

THE ROLE OF CULTURAL DIVERSITY IN E-BASED LANGUAGE LEARNING

A comparative study of Bulgarian and Lithuanian learners of German as a foreign language using an online learning platform

JÖRG ROCHE AND DESSLAVA TODOROVA
Ludwig-Maximilians-Universität München, Germany

Abstract. The study reported on in this paper focusses on the impact of cultural factors in media-based language acquisition. The study sets out to investigate the role of learners' cultural dispositions during the use of media-based programs in language learning. More specifically, the study aimed at finding out to what extent the cultural disposition of learners outweighs the learners' individual preferences in a media-based (online) language course. The analysis of input data produced strong differences between the two learning cultures at the outset of the study. Lithuanian learners were found to be more passive, more rule oriented, more reliant on their mother tongue as a means of instruction and less tolerant vis-à-vis ambiguity when they entered the experiment. They also turned out to reject open (less teacher-guided) forms of communicative learning requiring active participation and, instead, preferred language teaching to be (passively) entertaining. Bulgarian learners by contrast were more tolerant vis-à-vis ambiguity and more goal-oriented with respect to learning the foreign language for academic success abroad. They also turned out to be more focussed on and appreciative of the technical aspects of the program and thus were eager to explore new approaches to media-based learning. However, over the course of the study both groups of participants developed an unexpected ability to adapt to the electronic media even though the program seemed to counteract their cultural-specific preferences. The study shows that both groups of learners improved significantly over the course of the experiment with respect to language skills and that acceptance of the program was high in both groups despite the initial resistance and despite the fact that the program requires a well developed level of independence. Despite the fact that a tendency to act according to cultural dispositions can be shown those influences were not found to be statistically significant.

1. Context and Goals of the Study

The acquisition of a foreign language is a complex task influenced by various social, linguistic, psychological, affective, motivational, situational and cultural factors which interact in the acquisition process. Although modern media are believed to provide

support to the acquisition process in general (cf. Fischer et al., 2003; Schulmeister, 2002) little is known about the required design features to bring about such positive effects. The study reported on in this paper therefore breaks new ground in its attempt to focus explicitly on the impact of cultural factors in media-based language acquisition. The study sets out to investigate the role of learners' cultural dispositions during the use of media-based programs in language learning. More specifically, the study aimed at finding out to what extent the cultural disposition of learners outweighs the learners' individual preferences in a media-based (online) language course.

2. Research

While there is little research on media-supported language learning in general there is hardly any reliable research on the impact of the cultural disposition of language learners on media-based language learning and instruction in particular (cf. Macfadyen et al., 2004 and the volume edited by Zhang and Barber 2008). The research overview of Macfadyen et al. (2004) indicates that with the exception of a few studies there is not much evidence for research in this field, notable exceptions being Goodfellow et al. (2001); Haulmark (2002); Hewling (2003); Macfadyen et al., (2003); McLoughlin and Oliver (2000); Reeder et al. (2004); Gunawardena et al. (2003). Other studies include acceptance levels of media-based programs such as Herring (1996); Kim and Bonk (2002); Savicki et al. (2002) or Sussman and Tyson (2000), among others. In addition, various forms of online communication have been investigated with respect to cultural influences, such as communication by e-mail (Chen, 1998; Gill, 1998; Grotenhuis, 2000; Herring, 1996; Inglis, 1998; O'Dowd, 2003; Rey, 1998), asynchronous communication in forums and discussion boards (Hewling, 2003; Savicki et al. 2002), synchronous communication in chats (Freiermuth, 2000; Kötter, 2003), synchronous communication in video conferencing (Schlickau, 2001).

However, those studies do not provide a coherent framework for the study reported here. While there is some research on purely grammatical aspects of electronic tutoring this research, too, largely ignores cultural aspects of language acquisition and media use (cf. Amaral & Meurers 2008, 2009). Other research includes aspects of media use and attitudes towards technology (Van Belle & Stander 2002), Buragga (2002) und Gill (1998). Communication styles are discussed in Cakir et al. (2003), Hewling (2003) und Hongladarom (1998).

