

## **PROMOTING INTERNATIONAL CULTURAL AND ACADEMIC COLLABORATIVE COMMUNICATION THROUGH TECHNOLOGIES OF OPEN COURSE WARE**

STEPHEN CAREY  
*University of British Columbia  
Canada*

**Abstract.** In the diverse cultures of an increasingly transnational world where academic literacy in English or Englishes is required for advancement in universities, communication technologies play critical roles. This paper integrates scholars from diverse cultures through online technology which allows for participants from several universities to develop their awareness of diverse cultures and academic English across disciplines. This research addresses the issue of how online collaboration among scholars can develop their technological, cultural and academic literacies which are essential to their academic progress. By creating electronic discussion forums that include scholars from universities worldwide it is possible to engage in transcultural dialogue regarding how diverse cultures view technology as a means to advance academic and cultural literacy. Through combining the wealth of academic Open Course Ware (OCW) through the consortium and linkages with international universities it is possible to create credit courses for students in each of their home universities thereby overcoming the major limitation of OCW by providing access to credit for OCW courses.

A large proportion of the world's population lack access to advanced education because many ESL programs throughout the world do not produce a high level of academic literacy in English even though students may study English in schools abroad for more than a decade. The global move, in the last 50 years, to a more unilingual English world of publication (Carli and Ammon, 2007) demands English literacy. The number of people who have high academic literacy in both English and French is small in Canada, and this is also true of the majority of the world's bilingual population in any country. High academic literacy is also a challenge for many, even in their first language and is an often insurmountable barrier in their second language, due to limited immersion and sociolinguistic opportunities for academic literacy. Yet academic literacy in English for the world's English as an Other Language (EOL) population has spread beyond its original identity within a few countries to be fully recognized as the world language of business, government and academia (Canagarajah, 2002a; 2002b; Crystal, 2001). As a world language English is no longer affiliated with any specific culture or nation but permeates and has been permeated by all cultures and nations, thus producing a variety of Englishes (Canagarajaha, 2007). English continues to increasingly dominate the

knowledge economy and academic publication globally, with over 80% of academic publications in the humanities and social sciences worldwide published in English (Carey, 1991b; Hamel, 2007) and over 90% of academic publications in the natural sciences published in English (Ammon, 2006; Hamel, 2007). As Flowerdew (2001; 2007) argues, this leaves many scholars worldwide who are not academically literate in English on the periphery of scholarly publication because of the worldwide requirement that university scholars publish in English for academic recognition. These global inequalities of access to knowledge and education for those not academically literate in English cause pervasive constraints on the economic and educational development and dissemination of knowledge and thus contribute to the perception of poverty and ignorance in many developing and developed countries (Guardiano, Favilla and Calaresu, 2007). Consequently, for those millions of scholars who are limited in their English academic literacy, the cost to global knowledge generation is increasingly staggering to the world economy. In addition, countries around the world from China to France value academic publications in international English journals to a greater degree than in Mandarin or French respectively, in terms of university tenure and promotion. In spite of this threat to the academic well-being of many universities internationally, there are few, if any, proposals that deal with this predicament of academic scholars worldwide who lack a venue in which they can realistically improve their English academic literacy in their discipline and area of publication in a manner that is efficient and highly motivating and that does not involve expensive travel, tuition and time away from their employment and families.

In this paper I propose a tested pan-university model of online immersion academically credited seminars and courses that can allow EOL students and faculty from developing and developed countries to jointly advance their academic literacy in those academic areas that are of paramount importance to their academic career.

