

Moving From Analogue to High Definition e-Tools to Support Empowering Social Learning Approaches

Paula Charbonneau-Gowdy¹ and Ivana Cechova²

¹The Canada School of Public Service, Government of Canada, Canada

²University of Defence, Brno, Kounicova, Czech Republic

paula.charbonneau-gowdy@cspc-efpc.gc.ca

cechova.ivana@unob.cz

Abstract: Traditional educational and training settings have dictated that the act of learning is an activity that is motivated by learners, directed by a teacher expert and based on information transfer and data manipulation. In this scenario, it has been assumed that learners more or less acquire knowledge or develop sets of skills as a result of such activity. With this model in place, learning ends when the training activities cease - and implies that repeated doses of similar training are required over time. Various computer technologies, as they have been generally integrated into educational settings, have taken on the role as tools to support such a model. In some cases they are used to replace the teacher in these contexts although not without serious implications for learners and their learning it has been argued. During the last three decades, a growing movement in educational research, based on the theoretical support of Leon Vygotsky and Mikhail Bakhtin, is advocating that the traditional conceptualization of the learning process is misconceived. From the perspective of this movement, learning is understood as a life-long, social act of constructing knowledge in a dialogic activity with others. Within this model, social interaction is the precursor to higher order thinking rather than the reverse. The challenging question emerging for many educators is how new technologies can support knowledge and skill building in social constructivist-based learning settings. And a corollary to this question arises: Depending on the particular technology chosen, what are the implications for learning and identity construction? In this paper, we describe the Language Learning Through Conferencing project (LLTC) in which an affordable video-based web conferencing technology and desktop computers were used to conduct language learning sessions via the Internet. The project description, project content, and the experiences that took place over a sustained period, as well as the potential future for this approach to distance learning in a variety of fields are presented. The aim of the Language Learning Through Conferencing project (LLTC) has been to exploit a particular Web 2.0 technology to connect language learners internationally between Canada and new democracies in Central and Eastern Europe and more recently in the public sector in Canada. More specifically, the project was a means to respond to learners who faced challenges in finding opportunities for language learning both in Europe and in Canada. Outcomes from ongoing qualitative and quantitative findings gathered by the respective authors are indicating that these dialogic opportunities are also having a powerful influence on learners' professional, linguistic and personal identities as well as their views of technology and learning.

Keywords: Video-based web conferencing, guided social learning, learner agency, identity and knowledge construction

1. Introduction

The buzz these days about High Definition (HD) television and its superiority over the old analogue rabbit-ear TVs that some of us grew up with, is leading to interesting analogies with computer technology as it relates to learning. Advocates of HD, and there are many, describe the qualities of this new technology in glowing terms. With HD they say, you feel "*just as if you are there*". What does that mean, we ask? In the context of watching a Canadian (or Czech) hockey game on television, the answers the HD band wavers give can be summed up by three qualities of the transmission that are highlighted by this new technology. They talk about the *clarity* of the faces of the players and the fans on the opposite side, of being able to read their emotions, see their lips well enough to understand comments the fans and players make. Advocates of HD talk about the depth and realism of the *colours* of the uniforms the players are wearing, the MacDonald ads on the sides of the rink and the fabric of the announcer's suits. They talk about the *context* – the rink, the stands filled with fans and the flashing billboards, the cheers, all seem at one with the viewer who feels a part of the action although watching from a place so far away. Compare this HD experience with that of watching analogue TV with its fuzzy, black and white, or later somewhat distorted coloured image where the viewer is only privy to bits of action and is left feeling as an outsider looking in. *Clarity*, *colour* and *context* are features that considerably improve the experience of watching a game; they are also vitally important to learning.

In formal learning settings over the past twenty years, computers have been traditionally used for information management and processing. In the field of second language education, for example, computers have often acted as receptacles for paper versions of programs filled with de-contextualized activities, dressed up with the odd image, video or audio clip. Interactivity is limited to learners' clicks. Learners move from activity to activity, often forced to choose a 'correct' answer from a list in a set of multiple choice questions or faced with pages of written text to read and to respond to through questions pre-determined by IT and content specialists. These 'learning' experiences, like those offered by analogue television, are limited and limiting. They reduce learners to being outsiders deprived of the interpersonal activity which from a socio-cultural perspective is essential to learning. In these traditional-style spaces supported by technology, learners are passive receivers rather than active players. Their individual and unique interests and experiences are inconsequential to the learning.

Outside such formal learning sites, many individuals are no longer content just to have access to computers simply for information management and processing. Increasingly, individuals are drawn by the powerful and potential outcomes that result when computers help them to interconnect to organizations and others in the local and global community. Web 2.0 technologies such as blogs, chat rooms, and especially video and image sharing sites which place less emphasis on written text-based communication, are examples of the now commonplace and powerful ways of using computers to make human to human interconnectivity possible. And as Naomi Baron (2008) acknowledges these technologies are profoundly influencing the way we learn.

Not surprisingly, the use of computers for mediating communication is having an increasingly important impact on formal learning environments as well. Our work with video-based web conferencing we believe offers a compelling example of how technology allows such communication. With this HD-type synchronous tool, understanding among learners and teacher are enhanced with access to the nuances in the tones of the speech and the nonverbal cues such as gestures and facial expressions which are so lacking in other communication tools and yet important to understanding the messages we wish to convey. It is the quality of the exchange of this interpersonal information that, we argue, leads to the effective knowledge construction characteristic of social learning.