The scarce evidence for cultural influences on media use provided by these studies is supported by research in other fields. Input-output models developed in the field of organisational and social psychology (e.g. Gladstein, 1984) and research in the field of language acquisition too suggest that cultural influences are expressed on the following three levels:

- on the input level (by means of learner dispositions)
- on the processing level (by means of learning behaviour)
- on the output level (by means of learning success and acceptance of learning programs).

The study reported on here focussed mainly on the output level, that is, particularly on the effects of tutored online learning in two culturally diverse groups of university students.

3. Method

In order to study the effects of the cultural disposition of learners acquiring a foreign language (in this case German) various learner variables were identified and put to the test in a comparative, quasi-experimental setting of $n=110$ adult learners belonging to two groups of learners: a group of Bulgarian (60) and a group of Lithuanian university students (50). Both linguistic progress and subjective ratings of learning disposition and progress were measured to determine to what extent the cultural disposition of a learner (e.g. learning tradition, learning culture) influences the process and the success of media-enhanced foreign language acquisition. Both groups used the online program *www.uni-deutsch.de* over a four-month period guided by a learning plan and tutored by an instructor. The use of the online program was integrated in a course offered at the respective universities (blended learning mode). All students were preparing for study abroad and thus were expected to have a particularly high motivation to participate in the course as well as in the study. The media-based language course investigated in this study was part of the preparation program and therefore included a set of modules preparing the students for the mastery (survival, organisation) of the foreign academic culture (which is quite different from their own). None of the students had prior experience with online learning programs. *Uni-deutsch.de* offers a plenitude of materials for different learner types and learning formats.

Two types of instruments were used to assess performance and acceptance: language performance tests and questionnaires. The language tests were applied to measure the learning success (output), the questionnaires were used to measure the attitudes of the students vis-à-vis the program (input level), the learning preferences (process level) and the acceptance of the program (output level). All data were then processed using SPSS. In order to characterize the three levels descriptive statistics were used. Medians and standard deviations of the individual variables were computed. In order to conduct the analyses for the group comparison the following instruments were employed: Chi-Square-Test, T-Test for independent variables and Mann-Whitney-U-Test. Subsequently, possible relations were tested using the following test procedures: correlation, regression and multivariate analysis. In addition to the quantitative analyses the qualitative data underwent a content analysis. The qualitative data were used for the interpretation of results.

4. Results

The analysis of input data produced strong differences between the two learning cultures. Lithuanian learners were found to be more passive, more rule oriented, more reliant on their mother tongue as a means of instruction and less tolerant vis-à-vis ambiguity when they entered the experiment. They also turned out to reject open (less

teacher-guided) forms of communicative learning requiring active participation and, instead, preferred language teaching to be (passively) entertaining. Bulgarian learners by contrast were more tolerant vis-à-vis ambiguity and more goal-oriented with respect to learning the foreign language for academic success abroad. They also turned out to be more focussed on and appreciative of the technical aspects of the program and thus were eager to explore new approaches to media-based learning. Because of the different learning cultures in Bulgaria and Lithuania we expected a strong influence of those cultures on the outcomes of the study. We also expected all students to be able to determine with a varying degree of autonomy their strengths and weaknesses and to manage the available resources offered by the language program accordingly.

To our surprise, though, students acted differently in many ways and showed an unexpected ability to adapt to the electronic media even though the program seemed to counteract their cultural-specific preferences. In the case of Lithuanian learners these effects occurred after some clear and explicitly expressed initial resistances. The study shows that both groups of learners improved significantly over the course of the experiment and that acceptance of the program was high in both groups despite the initial resistance and despite the fact that the program requires a well developed level of independence. Despite the fact that a tendency to act according to cultural dispositions can be shown those influences were not found to be statistically significant. The most telling effect was found in the change of approach to grammar in the Lithuanian group of learners. While working with a conceptual approach to grammar (grammar animations) instead of the traditional memorize-the-rule approach, which they had claimed to prefer initially, students were led to reflect on the function and meaning of grammar and the way to acquire it. In other words, they were supposed to reflect on their previous practice of learning.