This model builds on the OpenCourseWare (OCW) movement, which provides access to thousands of university courses without requiring students to pass English literacy access tests such as TOEFL or pay tuition at many of the world's leading English speaking universities. At present the OCW movement receives expression in the OCW Consortium which consists of hundreds of online courses contributed from more than 200 of the world's leading English speaking universities (see [www.ocwconsortium.org](http://www.ocwconsortium.org) and <http://openlearn.open.ac.uk>). These Open Educational Resources (OER) which are freely available to the public constitute vast stores of public knowledge. However, this open access to such academic riches has not included mechanisms for how EOL students could improve their English or gain credit for studying these hundreds of open access courses. This paper reports on the successful attempts to overcome these inadequacies for EOL students worldwide by exploiting the best principles of online EOL immersion in academic courses and combining that with open online courses. These courses were developed consistent with principles of socio-cultural theory (Lantolf, 2000), new literacies (Street, 1984) and current theories of language acquisition within a systemic functional linguistics perspective (Halliday and Mathiessen, 2004) that incorporated both dilemma theory and activity theory as well as the social and cognitive presence perspectives of Anderson (2004). In designing critical discussion of research articles, questions were posed that dealt with the dilemmas and contradictions that diverse ethnic groups were faced with in their particular knowledge

ecology. The collaborative socio-cultural approach to critically examine diverse cultural perspectives was promoted to push the expression of conceptual distinctions in order to develop new vocabulary, technical terms and expressions in their second language. The combined approach of the merits of each of these theoretical orientations produced an online socially constructive community which was socially and intellectually both challenging and supportive. This online community highly valued the diverse cultural, language and knowledge ecologies that each member could contribute both in terms of their individual prior knowledge and aspirations. The online discussions via the WebCT discussion forum also encouraged the collaborative critical thinking and analysis of academic papers that would promote intellectual growth, by requiring students to push their capacity to express abstract theory, concepts and dilemmas in their second language. Thus concepts of social presence and cognitive presence were combined with principles of intellectual and social contradictions or dilemmas to foster academic literacy development.

The replications of this model of pan-university credit courses with diverse cultures of a EOL and English first language students and faculty from universities in developed and developing countries has produced impressive self reports for improvement in academic literacy in specific academic areas of interest. This is due to the focus on intensive and sustained scholarly online immersion in communication and debate on topics of high interest with individuals who are extremely motivated to improve their English academic literacy for publication and academic advancement. These replications have included universities as diverse as the Yakutsk State university in Russia, the Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM) in Mexico, the Ritsumeikan University in Japan and finally the University of British Columbia in Canada where international students with more advanced EOL from 14 countries and first language English speakers participated.

This paper also highlights the need to go beyond current models of international online communication at all levels of university education, including the post doctoral level and stresses the point that we need to implement the concept of a global university that includes the viewpoints and situations from numerous universities around the world in order to rapidly communicate and educate all students on such global crises as sustainability and global survival (see <http://openlearn.open.ac.uk> and [www.ocwconsortium.org](http://www.ocwconsortium.org)). This concept also entails the understanding of English as an international language which has local variations from standard English (Canagarajah, 2007, 2002a; 2002b) and which includes exposure to different variants of English.

### **Current Open Models**

Since MIT's highly acclaimed move to make its educational resources freely available, the number of open learning initiatives has continued to grow (see <http://www.cmu.edu/oli/>, [http://en.wikiversity.org/wiki/Wikiversity:Main\\_Page](http://en.wikiversity.org/wiki/Wikiversity:Main_Page)). There has been considerable effort on the part of international organizations such as UNESCO, Open Universities (see <http://openlearn.open.ac.uk>), and public and private institutions to make educational content and courses freely available through the internet. In particular, at the time of this writing, the OpenCourseWare Consortium

(<http://www.ocwconsortium.org>) has brought together more than 200 universities and organizations providing open educational resources. What began as an effort to provide content has inspired the development of OER course models, ranging from largely self-directed/access-on-your-own style learning to open-course-with-open teaching without credit.