Video-based web conferencing technology is at the same time reconstructing what it means to teach and learn. With the enhanced qualities of the interactions supported by this technology, teachers in our studies are being drawn to adopt an interactive, communicative and non teacher-directed approach. Learners, initially hesitant, are reacting to such opportunities for agency by negotiating more powerful subjectivities. The evidence that has been collected in the various contexts of our work over the last six years strongly suggests that learners do not only develop linguistically as well as more empowered identities when it comes to using the language. Learners in these groups also show clear signs of taking on a self-directed role in terms of their learning. The promotion of life-long learning is the goal of all effective learning situations. Thus with this encouraging evidence comes great hope for the potential and powerful outcomes of implementing affordable video-based web conferencing technology in a variety of learning contexts.

2. Language Learning Through Conferencing project

Language Learning Through Conferencing (LLTC) is a multinational project aimed at promoting communication with the support of a Web 2.0 web conferencing technology. The project began in 2001 in the context of a doctoral research project (Charbonneau-Gowdy, 2009) as a distance education program for English as a foreign language via the Internet. Groups of military in Eastern and Central Europe were connected with a teacher in Canada. Sustained interest in the original project has led to continuing the distance program and an on-going second doctoral project by the other author. The original project has also been expanded to include programs for learning French and English in a government context in Canada.

The program reported here took place from October 2007 to March 2008 and consisted of creating virtual classrooms for 2 groups in the Czech Republic and 4 groups in Canada. For all 6 groups, the teachers were located in Canada:

1) Czech Republic

- A group of military students located at the Faculty of Economics and Management, University of Defence (UoD) in Brno, Czech Republic;

- A group consisting of teaching personnel at the UoD; in Brno, Czech Republic;
- 2) Canada
- Two groups of federal government employees learning French within the Prairies region
 - Two groups of federal government employees learning English in multiple locations in the Atlantic, Quebec and Ontario regions.



Figure 1: Videoconferencing classroom

ICIWave Design is the Canadian company that provided the communication service for the distance courses. The company, located in Quebec City, researched, developed and continues to develop specialized low-cost videoconferencing telecommunication services for this project. The audio and video “multi stream” technology allows individuals in multiple sites to connect over the Internet. Through this interface, real-time connections between Canada and the Czech Republic were made possible. The technology provides a controlled, yet easy access to the website. Users are equipped with headsets and web cameras. For the overseas connection, London England is a break point and at the same time a location for boosting the transmission of sound and picture thus ensuring a better quality video and audio reception than traditionally possible between North America and Europe. A North American server supports the Canadian transmission. The particular interface used in the project permitted up to ten people to be present at the website using individual screens (See Figure 1). Interactions between the teacher and participants were facilitated with special technical features such as shared desktop and whiteboard as well as small-group breakout rooms which *ICIWave* Design created for this particular application. *ICIWave* was also able to add a unique control mechanism that allowed some of the participants in remote areas of Canada with low bandwidth to be included in the distance learning. This feature was appealing to the Government of Canada for which the obligation to provide language training to its employees in *all* parts of the country is particularly challenging.

The participants in the language program between Europe and Canada consisted of eight to ten students located in the same room in the Czech Republic and an English language expert located in Canada. In the Canadian government context, participants in different locations were formed into groups of eight, each group connected to one of two teachers in Montreal for the inter-regional groups and one of two teachers in Winnipeg for the intra-regional groups. With this particular interface, each participant is able to view the other participants on the screen. There is one slightly larger screen for a teacher and a similar-sized one that is designated as the visitor’s screen. This screen is used for various English-speaking guests who come in from their diverse locations and who participate in the discussions. It is possible to show a picture on the screen (see Figure 2), to play a video, to have

students draw pictures, write text, to show charts and diagrams to students and to have learners move to small break-out rooms. With the exception of the break-out room scenario, learners are still able to see each other and the teacher even if the above mentioned activities are displayed on the screen. There is a chat space accessible to both teacher and students in the room which serves as a whiteboard for writing new words, phrases or giving written explanations.