4.1. SIGNIFICANT IMPROVEMENT IN THE OVERALL PERFORMANCE OF BOTH GROUPS

Performance was measured in five competency areas which were added up to determine the overall performance. Changes in language proficiency were determined by means of pretests and post-hoc tests. The comparison of the results of both tests produced significant improvement in both groups as shown in Figure 1.

The average improvement level for the group of Bulgarian learners turned out to measure 12.5 points while the improvement level for the Lithuanian learners turned out to measure 14 points.

4.2. INDIVIDUALISATION

On a 5-point Likert-scale the participants of the study were asked to rate flexible time management, autonomous learning and reflection during learning. The accumulation of the three items produced the overall results for the variable 'individualisation of the learning process' as per Figure 2.

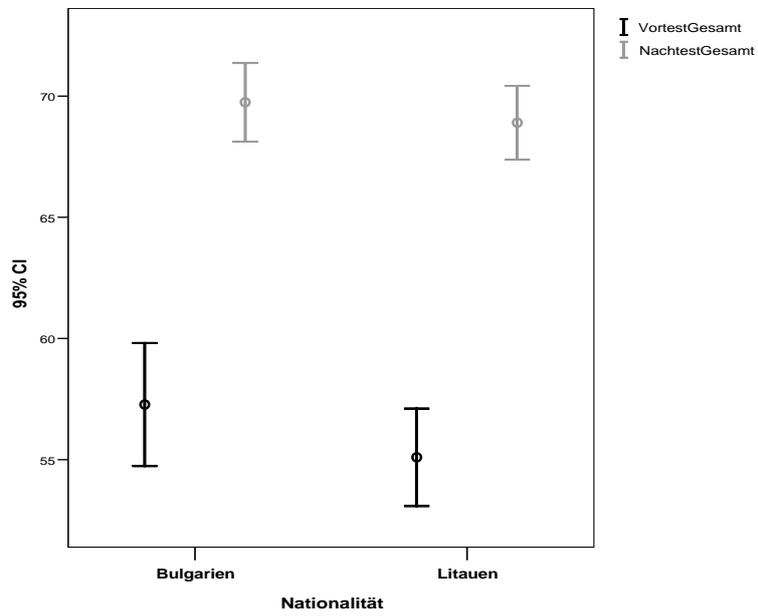


Figure 1. Overall performance before and after.

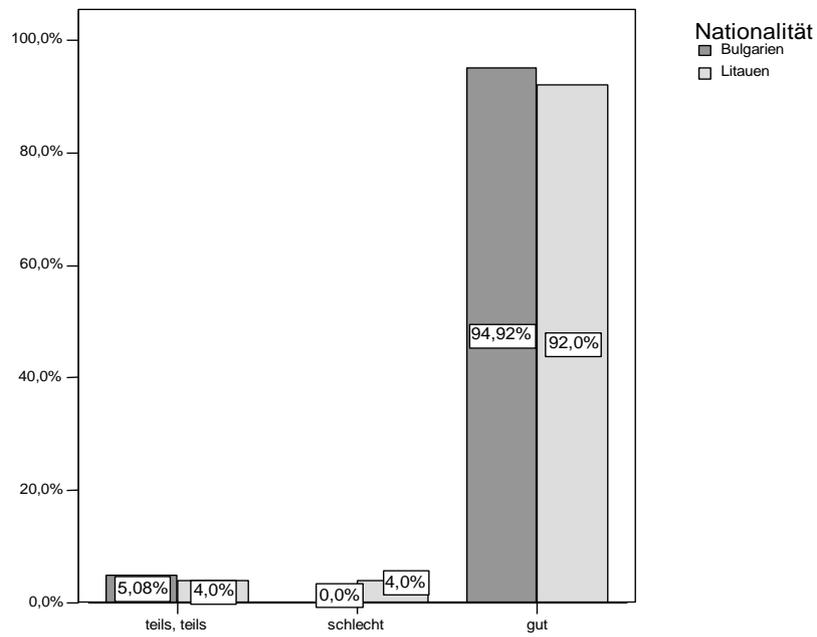


Figure 2: Attitudes vis-a-vis the individualisation of the learning process.