### **Language, Culture, and Academic English Literacy**

Graduate students who are denied access to higher education due to low TOEFL or IELTS scores over the last few years would be in the hundreds of thousands internationally in spite of the extensive industry that exists to help boost TOEFL, TOEIC and IELTS scores. New Literacy Studies (Street, 1984) have identified a nuanced view of academic literacy from a sociocultural perspective, going beyond interpretations of simple skill development and into a realm of academic socialization. For example, a study on academic writing from student and staff perspectives (Lea and Street, 1998) revealed the contrasting expectations of various modes of writing present at one higher education institution. The study of literacy as situated semiotic practices has further exemplified the complex nature of academic literacy. Similarly, Duff (2007) highlights the complexity of academic discourse socialization regardless of whether native or non-native speakers of English. In the context of OERs, this research suggests that the accessibility of OERs, in particular where accreditation is needed, is challenged by academic literacy components, especially when participation in English is required. The current practice in scholarly publishing, where, as Flowerdew (2007) has pointed out, the combined pressures of “globalization and marketization of the academy” (p.14) has created a situation where more and more scholars need to write in English for international journals and one where writing in English is perceived as “a sort of ineluctable necessity (related to both international prestige and editorial needs) rather than a matter of free choice” by non-Anglophone scholars (Guardiano, Favilla, & Calresu, 2007).

### **Reconceptualizing Course Delivery**

This model provides an opportunity for international students from developing and developed countries to efficiently develop their EOL academic literacy, now essential to provide access to reading and publishing research in the international academic community (Carey, 1999b, 2002; Carey and Morgan, 2005; Thorne and Black, 2007) and academic tenure and advancement (Flowerdew and Yongyan, 2007). Another purpose of this paper is to stimulate thinking about how OERs and internationalization can converge in a way that addresses the challenges and the opportunities created by the rapid expansion of internet capabilities and the necessity of further developing EOL academic literacy.

It is critical to address two issues related to OERs: (1) how an open model can take advantage of existing university structures and their attributes (quality control, access to instructors, credential systems) and allow students globally to participate in a more open

environment, and (2) how EOL students can develop their academic literacy at English medium institutions. In this respect, an open model can capitalize on existing institutional structures and what they offer (credential systems, instructors, infrastructure, students) through reconceptualizing course delivery. Both online and blended modes of delivery can provide an opportunity to enable global participation and to greatly increase access for students from developing countries. For example, there are opportunities to share academic interaction components where students would be.

### **Evolution of the Model**

Because it is recognized that social interaction is as critical component of most learning, including EOL academic literacy (Carey, 1999b, 2002; Carey and Guo, 2003) much of this research is grounded in the social constructivist principles of Vygotsky (1978, 1986) and Lee and Smagorinsky (2000) and the sociocultural perspectives of Lantolf (2000). Recognizing that discussions are such a critical activity for EOL learning, particular attention was paid to promote collaborative critical thinking and writing through the use of an asynchronous discussion forum between English first language and EOL students. This form of immersion in a community of scholars and an online community due to its asynchronous nature makes it possible for students to play the role of both teacher and student in a reciprocal nature that can produce levels of knowledge creation and sharing that were superior to some conventional face to face courses.

Comments such as “I acquired more academic English literacy in this course than in the decade I studied ESL.” Or “I came to know my colleagues in this course and to critically discuss knowledge to a much greater degree than in any previous university course I have taken”, were examples of the advantages of the collaborative nature of the online forum. Again, because of the asynchronous nature of the immersion, there is a greater chance of more thoughtful and well constructed communications than would be possible for EOL students in face to face courses with native speakers. Further, striving to critically think about complex ideas was instrumental to developing technical vocabulary, phrases and content.

The asynchronous forum allowed EOL students time to compose their messages before posting (Carey, 1999a). Furthermore, EOL students consistently reported that their academic English improved more from the online than the traditional live face-to-face components in these mixed-mode classes. This was consistent with their more active online collaboration in the online component of the course when compared to the face-to-face component. In 2001, in order to further enrich the perspectives and engagement in this online discussion, students enrolled in a graduate course at Yakutsk State University in Russia were invited to participate in the online discussions of my graduate course, *Asia Pacific Narratives as Inquiry on Intercultural Aspects of Language Education*, at the University of British Columbia. All students received academic credit for their participation in the international online forum via their credit course graded by their respective professors in their home university either in Russia or Canada. In an initial study a detailed analysis of the forum protocols (Luo, 2004) from a systemic linguistic perspective yielded insights into the intricacies of how interrelated the conceptual development in course content was related to EOL literacy development