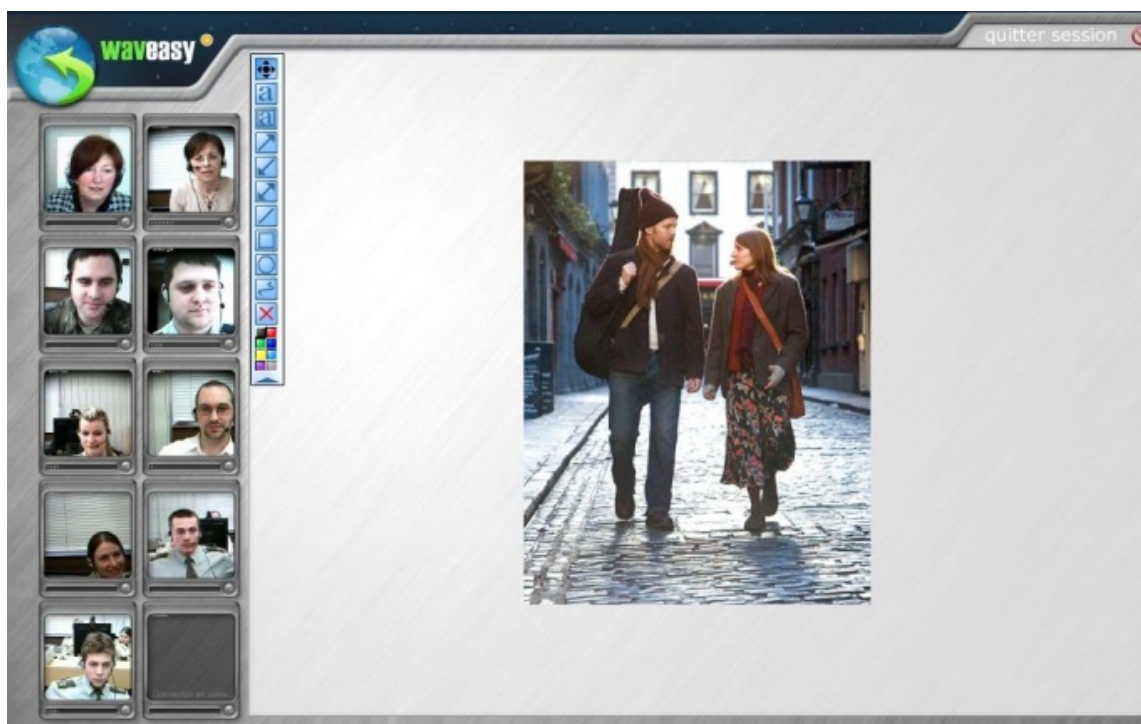


Figure 2: Screen shot of group using picture sharing feature

The LLTC provides an on-line opportunity to practice primarily speaking and listening but also reading and writing through interacting in English and French. The approach to teaching is learner-centred, based as much as possible on the students' real communication needs and interests.

The aim of the videoconferencing sessions is to expose the learners in the program to a large variety of topics for discussions in order to help these individuals become confident speakers in the target language in different situations, including and especially in occasions that arise in their own work. The language focus is on fluency rather than on accuracy, although teachers regularly draw attention to structural or vocabulary issues in context and as the need arises. Not only are the students encouraged to find the words and expressions they need with the help of other learners, they are also aware of keeping their listeners interested in what they have to say. Through this interactive process they develop ways to support other learners in the classroom even the most reserved and to create a space for their own voice. Importantly, there is strong evidence that this on-line interactivity leads to progress in their language learning.

In planning the content of the videoconferencing sessions for the Czech Republic, students and tutors collaborate in choosing various topics of relevance and interest to the participants' military, professional, cultural and individual lives. The materials used to spark conversations are chosen from a wide variety of authentic material. In the Canadian government context, in one site teachers use the materials included in the Speaking to Learn program, a discussion-based language maintenance program based on case studies of professional subject matter. In the other Canadian site, discussions were based on work and interest-related topics. For all groups, online Communities of Practise (CoP) learner sites were available to encourage writing-based information sharing and interaction among learners during periods between the web-conferencing sessions.

The fact that the LLTC is designed to be a learner-centred program where students have an agentive role in the knowledge producing activities is not without precedence. As Thorne and Black (2007) have observed, computer-mediated communication has the potential to transform what is often teacher-centred communication in traditional classroom settings into more multidirectional interaction

in computer-mediated contexts. Indeed, the LLTC program is based as much as possible on the UoD students' needs and interests, and in the Canadian context, on the professional experience of the government employees not on the instructor's pre-planned agenda. Strong conviction derived from extensive study and our combined many years of experience in education suggests that this approach best prepares the military personnel for interoperability in the international contexts in which they serve and encourages important networking and professional development among employees in the Canadian government context. George Siemens (2008) observes that students "*being a part of*" (p.3) and belonging to the process of dialoguing, creating and exchanging knowledge, both locally and globally "*is the framework that should drive our consideration of education*" (p.3). We would add that this *belonging to* in formal education contexts is an essential ingredient to the kind of identity construction that leads to life-long learning.

3. Methodology

Both qualitative and quantitative research was conducted in this particular inquiry:

The qualitative data collected in the Canadian government sites took place between October 2007 and March 2008 using ethnographic methods - collaborative face-to-face and on-line dialogues with individuals and groups, teachers' journals, observations of images and videotapes, written comments in a Communities of Practice (CoP) site, as well as field notes. The participants consisted of 32 federal government employees, male and female, representing a variety of professions and departments in the Prairie, Quebec, National Capital and Atlantic regions of Canada. The aim of this research approach was to permit the voices of the participants to emerge through the findings, believing that their voices could lead to a critical understanding of learning experiences involving technology and as a means of promoting change in theirs and potentially other learning contexts.

The quantitative data presented here was collected in the Czech Republic between October 2005 and March 2006. After an initial process to determine the research groups, the 88 participants, consisting of male and female military university students were divided into three groups. All three groups took part in pre and post standardized language tests which are official tests used in NATO military language programs. The tests measured listening, writing, reading and speaking skills. Statistical data from the test results were analyzed for significance. Individual interviews with participants were also conducted.

4. Language learning in the Canadian government context

Regardless of location, Canadians of both official languages, French and English, are guaranteed by government law to have the right to communicate in their first language when accessing government services. This language right places an enormous responsibility on government departments to ensure that a designated number of their employees are able to respond to this dual obligation to the public. Also, depending on the region in Canada, supervisors within the public service may be required to communicate with individual employees in the language of the employee's choice. Many of the jobs in the Public Service are thus designated '*bilingual imperative*'. Those employees who are in '*bilingual*' positions are rewarded financially for their status and at the same time are obligated to maintain their other official language. Many employees who are not in bilingual positions report feeling the pressure to improve their second language skills in order to be eligible for advancement into such positions. Added to this pressure is the regular language high-stakes testing that ensures that employees have maintained the level of proficiency over their years in service for their current positions or improved their levels for new positions. While regular classroom training courses are available in the larger centres in Canada to meet these requirements, the very nature of the geography of the country makes it costly and time-consuming for those civil servants in areas outside major centres to access maintenance and/or development training. Many report that they lose interest, become discouraged and apathetic or worse still, embittered over the loss of control over their careers. Feelings of being marginalized in their second language and reluctance to use the knowledge already possessed in the other language are typical reactions reported when opportunities for using the second language arise. These feelings run counter to the spirit of the law which seeks to inspire learning the other official language as a value rather than an obligation.