It is important to note that both groups used to work in tightly structured and tutored learning environments prior to taking part in the study. Both groups claimed initially that they were looking for a similar kind of guidance in a media-based language program. Online learning, the way it was presented to them during the study, was completely new to them and did not match their learning traditions. In other words, their expectations vis-à-vis external guidance were not met by the program. Despite those challenges, both groups displayed a high level of satisfaction with the unexpected role of the teacher in our study as well as with their own performances. The cultural variables, „learning tradition’ and „learning habits’, do not seem to play a decisive role in assessing the efficiency of the online learning experience.

4.3. DIFFERENCES BETWEEN THE GROUPS (OUTPUT-LEVEL)

4.3.1. Differences in Individual Competency Areas

When it comes to assessing the training of particular linguistic competences the groups differed in some areas, in particular with respect to grammar and listening comprehension. Among the Lithuanian students ‚grammar’ was definitely the most popular training area (73.5 %). By contrast, ‚listening comprehension’ was more popular with the Bulgarian students (53.3 % vs. 18,4 %).

4.3.2. Differences in Learning Output

We noted statistically significant learning effects with respect to writing (E-mails, letters) within the group of Bulgarian learners and with respect to grammar (two way prepositions) within the group of Lithuanian learners. Figure 3 depicts the learning effects.

A qualitative analysis of students’ assessments shows that grammar in fact matters most among Lithuanian learners. They find that the online program *uni-deutsch.de* particularly well suited to exercise grammar skills. They also particularly enjoy the lively presentation of grammar in the program (animations). The subjective assessment by Lithuanian students is confirmed by their excellent performance on the grammar test. The Bulgarian students act respectively: they rate the online program as particularly well suited to exercise writing skills and they do, in fact, improve significantly in this area.

The responses to the questionnaires distributed prior to the beginning of the study showed that both groups used to learn mainly by external guidance (tutoring, no autonomous learning). While working with the online platform they developed a remarkable flexibility with respect to making their own decisions and taking responsibility for the decisions. The learning plan with prescheduled timelines for handing in the assignments provided only a loose framework for the students. The control for speed and intensity of learning remained with them the whole time. Also, students had the opportunity to contact their tutor at any time. The new role of the learner which seemed to be very different from what they had expected initially, and were used to, did not require much time to get accepted by the students.