and further supported the utility of the asynchronous online forum for enhancing academic literacy as predicted by social practice theory (Halliday, 1994) and the sociocultural perspective (Lantolf, 2000). The recorded histories of all students' online participation provided a corpus to study the interplay of sociocultural factors and discussions on the academic conceptual development of course content on promoting EOL academic literacy. This permitted us to complete an analysis from a systemic functional perspective on comparing native English and EOL students' participation in this online graduate seminar. A detailed account of this research is found in the dissertation of Luo (2004). This recorded corpus of all communication in these courses also allowed us to contrast this approach with that of studying the corpus from the perspective of the roles of cognitive and social presence (Gunawardena and Zittle, 1998; Anderson, Rourke, Garrison, and Archer, 2001; Anderson, 2003, 2004) as important perspectives for understanding language acquisition as we report in the doctoral thesis of Liang (2006). In independent research we then analyzed these online forums from the related perspective of the social presence and cognitive presence (Garrison and Anderson, 2003) and activity theory (Engstrom, 1999, 2001) in the dissertation of Morgan (2008). This extensive research gave us insights into the value of online forums for generating collaboration and debate between students and thus promoting EOL academic literacy.

A more detailed analysis (Gallant, 2009) of the same set of online course protocols from these graduate courses examined how the tensions and conflicts pertain to the interactions between dilemmas and learning in an online community and illustrate some of the sociocultural and discursive features of the online academic discussions. By examining the discursive data and looking at the conflicting exchanges in this qualitative case study we explored the dilemmas or contradictions in the students' reflections and their negotiations by using attribution theory. In addition, we studied how students use referencing as a linguistic strategy to open up dialogic possibilities to promote interaction in asynchronous academic discussion from a Systemic Functional Linguistics perspective (Halliday, 1994) which views language and its context as socially situated and functionally interconnected.

Briefly stated, whether we approached the online corpus from a dilemma approach within Systemic Functional Linguistics or other sociocultural approaches (Lantolf, 2000) that view language as social practice, our joint research consistently supports online asynchronous communication as an effective venue within which to provide the academic content for EOL academic literacy development, Carey and Morgan (2005).

The model was also adapted to engage undergraduate students for whom English was a second language in another global forum. This project involved undergraduate students at three different universities: Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Yakutsk State University in Russia and Ritsumeikan University; where students from Japan were on a one-year exchange program at the University of British Columbia (UBC) in Canada. All students were enrolled in credit courses taught in English at their three respective universities and as part of their course requirements participated in an online discussion forum involving a total of 123 students from the three universities. The content in all three courses at the three participating universities were focused on intercultural understanding and socio-political issues and were conducted both face-to-face and online exclusively in English. Three English

