. By interpreting the literary texts, they not only interpreted their own social reality in relation to the texts, but they also related these interpretations to those of their partners. For example, when Andreas and Meike (Project B) questioned the reality of the color game in the novel--a topic that was pursued by many learners--they added the following comment to their partners: "We've never felt any big class differences. What about you?" [Project B: e-mail: 11-12-98] This was taken up by their partners and in addition became the topic of classroom discussion. Skills in intercultural communication were also honed in the third phase of the network, when close readings of the incoming letters led to discussions of how to write

critical letters, what kind of tone to employ, or whether irony and indirectness are discourse markers that are easily understandable by members from other cultures.

This leads to the last aspect Candlin and Byram both stress in their models: the importance of a *critical* cultural awareness. The intensive readings in the third phase have shown that critical readings demand intensive text work, the honing of interpretive skills, and a change in social activities from pair or group work to plenary sessions and back to pair work in front of the computer--activities that give students space to develop their readings of their partners' views and to test them in the class as well as in the network context. In the Canadian-German exchange, the gender topic (triggered through a creative task) not only led to discussion between Canadian and German students, but also created intensive discussions inside the respective local classrooms, which in turn led to critical cultural awareness, as shown by the student messages***[was link to #girls] written after the classroom discussion.

Data showed that the creation of personal relationships among learners is conducive to engaging in task-based classroom work on the literary text and related issues. While this makes the introductory phase of the network especially important, this discourse continues to be decisive throughout the interaction, as can be seen in the importance names played, for example, and the students' conclusion in the questionnaires that the discussion of personal issues was especially helpful in initiating dialogue. It can be assumed that in cases such as the exchange between Andrea and Meike and their partners (Project B), where an intensive relationship developed on the personal level, there was critical peer response on different cultural perspectives and views. Since their relationship was emotionally stable, students could accept these different perspectives, thus supporting possible changes in perspective. The opposite was Mark's rather impersonal exchange (Project A), in which Mark dropped out once the criticism got too harsh. More research is needed on the role of personal response, especially an analysis of how issues in the personal parts of e-mails are, or could be, related to the topics that are dealt with officially in the classroom.

The teachers initiated different kinds of activities, and they generally attempted to make learners compare the book with personal experiences in their own culture. This led to the sharing of multiple perspectives on the various networks, forming the basis for further classroom activities. Here teachers could concentrate on especially contentious issues, which would allow them to engage students in discussions about intercultural skills, such as finding the right tone of voice, how to answer a possibly offensive letter, or how to deal with issues of indirectness and irony.

In the dyads, tasks were almost exclusively initiated by the German side. Length of texts could be increased, however, if both sides developed tasks for the network (as the Skubich-Adams exchange showed, when the American side set the task, the American e-mail length increased from an average of 210 to 285 which was almost the exact average length of the German letters, 280). This hypothesis is supported by the fact that in the triangle, where each group developed tasks for the network, texts of all three groups had the same average length.

Focussing on the structural level of classroom instruction, teachers tried to work in as learner-centered a mode as possible, but time constraints sometimes made teachers choose a teacher-fronted activity when pair or group work might have been more productive, since teacher-centered discussions often did not produce the desired results, as Maurer wrote (Project C: Maurer, journal, p. 3).

Another aspect that proved to be important, is the ability of teachers to discover issues of intercultural learning within the learner texts and to then engage students in effective classroom activities. Maurer repeatedly pointed out the difficulty of reacting effectively, that is, according to the potential some of the letters obviously had for intercultural learning, by designing the right tasks on the classroom level (Project C: Maurer: Interv. II; see also the discussion in Jackstädt & Müller-Hartmann, in press). This is obviously

also a question of teacher education. If foreign language learning and intercultural learning are seen as two sides of the same coin, then teacher education must make sure that teachers know what they have to look for in the learning process and how they can initiate and sustain intercultural learning.

In the questionnaires, learners highlighted the difference between the two settings: the classroom and the computer lab. While learner-centered tasks in classroom work were attempted, students felt that work in the computer room was freer and more productive. Asked about their cooperative work in front of the computer (usually two to three students had to share a computer), they answered that this situation proved to be a lot of fun, allowing for more and different opinions, the negotiation of the different views, as well as the opportunity to help each other with the writing process (Project A-C: questionnaires II). The schools in this study had no computers in the actual classrooms; students had to go to computer rooms. In the near future, however, thanks to massive support from the government and the telecommunications industry, a higher ratio of computers in the foreign language classroom can be expected. The question is whether learner-centeredness in the computer room, as expressed by the students in this study, will increase in the classroom if two or three computers are installed so that their use can be integrated into the teaching and learning process. The study of the Apple schools suggests as much (see Sandholtz, Ringstaff, & Dwyer, 1997).