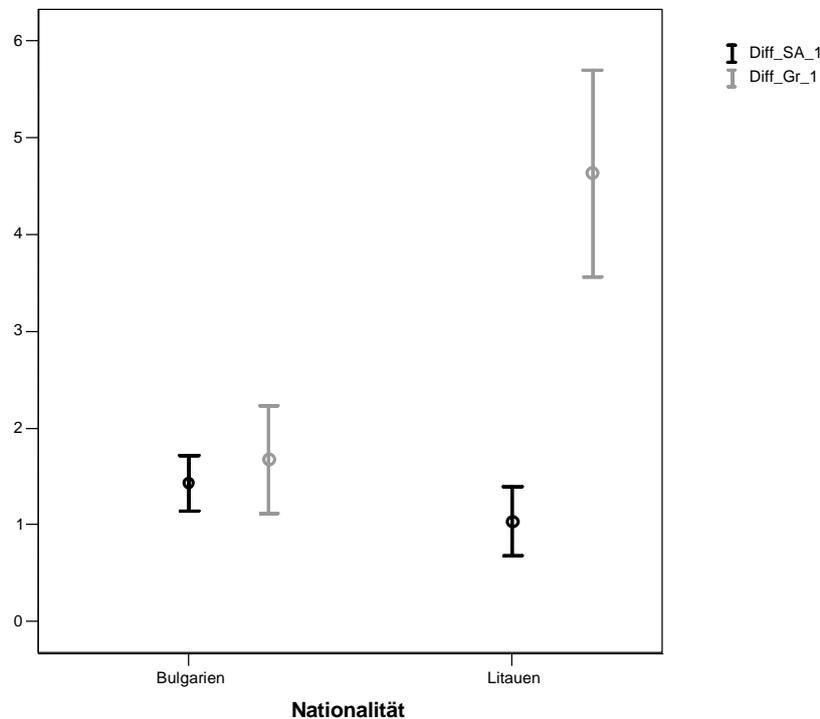


Figure 3: Significant learning effects.

4.4. LEARNING SUCCESS AND LEARNING CULTURE

The influence of the learning culture on learning success was measured by means of a regression model. The model was statistically significant and was able to account for 58.6% of the variation in the dependent variable (post test score). It turned out that the individual variables ‚previous knowledge‘ and ‚motivation‘ had a decisive influence on learning success. The variable ‚previous knowledge‘ accounted for 55.35% of the variance. The variable ‚motivation‘ accounted for 4.97% of the variance. This means that previous knowledge exercises the most important influence on learning success. There has been no proof in our study for an influence of cultural dispositions on the acceptance levels.

5. Discussion

In line with current research on cultural influences on media use our initial assumption was to find a strong influence of cultural dispositions on the learning outcomes as well as on subjective ratings of a language course. Subsequently, a study was designed to look at three different sources of evidence: input, process and output levels. By assessing the students‘ attitudes towards learning and language learning in general, and

the potential support of media in particular, we determined the cultural disposition of two different groups of learners. To our surprise, the analyses of our output data produced a picture quite different from what we had expected. While the cultural disposition initially guides the students in what to expect of and how to approach a media-based programme such as the one used for the study students act more autonomously and across cultural specific preferences when the program offers them a meaningful access to alternative learning routes. In our study, an innovative approach to learning grammar and to exercising writing skills generated a sufficiently high level of motivation for the students to change their learning habits. As a result, both groups of students excelled. Although the results of our study can be considered solid a number of issues require further discussion and enquiry. First, the literature does not yet provide a conclusive model of cultural dispositions vis-à-vis learning. In fact, there is quite some debate as to how cultures can best be classified given their internal variance and constant development. Second, little is known as to how cultural dispositions develop and how resistant they may be to change. Our study indicates, however, that certain sets of attitudes may be changed under certain circumstances (e.g. high intrinsic motivation, high appeal of materials). We do not know yet whether there are other categories of attitudes which may be more resistant to change and how different attitudes interact. Third, it remains to be shown what role individual feedback of the tutor plays in motivating the students and helping them to foster their competencies. Fourth, while it has been shown that the appropriate use of media can be a crucial variable in enhancing learning performance and in shaping effective learning formats more work is required on program designs. Such designs subsequently require systematic evaluation and testing with different groups of learners.

Our study can thus only contribute to illuminating some of the most pertinent issues in media-based learning. It may also contribute to shaping the proper questions researchers need to ask. This includes a critical review of commonplace assumptions on learning cultures. We are, however, aware that our study can not provide conclusive answers as to the effect of cultural dispositions on learning.

References

- Amaral, L. & Meurers, D. (2008). From recording linguistic competence to supporting inferences about language acquisition in context: Extending the conceptualization of student models for intelligent computer-assisted language learning. *Computer-Assisted Language Learning*, 21(4), 323-338. Retrieved on 14. April 2010: <http://www.sfs.uni-tuebingen.de/~dm/papers/amaral-meurers-call08.pdf>.
- Amaral, L. & Meurers D. (2009). Little things with big effects: on the identification and interpretation of tokens for error diagnosis in ICALL. *CALICO Journal*, 26(3), 469-473. Retrieved on 14. April 2010: <http://purl.org/net/icall/calico08/amaral-meurers.pdf>.
- Barber, B. & Zhang, F. (Eds) (2008). *Handbook of Research on Computer Enhanced Language Acquisition and Learning*. Hershey: IGI Publishing.
- Buragga, K. A. (2002). An investigation of the relationship between cultural context and the use of computer-based information systems. In F. Sudweeks and C. Ess (Eds), *The Proceedings*