language instructors (two of the instructors had EOL histories) located in Mexico, Russia, and at UBC were looking for an opportunity to engage students who were learning in an online dialogue about global issues including EOL from a sociocultural perspective. For six weeks students discussed a variety of issues as part of their course work at their host institution. Each institution allocated and assessed this activity differently and separately, according to their own course syllabus. Students received credit for their participation towards the established requirements of the course that they were enrolled in at their particular university. In this way, considerable institutional red tape was avoided and students appreciated the discussions across country borders (Basharina, 2005, 2007; Basharina and Carey, 2007; Basharina, Guardado and Morgan, 2008; Carey and Morgan, 2005). Research on these online forums also assumed an activity theory as a framework for investigating how the activity system will influence and be influenced by teaching presence. A detailed analysis of this research is described in the doctoral dissertation of Morgan (2008) and in Carey and Morgan (2008). A comparison of entry and exit scores showed enhanced TOEFL scores relative to other years for the cohort of Japanese students at UBC but this enhanced EOL performance cannot be attributed exclusively to this model since there are other simultaneous influences that could influence TOEFL scores. Other evidence for the utility of this model comes from the students' online protocols as well as the interviews of students and instructors. We also conducted a study that asked how teaching presence was negotiated in these online courses and what were the constraints and affordances that influenced this negotiation. These case studies (Morgan, 2008) found that even though online courses may share common design features, ultimately the instructor's conceptualization and implementation of the design will influence how the instructor creates online instructional space in this community of enquiry. The combined research dissertations by Morgan (2008) combined with that of Gallant (2009), Basharina (2005) and Luo (2004) all elaborate how dilemma theory, activity theory and functional systemic linguistic analyses when combined with concepts of social, cognitive and teaching presence can guide curriculum design for optimizing EOL academic literacy, by providing professors and students with the context to develop their academic literacy in the genres and registers that were appropriate to their discipline and area of publication through the extensive communication with colleagues in the online forum. They communicated with whom they chose, when they chose, on a topic they chose. Furthermore, viewing academic literacy from the perspective of a situated semiotic practice and recognizing the importance of practice in communicating in the appropriate genre and register (Carey, in press) for scholarly communication is critical.

Beyond the development of academic literacy for EOL students and faculty, the model allowed for other benefits which are also transferable to other disciplines:

#### *1. Ease of international course transfers*

While universities are making progress in establishing course equivalence and credit transfers across universities within countries, admission procedures, transfer credits and advanced standing on an international level involve complex and time-consuming bureaucratic barriers. This model obviated such complexities by maintaining the specific course requirements and course credits within each course and its home

university while simultaneously allowing international inter-cultural collaboration of students and professors across universities. Thus each professor determined the proportion of their course grade that the shared component represented and each professor was responsible for grading their students within their particular course at their university. Consequently, the model allowed all participating faculty members and institutions to greatly enhance the academic depth and effectiveness of their courses at no expense.

### *2. Breadth of professorial exposure for the students*

Instead of a single professor, students can have access to collaboration with two or more professors, each with different cultural perspectives and domains of research backgrounds and academic expertise. In implementation, the varied backgrounds and perspectives promoted an appreciation for intercultural understanding and provided a rich interdisciplinary English learning experience for the professors as well as the students.

### *3. Breadth of background of international students from different institutions*

The highly varied backgrounds and training as well as educational and professional experience of the diverse students provided an unprecedented opportunity for each student in each institution to selectively engage in a discussion in English with students from a myriad of different perspectives.

### *4. Flexibility of this approach*

It allows for different professors from different geopolitical co-ordinates to be recruited for successive academic terms or years in an academic program. Thus each professor can cover a much wider range of subjects in a given program. In turn, the enhanced development of the cooperating professors in their fields of interest and expertise through online discussion with other collaborating international professors can constitute a major motivation for professors to participate in these online collaborations and improve their academic literacy in their discipline and domain.

### *5. Course credit for participation*

Most importantly, students were receiving credit for their participation in the discussion forum in the context of their local courses and programs at their home universities. Thus collaboratively edited assignments, term papers and subsequent theses could focus on local issues that were of most interest to individual students and provided maximal breadth for the enhancement of academic literacy.

The reading of native speakers' communications provided a rich and continuous exposure to academic literacy which was greatly appreciated by the EOL students and faculty. This value was greatly increased due to the students' high interest in the content and being able to communicate with who they wanted, when they wanted on topics of their choice.

### Future Directions

By creating online communities where the students are intensely involved in collaboration and knowledge generation through their pooling of knowledge from their diverse knowledge ecologies the students can more efficiently advance their academic literacy in their second language. Although the use of this model has centred on international discussions using asynchronous technologies, it could be applied to students working together on research such as case studies or joint projects using a much wider selection of available technologies. In particular, the benefits are evident when applying this model to courses in implementing international aid and disaster relief research, world health, global warming issues, pandemic emergencies or any topic where rapid international and intercultural cooperation is required or where local concerns of developing countries need to be addressed. The model could also be applied within a bilingual university, professional faculty or any tertiary institution with programs that were looking for ways to be more inter-disciplinary in their content and approach to second language acquisition. Therefore, the model could facilitate both inter- and intra-university exchanges between developed and developing countries where promoting academic literacy in a world language is important.