The LLTC project was set up in the Canadian context employing a participatory action research (PAR) approach to the inquiry to critically explore with the participants their experiences using computer technology for second language learning. We negotiated changes to their current perceptions of computer-assisted language learning (CALL) through the use of computer-mediated communication

(CMC). The on-line courses using the video-based web conferencing were conducted in the early morning twice a week for 1.5 hours per session for eight weeks. Learners were expected to go to the CoP sites for at least one hour between these online sessions to read case studies. The case studies, based on professional themes, are intended to spark discussions of the participants' personal work experiences in the classrooms and to have these discussions continue in written dialogue with other participants between sessions at the CoP site.

5. Language training at the University of Defence

Language training at the University of Defence is carried out on both a full-time as well as an elective study basis. E-learning is an integral part of both forms of language study programs. In some ways, language training at UoD is based on a blended learning model along with other models such as skill driven learning (aimed at skill development), attitude learning (aimed at approach/attitude development) and competency driven learning (aimed at competency development). At present, ICT in the language training program is extended to include the Language Learning through Conferencing (LLTC) program.

When the process of incorporating Professional Language Programs (PLP) into the UoD curriculum began, student evaluations of the project were carried out. It was found that learning outcomes and student acceptance levels were very high. In 2005 we designed what was called the Pedagogical Experiment to find out if and how ICT contributes to the quality of the language training and communicative skills. The research was divided into three phases.

A group of 88 students took part in the experimental study. The study consisted of the following processes:

- Questionnaire
- Interviews
- Pedagogical Experiment (group building, entrance tests, final tests and their evaluation)

The questionnaire had 12 questions and the goal of its first part was to find out students' preferences and needs while using ICT in the language classes. In this part of the research, 104 students participated. The students were asked to respond to questions such as:

In my language learning, I want to:

- use up-to-date technologies, the Internet, an in-house Study Portal and on-line sessions in language lessons and in my self-study.
- use ICT in my self-study.
- be taught in a classical way (without computer technology programs).

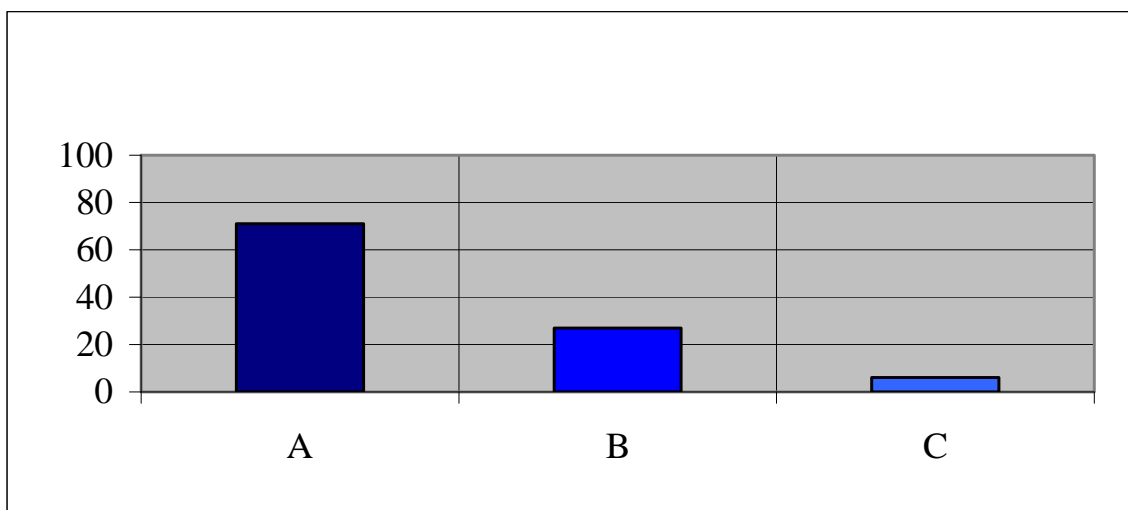


Figure 3: The use of videoconferencing technologies in the language learning study

Almost 80 % of students prefer language lessons with the use of up-to date technologies and 22 % of students want to use ICT in their self-study (Figure 3).

The second section of the questionnaire was designed to ascertain from the responses of the student participants whether Web 2.0 web conferencing technology can enhance language skills, or influence the language training. Students were asked questions such as:

Online sessions with web-conferencing technologies:

- can influence my English training in a positive way
- can influence my English training in a positive way but only in a combination with classical lessons
- do not have any or have minimal influence on my English training.