- for International Conference on Cultural Attitudes towards Technology and Communication. *The Net(s) of Power: Language, Culture and Technology*. Montréal, Canada, 12-15 July 2002 (pp.467-484). Murdoch, Australia: Murdoch University.
- Cakir, H., Bichelmeyer, B. A. & Cagiltay, K. (2002). Effects of cultural differences on e-mail communication in multicultural environments. In F. Sudweeks and C. Ess (Eds), *The Proceedings for International Conference on Cultural Attitudes towards Technology and Communication. The Net(s) of Power: Language, Culture and Technology*. Montréal, Canada, 12-15 July 2002 (pp.29-50). Murdoch, Australia: Murdoch University.
- Chen, M. C. (1998). Intercultural communication via e-mail debate. *The Edge: The E-Journal of Intercultural Relations*, 1(4). Retrieved on 1. February 2006: <http://www.interculturalrelations.com/v1i4Fall1998/f98chen.htm>.
- Fischer, F., Troendle, P. & Mandl, H. (2003). Using the internet to improve university education: problem-oriented web-based learning with MUNICS. *Interactive Learning Environments*, 11(3), 193-214.
- Freiermuth, M. R. (2000). Native speakers or non-native speakers: Who has the floor? Online and face-to-face interaction in culturally mixed small groups. *Computer Assisted Language Learning*, 14(2), 169-199.
- Gill, S. (1998). The cultural interface: The role of self. In C. Ess & F. Sudweeks (Eds), *Proceedings Cultural Attitudes Towards Technology and Communication*. London, 1.-3. August 1998 (pp.246-251). Australia: University of Sydney. Retrieved on 22. November 2006: http://www.it.murdoch.edu.au/catac/catac98/pdf/20_gill.pdf.
- Gladstein, D. L. (1984). Groups in context: A model of task group effectiveness. *Administrative Science Quarterly*, 29, 499-517.
- Goodfellow, R., Lea, M., Gonzales, F. & Mason, R. (2001). Opportunity and e-quality: Intercultural and linguistic issues in global online learning. *Distance Education*, 22(1), 65-84.
- Grotenhuis, F. D. J. (2000). How cultural differences affect the use of information and communication technology in Dutch-American mergers. In F. Sudweeks & C. Ess (Eds), *The Proceedings for International Conference on Cultural Attitudes towards Technology and Communication. Cultural collisions and creative interferences in the global village*. Perth, Australia, 12-15 July 2000 (pp.349-360). Australia: Murdoch University.
- Gunawardena, C. N., Wilson, P. L., & Nolla, A. C. (2003). Culture and online education. In M. G. Moore & W. G. Anderson (Eds), *Handbook of Distance Education* (pp.753-775). Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Haulmark, M. (2002). Accommodating cultural differences in a web-based distance education course: A case study. In *Proceedings, 9th Annual International Distance Education Conference, January, 22-25*. Austin Texas. Retrieved on 9. April 2006: http://www.cdlt.tamu.edu/dec_proceedings/dec%202002/Haulmark.pdf.
- Herring, S. C. (1996). Two variants of an electronic message schema. In S. C. Herring (Ed.): *Computer-Mediated Communication: Linguistic, Social and Cross-Cultural Perspectives* (pp.81-106). Amsterdam: John Benjamin.
- Hewling, A. (2003). Unravelling cultural interferences in electronic literacy for remote-access virtual learning environments. In: *Proceedings, UNESCO Conference on Intercultural Education, 15-18 June 2003* (CD-ROM). Finland: University Jyväskylä.
- Hongladarom, S. (1998). Global culture, local cultures, and the internet: The Thai example. In C. Ess & F. Sudweeks (Eds), *Proceedings Cultural Attitudes Towards Technology and Communication*. London, 1.-3. August 1998 (pp.231-245). Australia: University of Sydney.