### Conclusions

This flexible model is particularly appropriate to the majority of EOL students in developing countries who lack TOEFL entrance scores and who cannot afford the luxury of travel and tuition for expensive exchange programs. Unlike conventional face-to-face immersion programs where less proficient students are denied participation in the discussion, this asynchronous forum allows all students to have sufficient time to compose their messages and collaborate. Hopefully this model will also encourage institutions to think differently about how their students can engage in global collaborative academic conversation that benefits both the local and international partners and breaks down the barriers to participation faced by EOL students in academic contexts. This model provides a context in which OCW cannot only be adapted to local situations and contexts, but can also provide a far more integrated and scholarly venue for academic discussion through the inclusion of scholars from a wide diversity of cultures and professional viewpoints. Perhaps in conjunction with the well-established open education and research resources as well as OCW initiatives, it will help contribute to a shift towards a culture of openness in the academy (Wiley, 2006) academic publication which have been such a difficult barrier to overcome.

### References

- Ammon, U. (2004). *Theory and practice of online learning*. Athabaska University Press. Athabaska University.
- Anderson, T. (2003). Getting the mix right again: An updated and theoretical rationale for interaction. *International Review of research on Open and Distance Learning*, 4(2).

- Anderson, T. (2004). Dimensions of Learning and support in an online community. *Open Learning*, 19(2), 183-190.
- Anderson, T., Rourke, L., Garrison, R. & Archer W. (2001). Assessing teaching presence in a computer conferencing context. *Journal of Asynchronous Learning Network*. 5 (2), 1-1.
- Basharina, O. (2007). Activity theory perspectives on student-reported tensions in international telecollaboration. *Language Learning and Technology*, 11(2), 82-103.
- Basharina, O. (2005). *An activity system analysis of international telecollaboration: Contexts, contradictions and learning* (Unpublished doctoral dissertation). The University of British Columbia, Canada.
- Basharina O., & Carey, S. (2007). Factors shaping student participation in international computer mediated communication. *Polyglossia*, 13, 41-52.
- Basharina, O., Guardado, M., & Morgan, T. (2008). Negotiating differences: Instructors' reflections on tensions in international telecollaboration. *The Canadian Modern Language Review/La Revue canadienne des langues vivantes*, 65(2).
- Canagarajah, A.S. (2002). *Critical academic writing and multilingual students*. Ann Arbor MI: University of Michigan Press.
- Canagarajah, A.S. (2002b). *A geopolitics of academic writing*. Pittsburgh PA: University of Pittsburgh Press.
- Canagarajah, S. (2007). Lingua franca English, multilingual communities and language acquisition. *Modern Language Journal*, 91(5), 923-939.
- Carey, S. (1991b). Language, literacy and education. *Canadian Modern Language Review*, 47(5), 839-842.
- Carey, S. (1999a). The use of WebCT for a highly interactive virtual graduate seminar. *Computer Assisted Language Learning*, 12, 85-98.
- Carey, S. (1999b). Implications for language and cultural policy in the Asia-pacific from experiments in official bilingualism and multiculturalism in Canada. *Polyglossia* 1, 1-13.
- Carey, S. (2002). Principles for mixed mode classes using electronic bulletin boards for second language acquisition. *Journal of Applied Linguistics Association of Korea*. 17, 29-37.
- Carey, S. (in press). The next step for global English academic literacy and credentialing open courseware. *Journal of English as an International Language*.
- Carey, S. & Mogan, T. (2008). Exploring multilingual aspects of online participation. *E-Learn World Conference on E-Learning in Corporate, Government, Healthcare and Higher Education*. Las Vegas.
- Carey, S. & Guo, R. (2003). Conditions for ESL acquisition on WebCT. *The International Journal of Learning*. 9, 491-498.
- Carey, S. & Morgan, T. (2005). Intercultural communication in online forums: Exploring new possibilities. *Polyglossia*, 10, 1-13.
- Carli, A. and Ammon, U. (2007). Linguistic inequality in scientific communication today. *AILA Review* 20 pp.
- Crystal, D. (2001). *Language and the internet*. Cambridge University Press.
- Crystal, D. (1997). *English as a global language* 2nd edition 2003 Cambridge: CUP.
- Duff, P. (2007). *Case study research in applied linguistics*. Taylor and Francis Group, LLC.
- Engestrom, Y. (2001). Expansive learning at work: Toward an activity theoretical reconceptualisation. *Journal of Education and Work*. 14(1)
- Engestrom, Y. (1999). Activity theory and individual and social transformation. In Y.

