

AHEAD OF THE GAME: ADOPTING 21ST CENTURY LEARNING APPROACHES SUPPORTED BY VIDEO-BASED WEB CONFERENCING TECHNOLOGY IN A ROMANIAN PROFESSIONAL TRAINING MILITARY CONTEXT

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Recent major political uprisings are indicating the extent to which social learning Web 2.0 technologies, can influence change in informal learning settings. Recognition and a discussion of the potential of that influence in formal learning settings have only just begun. This article describes a study of an international distance learning project in 2004, using a variety of Web 2.0 technologies, including video-based web conferencing, that sought to initiate and respond to this urgent need for dialogue in the research. Self-selected participants took part in a 5-week English as a foreign language (EFL) program, a joint NATO sponsored Canadian and Romanian Ministry of Defense-supported initiative. Clear evidence of linguistic knowledge construction and of important changes to participants' learner identities, indicates the power of these technologies to support the kind of learning that can lead to the development of global citizens and the skills they will increasingly require in the 21st century.

Key words: *Distance training, 21st Century Learning, Online Learning, Computer-Assisted Language Learning, Learner Identity*

1. INTRODUCTION

When Lieutenant General Karlheinz Viereck, NATO's top training chief and one of their leading thinkers on technology-enhanced learning and training, made the announcement in the spring of 2011 that NATO militaries will need to rely increasingly on the "unclassified" web as a vehicle for training, it represented at the time, a significant switch in military training policy. In military, especially a NATO-military context, justifiably security obsessed by its very nature, the directive is an

about-face trajectory in training away from the limitations of stand-alone secure in-house software programs, to the limitless yet insecure resources available for learning on the world wide web. The move was bold but necessary. It has become evident to an increasing number involved with formal learning that the Internet and the social technologies that this resource supports is having a profound influence on where, what, when, why and especially how learning takes place. One need only consider the phenomenon of the Arab Spring or the Stanford University

professor (Thrun et al. 2012) who has abandoned his tenured position after attracting one hundred and sixty thousand engineering students worldwide to take part in one class he offered online, as just two examples of this influence. Indeed, it is no longer just a question of the kinds of learning that take place on the Internet, but how these events will influence more formal learning and learners.

The attraction and proliferation of social learning technologies and the growing global access to the Internet has led to extensive questioning not only about innovative ways of using technology for learning but also whether the interpersonal interactions they support are changing learners and helping them to adopt the skills they will need to take an engaged role in the 21st Century (Thomas et al., 2012). The study that this paper describes attempts to explore empirical answers to these questions.

2. LITERATURE UNDERPINNINGS

Whether the NATO's training chief's decision to move training to the Internet was drawn from personal insight, pragmatism, or a pedagogically informed perspective is unclear. Indeed, questions around the limitations of self-study, stand-alone technology programs are beginning to receive some research notice. Remarkably however, while the technical issues and content issues have traditionally been the focus of this attention, the influences of these technologies on learning and learners have not. Ignoring these critical issues

is surprising. Self-study software programs and the technologies that support them continue to be looked upon as economic and resource efficient training saviours in countless organizations worldwide. In the field of language training specifically, Nielson suggests: "There is no(sic) existing empirical research on learning outcomes from foreign-language self study using commercially available, stand-alone Computer Assisted Language Learning (CALL) materials." (Nielson: 2011, p.110). Given the global demand for language training in and beyond militaries and the economic value these programs represent, the lack of sound research to justify their use in terms of learning outcomes is shocking. Nielson's very recent study of the learning outcomes of 150 US highly motivated federal government volunteer employees who volunteered to use two popular commercial programs – Auralog's Tell Me More and Rosetta Stone, reported "severe attrition rates". In the Canadian military context, anecdotal evidence reflects these findings. Retention rates, those military learners that persist with their self-study language learning programs beyond a few weeks, average about 12%. Nielson concludes from her study "this lack of compliance with self-study suggests that despite the logistical ease of providing language learning software, more resource-intensive types of language training are more likely to be effective (p.110). As Benson (2007) in a review of autonomous learning points out "learners do not develop the ability to self-direct their learning simply

by being placed in situations where they have no other option.” (Benson: 2008, p.22).

In quality language learning programs as in many other formal learning settings, the aim of effective training is to develop self-directed life-long learners, learners who will take on the responsibility for their learning beyond the classroom. In an organizational setting, especially a military one, the ability and desire of employees to seek out opportunities for learning well beyond periodic occasions of formal learning, is essential. This is especially true considering the sometimes life-and-death situations that military personnel face, as well as the increasing need for interoperability in global exercises and events around security, especially NATO’s multinational forces. Programs that lead to life-long learning assure an informed and effective workforce and ultimately that the return on investment for training has been met. As Benson’s comment suggests, self-directedness in learners is more than a question of personal motivation.