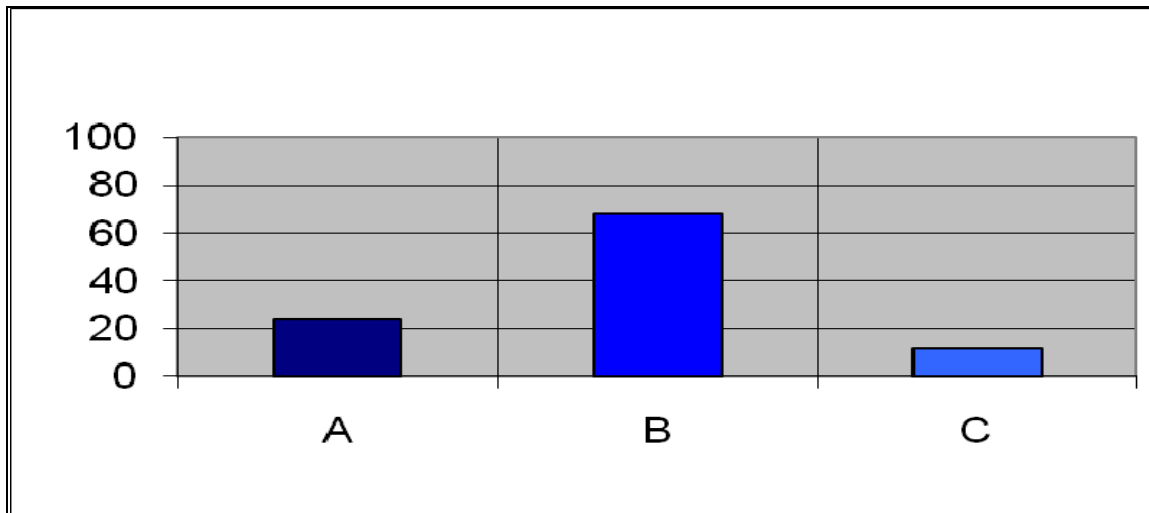


Figure 4: Web-conferencing technologies and language training

More than 60% of students think that web-conferencing technologies in **combination with a classical way of language training** can influence English training in a positive way, while 25 % of students think that using web-conferencing technologies alone can influence the language training.

The results of this phase of the research showed that UoD students prefer language lessons with the use of up-to-date technologies and that they feel positive about these technologies being implemented in their language training. They also support the positive role technologies play in helping them develop their communicative skills in the language training program.

The second phase of the research included a semi-structured interview to determine the students' priorities and to assist the researcher to build groups:

Group 1 – 27 students - using a classical approach to language learning without ICT;

Group 2 – 32 students - using a language learning approach that includes ICT through access to an in-house Study Portal, materials from the Internet and web quests;

Group 3 – 29 students - using a language learning approach that includes ICT through access to the in-house Study Portal, materials from the Internet, web quests AND complimented by online synchronous communication with Canada.

Each group took part in their respective language training programs during two semesters of sixty lessons. At the beginning of the academic year, all students were tested to find out their entrance level of English using the American Language Course Placement Test (ALCPT). On average, entrance scores for all three groups and for all skills were found to be similar with no significant differences among the three groups (Fig. 5).

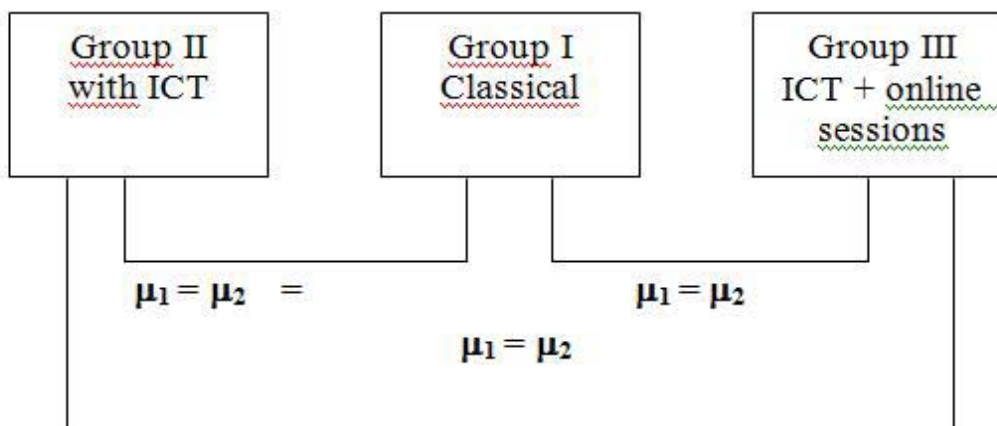


Figure 5: Entrance tests evaluation

At the end of the two semesters, the same students were retested using the STANAG 6001 test, a standardized NATO language testing tool, in order to compare all language skills (listening, speaking, reading and writing). The test results were *evaluated by the statistics-based STUDENT TEST in EXCELL*.

6. Findings in the Czech site

The outcomes of the research in the Czech site (Fig 4) acknowledge considerable benefits of video-based web conferencing technology in the educational process. These positive statistics add to the already significant qualitative data gathered in the Canadian context as well as in other research contexts during the larger study (Charbonneau-Gowdy, 2009). Importantly, these empirical data are supported by well-recognized theories that indicate that learning is by its very nature a socio-cultural activity (Vygotsky, 1978) and dialogue-dependent (Bakhtin, 1981) and that the learner-centred practices that were made possible by using the web conferencing technology had a powerful influence on the fact that participants' identities changed (Weedon,1997).