The task structure in general, however, created the basis for a more autonomous learner, especially in the sense of developing personal thoughts and ideas about the literary texts, and to ensure meaningful communication with the partners. Learners were free to develop their own questions and comments in their e-mails, a fact that resulted in interesting intercultural exchanges and the production of texts that could be used for more detailed scrutiny by the entire class.

Although triangulation of qualitative data allows a fairly comprehensive view into the complex processes of the networked classroom, these preliminary findings also highlight the fact that further research is needed. To better understand the processes involved and the way they influence each other in all of the classrooms, as well as the organizational and institutional constraints that influence the development of critical literacy, the presence of researchers in all participating classrooms is necessary. Since this can not be done by a single researcher, research teams are a necessity. The triangulation of researchers' perspectives will enhance the reliability of findings, especially when considering the focus on processes of intercultural learning.

CONCLUSION

These preliminary findings show the potential that a task-based approach has for initiating and sustaining intercultural learning processes in electronic learning networks. Candlin's sequence of activities on the classroom level and Caspari's phases of dealing with literary texts can be applied throughout the development of network projects. It is important to realize that to enhance intercultural learning, the close monitoring of the process by which such learning is carried out is very important. That is to say, the virtual exchange must be thoroughly integrated into the local context of classroom instruction. The joint reading of literature in such a project-oriented approach seems to be one possibility of ensuring that negotiation of meaning takes place. And it is here that the task-based approach develops its fullest potential by allowing learners to develop and express their views, thus making real communication possible and consequently setting the stage to initiate processes of intercultural learning.

APPENDIX (AUX 1)

Hi Judy!

How are you? We are fine. We read the newspaper article from your newspaper. It is very interesting. The most things are right, but what Ben said is not right. German students do not think that Americans are more racist than we are and we do not think that a lot of them smoke and do drugs. That is a very big prejudice. The project was a cultural exploration, but a linguistic improvement, too. For some German students was the book difficult to read. But for you it was very easy, because it is written in your own language.

...

Britta and Kerstin

APPENDIX (AUX 2)

Karen & Pam's letter:allo Monika & Stefanie!

Ich heisse Karen und ich bin Pam's neue Partnerin. Ich konnte diese Klasse nur dieses Semester nehmen, denn letztes Semester musste ich A.P. Government nehmen. Ich bin gestern 18 Jahren alt geworden. Was fuer Musik hoert ihr gern ?

Wir (Pam und ich) entschuldigen uns fuer Bens stereotypische Einstellung. Er ist nicht immer so. [Transl: We excuse ourselves for Ben's stereotyping. Usually he is not that way.]

...

Karen & Pam

APPENDIX (AUX 3)

The questionnaire posed a number of open questions. Number 14 read: Was hat dich an den Briefen deiner Partner am meisten verwundert oder fasziniert ? Was hat dich geärgert ?

[What surprised or fascinated you most when reading your partners' letters ? What frustrated you ?]

While the students in the exchange between Germany and Canada commented on positive and negative aspects in a general manner (too few letters, interesting topics, different opinions, etc), the gender issue triggered most of the references to a single issue. The students' comments read as follows:

- Es hat mich geärgert, dass sie keinen Spaß verstehen und alles ernst nehmen was man schreibt. wie z.B. die soap, die wir geschrieben haben, haben sie gleich persönlich genommen [I was annoyed that they couldn't take a joke and that they take everything we write so seriously. For example, the soap we wrote, they immediately took personally.]
- Geärgert hat mich, dass sie sich so schnell angesprochen fühlen. [I was annoyed that they felt attacked so quickly.]

- Geärgert hat mich, dass unser Brief über die 3 Freundinnen von Rusty, Keesic und Michael missverstanden wurde. [I was annoyed that our letter about Rusty's, Keesic's and Michael's 3 girl-friends was misunderstood.]

NOTES

1. All names of participants have been changed.
2. Roman numerals refer to either the retrospective interview (teacher) or questionnaire (students).
3. Arabic numerals refer to the pages of the transcribed interviews.
4. For better orientation, the teacher's name (e.g., Richter) is indicated with the students' e-mails.
5. The partners in Quebec could not join during that phase.

ABOUT THE AUTHOR

Dr. Andreas Müller-Hartmann has taught English and French in a number of countries. Since 1996 he has been working as a lecturer at the TEFL Institute of the University of Giessen, Germany.