Bonnie Norton (Norton: 1996, 2000) in her work with highly motivated new immigrants to Canada has shown that studies in learner motivation have fallen short of explaining why language learners fail or persist in their learning. Her work reflected a growing movement in broad educational research towards an interest in the socio-cultural context of learning. She established with her studies, both in informal and formal learning situations, the critical importance of learners’ agency and identity in determining the nature

and investment that learners will commit to learning. Her research and the work that has been built on it, shed light on why, in a technological context, many self-study software programs lead to learner attrition. These programs often rely on an information transfer model of learning whereby the diverse knowledge and experience that learners bring to a learning situation are ignored and where learners are offered little or no opportunity to engage in meaning making dialogue (Bakhtin: 1981) and guided interaction with others (Vygotsky: 1981; Werstch; 1985) that have been shown crucial to learning. Warschauer has pointed out, as educators, our choices to use technology in this way with learners, not only influences their learning but also determines the place those learners will assume in the global community. (Warschauer: 2000; Warschauer 2003). Warschauer has shown that in many FL learning sites teachers and institutions all too often are choosing to use computers for drill-and-practice work, information processing and electronic communication (communicating with machines) despite the advent of Web 2.0 technologies. This use of computers, he claims, serves to prepare students for work in their FL in service industries where basic functional skills are needed. On the other hand, using computers, or more specifically the Internet and the social interactive tools available on them, to help students develop communicative, collaborative and critical skills may ensure that the FL learners have the more sophisticated skills required for the better jobs in

society. Acquiring these skills can not only lead to acquiring the financial stability that comes with better employment, but also the potential of having a voice and agency in constructing new possibilities for the future.

In 2004, in the context of a NATO-sponsored, language immersion program offered in Canada, the kinds of opportunities a group of military learners from Eastern Europe had, for constructing their futures that included opportunities for learning English, was a serious concern for the individuals as well as their militaries. This concern, along with the disappointing data that was evolving from the technological choices they were being offered in Canada, as well as when they returned home to their own militaries, led to a decision to conduct a distance language program supported by Web 2.0 social learning technologies. Given the concern and the emerging potential of these social learning technologies to support the kinds of guided interpersonal dialogue that based on Bakhtinian and Vygostkian theory can lead to cognitive change, it seemed critical to study the influence of the online sessions on learners and their learning experiences.

In the next section, I briefly explain the context that existed at the time for one of the groups that took part in the study, nine officers in Romania. I then report on the study, its findings, follow-up applications of the research that resulted from the distance program and in the final section, conclusions and suggestions for further research.

3. BACKGROUND CONTEXT

We look into the future but sometimes forget that many things from the past (which we sometimes consider them as unimportant details) influenced and still influence our life. (M., a Romanian military participant, field notes, 2004)

I never thought about a plan for the next 5 years. I'm not used to plan things because they never came true. So I live in the present and don't think to (sic) much at the future. (D. Romanian military participant, written communication, 2004)

In 2004, at the time that the distance learning pilot program was being launched, in Romania as in other former Warsaw-pact countries, there was a sense of anticipation, and at the same time hesitation, reflected in the voices of Romanian military personnel around the possibility of becoming members of NATO. This sense of anticipation and hesitation, historically, politically, culturally and ideologically rooted, had repercussions at many levels. At the macro level, the question whether Romania could meet the standards set for interoperability by NATO, preoccupied the country's military organization. At the micro level, there was the angst alluded to by M. and D, Romanian military employees, in their comments quoted above, brought on by the weight of the past on their present and outlooks for the future. This angst and the general tensions in the militaries where they worked, might explain the often disparaging views many of the Romanian participants made about

themselves in relation to others, especially those from the West. Learning English was considered an important step in overcoming these barriers at both levels. Yet a system of education during the former regime characterized by rote learning and translation and in many cases inadequately trained language instructors, along with difficulties in gaining approval for English language training in the military, prevented access to opportunities to learn the language, especially to speaking. Many Romanian military personnel reported they were forced to learn on their own using books or self-study software programs paid for out of pocket. Given the high-stakes nature of learning English to many military employees' present and future careers, not to mention the drive to become "more westernized" characteristic of the post-communist era, these efforts were reportedly seen as imperative.

It is in this context that the offer of an opportunity to take part in a program to learn English with a native speaker and expert teacher from North America using state-of-the-art technology, was apparently appealing to both Romanian military decision makers and to the individual participants themselves.