The test results from the STANAG 6001 evaluated by the *statistics-based STUDENT TEST in EXCELL* are the following:

Reading:

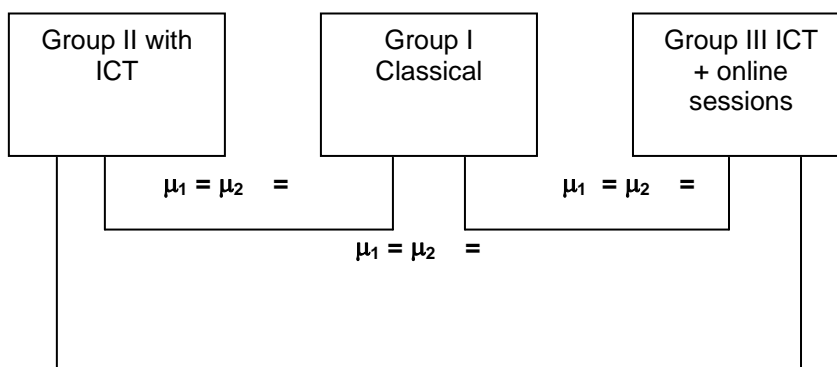


Figure 6: Final tests results in reading

The results of final tests show that there are no statistically important differences among the three groups in reading. This is not to say that progress in reading competencies were not made but that at the end of the study period each of the groups were approximately equally capable in this skill.

Listening:

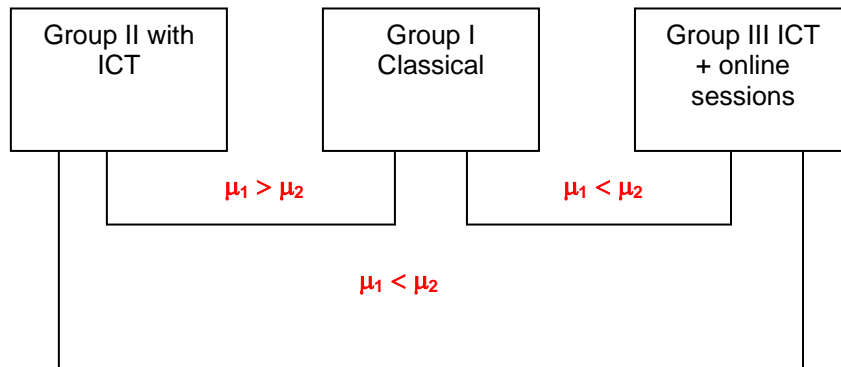


Figure 7: Final tests results in listening

Results on the listening test show significant statistical differences among groups in listening. We can confirm with a reliability of 95 % that Group III performed better than Group II and Group III and Group II performed better than Group I in listening.

Speaking:

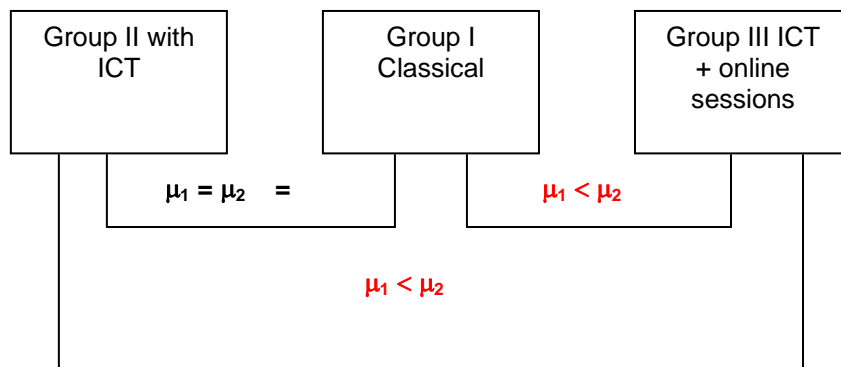


Figure 8: Final tests results in speaking

There were no statistically significant differences between Group I and Group II in speaking but we can confirm with reliability of 95% that the participants in Group III performed better than Group I and Group II in speaking.

Writing:

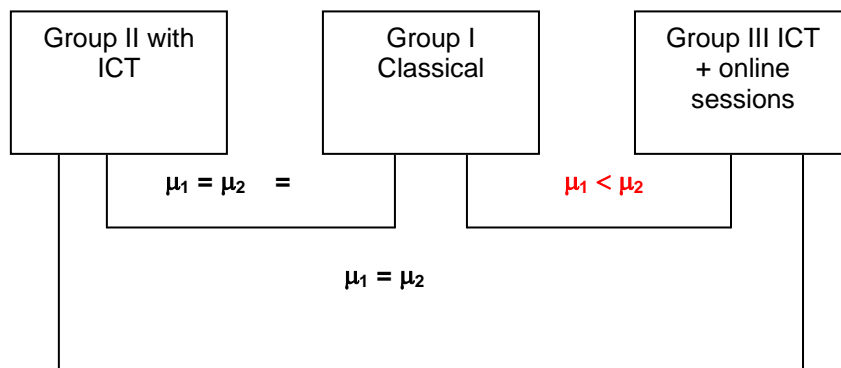


Figure 9: Final tests results in writing

The data indicated that there were no statistically significant differences between Group I and Group II in their writing performance on the tests. But with a reliability factor of 95%, the data indicated that Group III performed better than Group II in writing at the end of the 2 semesters.

Students from Group III, those using a language learning approach that includes ICT through access to the in-house Study Portal, along with materials from the Internet, web quests AND complimented by online synchronous communication with Canada, had significantly better test results in listening, speaking, and writing, in comparison with the two other groups including those who just used ICT without the online sessions. If we sum up all skills, we can confirm with reliability of 95% that there are statistically significant differences between Group I and Group II, Group II and Group III and Group III and Group I which confirm the influence of web conferencing technology in the educational process.