- Retrieved on 27. June 2006:
http://www.it.murdoch.edu.au/catac/catac98/pdf/19_hongladarom.pdf.
- Inglis, N. L. (1998). Worlds apart. Cross-cultural undercurrents in the use of email and the internet. *Language International*, 10(2), 16-17,44.
- Kim, K. L. & Bonk, C. J. (2002). Cross-cultural comparisons of online collaboration among pre-service teachers in Korea, Finland and the United States. Paper presented at the *American Educational Research Association (AERA) annual convention*, New Orleans, LA.
- Kötter, M. (2003). Negotiation of meaning and codeswitching in online tandems. *Language Learning & Technology*, 7(2), 45-172. Retrieved on 16. March 2005:
<http://llt.msu.edu/vol7num2/kotter/>.
- Macfadyen, L. P., Chase, M., Reeder, K. & Roche, J. (2003). Matches and mismatches in intercultural learning: Designing and moderating an online intercultural course. In *Proceedings, UNESCO Conference on International and Intercultural Education, 15-18 June 2003* (CD-ROM). Finland: University Jyväskylä.
- Macfadyen, L., Roche, J. & Doff, S. (2004). *Communicating Across Cultures in Cyberspace: A Bibliographical Review of Intercultural Communication Online*. Hamburg: Lit-Verlag.
- McLoughlin, C. & Oliver, R. (2000). Designing learning environments for cultural inclusivity: A case study of indigenous online learning at tertiary level. *Australian Journal of Educational Technology*, 16(1), 58-72.
- O'Dowd, R. (2003). Understanding the "other side": Intercultural learning in a Spanish-English e-mail exchange. In: *Language Learning & Technology*, 7(2), 118-144. Retrieved on 28. September 2006: <http://llt.msu.edu/vol7num2/odowd/>.
- Reeder, K., Macfadyen, L. P., Roche, J. & Chase, M. (2004). Negotiating cultures in cyberspace: Participation patterns and problematics. *Language Learning and Technology*, 8(2), 88-105.
- Rey, L. (1998). Attitudes toward technology and communications across the multiple cultures of Switzerland. In C. Ess & F. Sudweeks (Eds), *Proceedings Cultural Attitudes Towards Technology and Communication. London, 1.-3. August 1998* (pp.142-145). Australia: University of Sydney. Retrieved on 14. 4. 2010:
http://www.it.murdoch.edu.au/catac/catac98/pdf/13_rey.pdf.
- Savicki, V., Lingenfelter, D. & Kelley, M. (2002). Gender, language style, and group composition in internet discussion groups. In *Journal of Computer-Mediated Communication*, 7 (2), online.Ama Retrieved on 13. April 2010: <http://jcmc.indiana.edu/vol2/issue3/savicki.html>.
- Schlickau, St. (2001). Praxis und Analyse interkultureller Kommunikation durch Video und Videokonferenz: Lernpotenziale und Anforderungen. *Zeitschrift für Interkulturellen Fremdsprachenunterricht*, 6(2). Retrieved on: <http://zif.spz.tu-darmstadt.de/jg-06-2/beitrag/schlickau1.htm>
- Schulmeister, R. (2002). *Grundlagen hypermedialer Lernsysteme. Theorie - Didaktik - Design*. München/Wien: Oldenbourg.
- Sussman, N. M. & Tyson, D. H. (2000). Sex and power: Gender differences in computer-mediated interactions. *Computers in Human Behavior* 16, 381-394.
- Van Belle, J. P. & Stander, A. (2002). Gender differences in the perception and use of email in two South African organisations. In F. Sudweeks and C. Ess (Eds), *The Proceedings for International Conference on Cultural Attitudes towards Technology and Communication. The Net(s) of Power: Language, Culture and Technology. Montréal, Canada, 12-15 July 2002* (pp.131-142). Murdoch, Australia: Murdoch University.