4. THE STUDY

The focus of the study, an action research project and the major part of the author's doctoral program, was to examine the influence of digitally-mediated interactions supported by various Web 2.0 technologies on nine Romanian military personnel studying

English as a foreign language. Using a qualitative perspective and ethnographic research methods, the experiences of these individuals learning English at the Management Training Centre in Brasov, Romania, were studied. Video-based web conferencing technology as well as other social learning-based technologies supported the interactions during a 5-week period. The guided discussion sessions with the Romanians were part of a larger study involving two other groups of participants – one located at a military university in the Czech Republic and the other a group of former students of mixed nationalities from eastern and central Europe who had attended the Canadian language immersion program. The online sessions with the Romanians were conducted daily over the five weeks, either synchronously through the video-based web conferencing as well as asynchronously through chat and e-mails. Discussion topics were learner-generated; the internet and social media were primary sources for the content. The recognition, along with Kress (2000), of the importance of visual images to communication was the rationale for a video-based connection as well as for the emphasis on learner-generated pictures, videos and other image-based Web media during the sessions. Communication theorists have well-established that non-verbals are integral to interaction in whatever language we speak.

ICIWave Design, a Canadian company researched and developed specialized low-cost videoconferencing telecommunication services specifically for the project. The audio and video

“multi stream” technology allows individuals in multiple sites to connect over the internet (Figure 1). Through this interface, real-time connections between Canada and Europe were made possible. The technology allows for a controlled, yet easy access to the website. Users are equipped with headsets and web cameras. London, England provides 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 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. In the case of the Romanian participants, bandwidth limitations at the time prevented learners appearing on the site together. Instead, only one participant and the teacher interacted at a time in the virtual classroom while the others at the same time watched a projected screen image of the conversations at the Romanian location. In latter stages of the larger study involving a group in the Czech Republic, interactions between the teacher and participants were facilitated with special technical features such as shared desktop and small-group breakout rooms, which ICIWave Design created for this particular application. Also, in follow-up programs, a unique control mechanism allowed individuals with low bandwidth to be included in the distance learning.



Fig.1. 2009 Version of Waveasy virtual Classroom

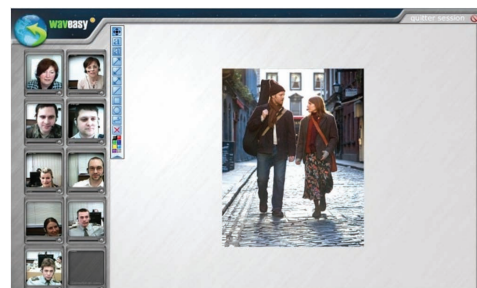


Fig.2. Screen shot demonstrating file-sharing feature

The study generated significant data that included audio and video transcripts from participant face-to-face, individual and group interviews and from the online sessions, written text from asynchronous communications and field notes collected by the author during two visits to Romania. In the next section, the major findings from these sources generated from the participants’ perspective and the implications of these findings for educators, learners and policy makers are outlined.

5. RESULTS AND IMPLICATIONS

The depth and scope of qualitative research results naturally prevents a full explanation of the influence of

the online sessions on the individual Romanian military participants. These detailed findings have been reported elsewhere (Charbonneau-Gowdy, 2009).

The study revealed first of all that compared to the experiences of groups of participants using only self-study multimedia software programs at an earlier stage of the study, the Romanian military participants' experiences during the online sessions were more positive. Analysis of data from their perspectives indicated that for virtually all of the participants, the opportunities to meet online with a native speaker, despite the physical distance involved, allowed the main opportunity not only to construct new linguistic knowledge but importantly to negotiate and mediate empowered identities as well. At the beginning of the online discussions, most of the participants, historically shaped by their former learning experiences, displayed fear of speaking and or were apologetic for their level of language. By the end of the study these same individuals expressed their thoughts freely and took risks with the language that led to further construction of knowledge. Both their written and oral communications revealed linguistic progress.

Building on these results, in another doctoral study from a quantitative perspective in a later application of the distance learning sessions, Cechova examined the linguistic changes in a group of military university students who participated in the online discussions in the Czech context (Cechova: 2010). Self-selected participants who took part in discussions supported

by the online web conferencing and other social learning technologies in the Czech university setting, made significant linguistic progress in all three skills – reading, writing and speaking based on pre and post NATO military Stanag test results (Cechova: 2010). Qualitative data collected in a further application of the online sessions in a Canadian public service context, where employees met for discussion sessions online similar to the ones held with the Czechs and Romanians, also showed that participants improved in their speaking skills. The cognitive development suggested by such linguistic change when social interactive technologies are employed is not surprising. Indeed, as Sykes et al. have pointed out, “*recent research indicates both a qualitative and physiological shift in cognitive processes based on the prolific use of these [communication-based] tools...*” (Sykes: 2007, p.529).