Student reactions to this program gathered from the interview process are very positive. All PLPP participants were interviewed and their feedback was *only* positive. The following are some examples of students' comments about their online experience:

"I take part in PLPP in order to practise listening and speaking skills. There I have to respond instantly. Though I know the topic of our conversation in advance and can read something concerning the topic beforehand, I am not prepared to answer every single question. That is very difficult, but I enjoy it. It is very useful, I mean, to react promptly, and then to write something about the lesson. Actually, it is like a real life conversation: action and reaction." (Kamila, May 2005)

"This way of learning is much easier in comparison with the classical one; it is not so complicated and I have a feeling that I can understand things better." (Zuzana, June 2005)

Kamila's reaction to the advantages she has noticed while using the web conferencing technology for learning English are typical of those expressed by others in the Czech site. In this context, finding opportunities to use English in authentic situations where one is not sure what the questions will be in a conversation are quite limited. Despite the challenges that such opportunities present to her linguistically, she finds them enjoyable and obviously worthwhile. She, like others, knows intuitively that such opportunities prepare her for the real-life situations, most probably international military operations, where feeling prepared to interact in English will be vital.

Zuzana too speaks positively about her experiences using the web conferencing technology. Compared to more traditional approaches based on rule and structure formation predominant in her institution for teaching English, learning online through dialogue is less complicated and more pleasant. She is also aware of the cognitive advantages of her experience in the PLPP, the fact that she understands better, which is an indication of long-term retention of what is being learned.

7. Findings in the Canadian site

Strong quantitative evidence and positive satisfaction from learners in the Czech site were supported as well by the addition of qualitative findings that were collected in the Canadian context. The participants in the Canadian context reported changes to previously felt marginalized second language identities. For example, many participants reported in interviews that prior to the sessions they refused to use the other language for fears of making errors and thus feeling inadequate, experiencing a loss of face. By the end of the program, these same individuals expressed that they experienced a change in those feelings and in their identities. The following comments vividly illustrate the significant change in subjectivity that just one of the participants, Anne, a francophone learning English showed over the course of the program.

Early interview

"I have to make all my thoughts simple to be able to express [myself]. Then I don't feel intelligent....In French, I feel I am intelligent but not in English. I am afraid the [others] are going to think I am stupid. They will ask themselves – "How did she get that job?" (Anne, interview February, 2008)

Later interview

"Something happened to me during that course. Now I can speak on phone without problems. I feel confident." (Anne, interview, April 28, 2008).

The dynamic change in Anne's second language subjectivity in relation to speakers of the other language from fearful at being considered "stupid" and ill-chosen for her position to being a second language user of confidence who is proactive in the other language is powerful evidence of the influence that these sessions had on her learning and identity. Anne's decision to communicate only in English, rather than the usual French, with her English-speaking supervisor rather than the customary French is not only another sign of her changed in SL identity but of the self-directedness that is characteristic of a life-long learner. Her comments and decision-making at the end of the program are repeated again and again by many other participants in the web conferencing sessions.

Another powerful example of the changes that took place to participants in the Canadian context is shown in the following video-clip. In this clip, Denis speaks about his experiences learning English using the web conferencing technology:

http://www.youtube.com/watch?v=hrnwN1G3S4o&feature=channel_page

We hear in Denis' words what he witnessed not only in terms of changes to his language learning in the course of the on-line sessions but to his second-language identity as well. He speaks vividly of his experience at the end of the sessions when he was faced with negotiating his professional opinion in a meeting in his second official language in a head office context where the balance of power would normally have left him silent. He realizes that the on-line sessions and the learning approaches that were involved in those sessions were responsible not only for the linguistic skills he had acquired over the course of the study but also for the changes to his identity that supported and empowered him in persisting to pursue his point of view.

Learners were not alone in noticing changes as a result of the on-line sessions. Some of the teachers expressed they too felt changes to their own language teaching identities and importantly to their teaching practices. Lori, one of the Montreal teachers who taught a group of participants in Quebec and the Atlantic Regions expressed these changes in her words:

"I find I don't do as much from my lesson plans as I would do in a traditional classroom. I think the teacher on the web conferencing must be ever more flexible and patient than they need to be in a traditional class ...it's easier to leave the floor for the students and for me to speak less."

(Lori, Journal notes, February 2008)

For Lori, the on-line sessions offered her little choice but to let the students in her group take charge of the discussions. Her teacher-directed ways were forced to be put aside and her role took on a more facilitator approach. It is this kind of teaching approach that is being shown elsewhere in the literature to be most conducive to self-directed learning, the highest form of learning. Such teaching practices have also been shown to lead to learners constructing more powerful identities – the kind of identities that have implications for life-long learning.

Some teachers in the study expressed less favourable experiences during the on-line sessions. Data findings indicated that less comfort with the technology and a reluctance to encourage a learner-centred approach had implications for learner involvement in the discussions. In these cases, the evidence of learners' linguistic and identity changes were less dramatic. These findings have important implications for the powerful role that teachers and their approaches play in learning, no matter what the context, traditional or involving technology.