- Flowerdew, J. (2001). Attitudes of journal editors to non-native speaker contribution: An interview study. *TESOL Quarterly* 35, 121-150.
- Flowerdew, J. (2007). The non-Anglophone scholar on the periphery of scholarly publication. *AILA Review*. 20, 14-27.
- Flowerdew, J. & Yongyan, L. (2007). Plagiarism and second language writing in an electronic age. *Annual Review of Applied Linguistics*, 27, 161-183.
- Gallant, J. (2009). Dilemmas in an online academic discussion. Unpublished MA thesis. University of British Columbia.
- Guardiano, C., Favilla, E. & Calaresu, E. (2007). Stereotypes about English as the language of science. *AILA Review*, 20(1), 28-52 (25).
- Gunawardena, N. & Zittle, F. (1997). Social presence as a predictor of satisfaction within a computer mediated conferencing environment. *American Journal of Distance Education*, 11(3), 8-25.
- Halliday, M. A. K. (1994). *Language as social semiotic*. London, UK.
- Halliday, M. A. K. & Mathiessen, C. (2004). An introduction to functional grammar (3rd revised edition). London:Edward Arnold.
- Hamel, R. E. (2007). The dominance of English in the international scientific periodical literature and the future of language use in science. *AILA Review*, 20, 53-71.
- Lantolf, J.P. (2000). Introducing sociocultural theory. In Lantolf, J. P. (Ed.) *Sociocultural theory and second language learning*. pp.1-26. New York: Oxford University Press.
- Lea, M., & Street, B. (1998). Student writing in higher education: An academic literacies approach. *Studies in Higher Education*, 23(2), 157-172.
- Lee, C. & Smagorinsky, P. (2000). *Vygotskian Perspectives on Literacy Research: constructing meaning through collaborative inquiry*. Cambridge University Press, NY.
- Liang, K.Y. (2006). Promoting social presence: Building connectedness in educational cyberspace. Unpublished doctoral dissertation. University of British Columbia,
- Luo, Y. L. (2004) A systemic functional perspective on native and non-native English speaking students' online discussion in a mixed-mode graduate seminar. Unpublished doctoral dissertation. University of British Columbia.
- Morgan, T. (2008). The negotiation of teaching presence in international online contexts. Unpublished doctoral dissertation. University of British Columbia
- Street, B. (1984). *Literacy in theory and practice*. Cambridge Studies in Oral and Literate Culture.
- Thorne, S. L & Black, R.W. (2007). Language and literacy development in computer-mediated contexts and communities. *Annual Review of Applied Linguistics*, 27, 133-160.
- Wiley, D. (2006). Open source, openness, and higher education. *Innovate*. 3(1). Available at [http://www.innovateonline.info/pdf/vol3\\_issue1/Open\\_Source,\\_Openness,\\_and\\_Higher\\_Education.pdf](http://www.innovateonline.info/pdf/vol3_issue1/Open_Source,_Openness,_and_Higher_Education.pdf), accessed 9 March 2010.
- Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Vygotsky, L. (1986). *Thought and language*. MIT Press, Cambridge, MA.