E-mail: Andreas.Mueller-Hartmann@anglistik.uni-giessen.de

REFERENCES

- Anna-Essinger Gymnasium. (2000) Retrieved February 28, 2000, from the World Wide Web: <http://www.egu.schule.ulm.de/wsignals/wsignal2.html>.
- Bee-Lay, S., & Yee-Ping, S. (1991). English by e-mail: Creating a global classroom via the medium of computer technology. *ELT Journal*, 45(4), 287-292.
- Bredella, L. (1992). Towards a pedagogy of intercultural understanding. *Amerikastudien [American Studies]*, 37(4), 559-594.
- Breen, M. P. (1987). Learner contributions to task design. In C. N. Candlin & D. Murphy (Eds.), *Language learning tasks* (pp. 23-46). Englewood Cliffs, NJ: Prentice-Hall International.
- Byram, M. (1997). *Teaching and assessing intercultural communicative competence*. Clevedon, UK: Multilingual Matters.
- Candlin, C. N. (1987). Towards task-based language learning. In C. N. Candlin & D. Murphy, *Language learning tasks* (pp. 5-22). Englewood Cliffs, NJ: Prentice-Hall International.
- Candlin, C. N. (1989). Language, culture and curriculum. In C. N. Candlin, & T. F. McNamara (Eds.), *Language, Learning and Community: Festschrift in honour of Terry R. Quinn* (pp. 1-24). Sydney: Macquarie University, 1-24.
- Candlin, C. N., & Murphy, D. (Eds.). (1987). *Language Learning Tasks*. Englewood Cliffs, NJ: Prentice-Hall International.
- Caspari, D. (in press). Intercultural learning through literary texts--the contribution of creative tasks. In

F.-J. Meissner & M. Reinfried (Eds.), *Building blocks for neo-communicative foreign language learning and teaching*. Tübingen, Germany: Narr.

Chen, G.-M. (1998). Intercultural communication via e-mail debate. *The edge: The e-journal of intercultural relations* [On-line serial], 1(4). Retrieved February 28, 2000, from the World Wide Web: <http://kumo.swcp.com/biz/theedge/chen.htm>.

Christian, S. (1997). *Exchanging lives: Middle school writers online*. Urbana, IL: National Council of Teachers of English.

Crookes, G., & Gass, S. M. (Eds.). (1993). *Tasks in a pedagogical context. Integrating theory and practice*. Clevedon, UK: Multilingual Matters.

Cummins, J., & Sayers, D. (1995). *Brave new schools. Challenging cultural literacy through global learning networks*. New York: St. Martin's Press.

Global Schoolhouse. (2000). Accessed February 28, 2000, on the World Wide Web: <http://www.lightspan.com/webx/webx.dll?14@239.3adiaOjia9K^0@.ee6b4c9>.

Intercultural E-Mail Classroom Connections. (2000). St. Olaf College. Accessed February 28, 2000, on the World Wide Web: <http://www.iecc.org>.

Jackstädt, H., & Müller-Hartmann, A. (in press). Virtual encounters. In J. Edge (Ed.), *Action research. Case Studies in TESOL Practice Series*. Alexandria, VA: TESOL.

Kramsch, C. (1993). *Context and culture in language teaching*. Oxford, UK: Oxford University Press.

Legutke, M. K., & Thomas, H. (1991). *Process and experience in the language classroom*. London: Longman.

Miklowitz, G. (1985/1996). *The war between the classes*. Stuttgart, Germany: Klett.

Müller-Hartmann, Andreas (in press). Die Lehrenden verstehen sich nicht - wie sollen sich da die Lernenden verstehen? Fragen der virtuellen Vernetzung von Klassenräumen im globalem Austausch (The teachers do not understand each other - how can the students then understand each other? Questions of networked classrooms in global exchanges). In L. Bredella, H. Christ, & M. K. Legutke (Eds.), *Fremdverstehen zwischen Theorie und Praxis--Arbeiten aus dem Graduiertenkolleg "Didaktik des Fremdverstehens" (Intercultural learning between theory and practice)*. Tübingen, Germany: Narr.

Peterson, M. (1997). Language teaching and networking. *System* 25,(1), 29-37.

Riel, M. (1992). A functional analysis of educational telecomputing: A case study of learning circles. *Interactive Learning Environments*, 2(1), 15-29.

Riel, M. (1994). Educational change in a technology-rich environment. *Journal of Research on Computing in Education*, 26(4), 452-474.

Sandholtz, J. H.; Ringstaff, C., & Dwyer, D. C. (1997). *Teaching with technology: Creating student-centered classrooms*. New York: Teachers College, Columbia University.

Taylor, D. H. (1990/1995). *Toronto at dreamer's rock*. Berlin: Cornelsen.

Warschauer, M. (1997). Computer-mediated collaborative learning theory and practice. *The Modern Language Journal*, 81(iv), 470-481.

Warschauer, M. (1999). *Electronic literacies. language, culture, and power in online education*. Mahwah, NJ: Lawrence Erlbaum.