It is also interesting to note that activity on the interactive writing-based CoP site, where participants were to interact in writing between sessions was generally quite limited. The CoP activities the participants did do consisted almost exclusively in collecting material for the classroom discussions. Indeed, this general lack of engagement at the CoP site occurred despite teachers' strong encouragement of learners and their awareness of the positive implications of writing in the second language as a means to error correction and developing speaking skills. Disappointingly, learners reported that using valuable time to compose comments in such a public space was too overwhelming a task. While a few participants did post a comment or two initially on the site, they reported that due to receiving no response from others that even their interest quickly waned. It appears that the lack of commitment and basis for relationship building that this particular writing-based Web 2.0 technology offered to this group of learners held little enticement to interact. Baron (2008) predicts the demise of some technologies in her comment: *"Like language, technology does not remain static. At the same*

time, just as certain components of language hang around for centuries while others come and go, we can anticipate that some - but not all - electronic language media will have staying power.” (p.233-234). Baron is not alone in her predictions. Recent reports, even on relatively new Web 2.0 technologies such as blogs and wikis, especially those that are entirely writing-based, are already showing dips in usage among younger generations.

Baron quotes Diane Rehm, the celebrated host of National Public Radio in America saying in a May 2007 university commencement address:

“In this day and age of email, voicemail, office memos and text messaging, we hardly ever hear each other in real time anymore, much less listen to each other. In fact, I think many of us have forgotten how to listen.” (Baron, p.230) *We believe that it is by interacting and listening to one another that we have the greatest potential to gain knowledge, about ourselves and others.*

8. Implications

The research results that are briefly reviewed here strongly support the fact that the shift to Web 2.0 technologies in educational institutions is having serious impact on learning and teaching approaches and results (Warschauer, & Grimes, 2007). Just as the comparison of analogue versus HD television suggests, however, not all technologies, including here some Web 2.0 technologies offer the full range of features that lead to the richness of live face-to-face interactions. Both quantitative and qualitative assessments of the participants' experiences using web conferencing technology provide convincing evidence to suggest the powerful implications that such technology has on enriching interactions. One caveat to these positive results however, is that the technology alone can not bring about the dramatic results that are reported here. An openness to accept the approaches that this technology supports is intricately entwined in these favourable results.

The evidence also indicates that both learner and teacher participants witnessed and for the most part were able to take advantage of the empowering possibilities that the use of the technology offered for their agency. This recognition led to changes in the ways that some of the participants used and viewed the technology for learning. The data also clearly showed that there was strong evidence that many of the participants experienced changes to their linguistic capabilities as well. More research is needed in a variety of learning contexts to substantiate these results. Our hope is that the present evidence along with further support from a wide spectrum of applications in learning sites could lead to a greater engagement on the part of those involved in education to critically examine their practices and technologies. With the increasing speed at which new computer technologies are evolving, the authors argue that there is an urgent need on the part of all those preoccupied with learning to ensure that the technologies that are being chosen can support effective and efficient learning approaches and are providing empowering opportunities for learners' identities, in other words fertile ground for self-directed learners.

9. Conclusion

With the arrival of Web 2.0 technologies into informal and formal learning contexts, a new virtual space or what Lefebvre (1991) calls a *third space* is opening up that is redefining where, when, why and what kind of learning takes place and the influence that learning is having on learners' agency and ultimately their identities. It is in this *third space* that we see hope for individuals to connect and construct knowledge in ways that even traditional contexts have not always allowed.

The ongoing studies being conducted by the authors using video-based web conferencing technology are showing strong support that this particular technology can provide a context for effective and efficient learning. The changes in the identities of some participants in becoming more empowered and self-directed are crucial factors that also surfaced in the findings. Many of the participants who used the video-based web conferencing technology for learning were able to evaluate themselves, their learning progress and to focus and benefit from their success. This is an important factor for the participants who in this case were learning another language. The value of having the chance to develop second-language identities that led to many of the participants being able to use their knowledge and add to it when learning opportunities did present themselves should not be underestimated. In other words, for this group of participants, a more enriched use of computer technology for audio-video-based communication, the kind that provides the clarity, colour and

context of live interactions, led to empowering conversations and self-directed learning – a vital ingredient of life-long learning.

Acknowledgements

We wish to acknowledge the Government of Canada (the Canada School of Public Service), and the University of Defence, Brno, Czech Republic for their generous encouragement and support for our research as reported here. The opinions expressed herein however, are those of the authors and do not necessarily reflect those of the supporting institutions.

References

- Bakhtin, M.M. (1981) *The Dialogic Imagination*, University of Texas Press, Austin, TX.
- Baron, N. S. (2008) *Always On: Language in an online and mobile world*, Oxford University Press, New York, New York.
- Charbonneau-Gowdy, P. (2009) *Speaking to Learn: Accessing language, identity and power through web conferencing*, VDM Verlag Dr. Muller, Saarbrucken, Germany.
- Clarke, A. (2004) *E-Learning Skills*, Palgrave Macmillan, New York.
- Lefebvre, H (1991) *The production of space* (D. Nicholson-Smith, trans.), Blackwell, Cambridge, England.
- Siemens, G. (2008) "Interview of keynote speaker at the eLearning Africa 2008 Conference", *eLearning Africa Online Newsportal*, www.elearning-africa.com/press_release_2008.php
- Thorne, S. & Black, R. W. (2007) "Language and Literacy Developments in Computer-Mediated Contexts and Communities", *Annual Review of Applied Linguistics*, Vol. 27, pp.133-160.
- Vygotsky, L.S. (1978) *Mind in Society: The development of higher psychological processes*, M. Cole, V. John-Steiner, S. Scribner, & E. Souberman (Eds.), Harvard University Press, Cambridge, MA.
- Warschauer, M. and Grimes, D. (2007) "Audience, Authorship and Artifact: The emergent semiotics of Web 2.0", *Annual Review of Applied Linguistics*, Vol. 27, pp.1-23.
- Weedon, C. (1997). *Feminist practice and poststructuralist theory*, Blackwell, Cambridge, England.