Some of the Romanian participants were aware of the changes that were occurring in their abilities to use English. As M. pointed out: “*I realize that my mistakes [in English] reduce day by day. I think it is a good thing*”. (Online notes, November 2, 2004). The changes to their foreign language identities were less obvious to the participants than the linguistic ones, but arguably profoundly more significant. Something in the nature of the collaborative meaning-making that took place in the discussions guided by a language teaching expert online, led many of these learners to develop more empowered subjectivities. In other

words, these online sessions offered the participants opportunities to negotiate new ways of being in their foreign language. Those participants who were initially silent or reportedly felt embarrassed to communicate either online, or as they attested, in their previous work overseas or with foreigners, by the end of the study were speaking more confidently. There was also evidence to support that they increasingly sought out occasions to use their foreign language beyond the classroom. These findings offer strong indications that through the online sessions, this particular group of learners developed strategies for improving in the language and at the same time were showing signs of being emerging self-directed learners.

More remarkable, are the findings that reveal that in some cases the changes in identities that participants constructed during the online sessions in the context of their language learning, also had an influence more broadly in their personal and professional lives beyond the classroom. Some became more critically aware of their ability to change injustices in their work; one spoke less disparagingly about his country than he had at the beginning and saw hope and pride for its future; another saw a more proactive role for himself as a Romanian citizen to initiate change at the personal level; while another demanded a voice and more respect among his peers.

One of the more vivid examples of the carry-over of what was happening in the online classroom into the participants' broader lives is demonstrated in the following excerpts from the data:

“I am a civilian, a woman and a blonde in a military system? Who would pay attention to what I have to say?” (M., online discussion, October, 2004)

“The final step will be to apply to a UN job....So I'm getting busier and busier (and, of course more and more daring) every day. That is why, by the end of 2009 (if I live that long and I'm a little bit lucky) you will be talking to a UN employee working all over the world. No matter what, I'll struggle. Life is a continuous fight, isn't it?” (E-mail, November, 2004)

Through M.'s words quoted from the beginning of the sessions and then from near the end, we see an indication of the transformations she has undergone over the period of the online sessions, not just in terms of her abilities in the language, but also in her view of her future place in the global community. Finding one's voice in the global dialogue, developing a critical awareness of oneself and one's position in that community, seeing hope for and the agency one has in determining a future, are the kinds of skills that are being increasingly recognized in educational debates as critical for the 21st century (Thomas et al.: 2011). Whether the participants who demonstrated emerging and more empowered identities would have done so eventually in other learning spaces is not the point. What is significant is the fact that these kinds of transformations or changes, i.e. learning, were facilitated through the support of technology. The major events and political transformations reported in the last several months in the media are further examples of

how Web 2.0 communication-based technologies, like those used with the Romanians, that support enriched social interaction, are providing a new and powerful space for dramatic and rapid changes to occur, both in terms of learning and identity construction. It should be noted that the Romanian military decision makers who approved the online sessions, the military officers who chose to take part, the educators, IT personnel and all those who supported this very innovative idea at the time, were in a sense ahead of the game.

Being ahead of the game is more than just a sign of an organization's strategic operational planning and or individual opportunism. Being ahead of the game involves taking risks, breaking away from traditional and predictable ways of doing and acting. This is not easy for large institutions, or even for most educators, or even for learners themselves. Resisting change and clinging to the status quo is considered far easier and more secure. But using 20th century practices for a 21st century globalized world could mean denying learners the opportunities to be critical thinkers when faced with important decision-making. Resisting the option to adopt powerful social learning technologies in learning spaces could deny learners from having the collaborative skills necessary to work and construct knowledge with others. And failing to provide the most effective and efficient ways to learn could deny learners important spaces to negotiate new identities and instead put learners at risk of being marginalized in the global community. The study clearly

showed that being able to think critically, to work collaboratively in constructing knowledge with others, to negotiate empowered identities in the global community and to be open to new ways of seeing technology for learning, were the advantages that the Romanian participants gained from the online sessions. Viereck identifies these same skills as the ones that individuals in the NATO military context will have to have to assure the future global security environment. Are they not the same skills that individuals will need, not just from language training but from a broad range of formal educational and training settings to feel secure and valued in this global environment?

6. CONCLUSION

The uptake of the study described here has been encouraging. Further examples of research in a variety of areas that looks at the issues addressed in this study, that is the use of Web 2.0 technology tools to support collaborative learning and their influence on learners, have appeared (for example Sykes et al. 2008). More of these studies are needed, especially looking at long term influence on learning and learners of Web 2.0 technologies. Hopefully, this dialogic can lead to more of the kind of changes in formal learning settings that the group of Romanians in this study were able to experience.

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