Technology and the Scholar-Teacher

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ABSTRACT

This paper examines the role of technology in the professional development of teaching assistants, and specifically, it addresses how applications of technology to teaching can provide continuity for the L2 curriculum beyond the basic levels. After a discussion about the importance of grounding instructional practice in research and theory, the article highlights two different technology-based projects created by teaching assistants who were enrolled in a second language acquisition and technology course. The authors offer details about the activities along with corresponding research and theory.

INTRODUCTION

At most Ph.D.-granting institutions, teaching assistants (TAs) pursing language study are required to complete a one-semester methods course that emphasizes teaching at the beginning and intermediate levels. However, for some time now scholars contend that more training is necessary for the future professoriate (VanValkenburg & Arnett, 2000; Byrnes, 2001; Rava & Rossbacher, 1999). Since 1998, at Washington University in St. Louis, graduate students have had the opportunity to complete a course that treats second language acquisition together with technology. Technology is integrated into the language curriculum that equips TAs with knowledge of theory and research in applied linguistics (Brantmeier, 2003b). This article showcases two different computer-assisted language-learning (CALL) projects that are substantiated by relevant research in the field. Both projects were recently created by TAs for advanced language learners, combining their own academic research with their new knowledge of CALL in an attempt to address individual learner differences at the advanced levels where reading is emphasized. The rubric and design of each project serves as a foundation for future

TAs who will serve as scholar-teachers in a changing landscape of language learning at the university level.

Most freshmen entering the university are considered "digital natives," and consequently they expect technology to be part of the learning process across disciplines. Many beginning-level language courses attend to this anticipation by integrating computer-based materials as a part of the class, and most first-year textbooks include CALL components such as companion websites and online systems for authentic communication. Given that foreign-language enrollments in the USA are the highest since 1960 (Allen & Negueruela-Azarola, 2010), coupled with the fact that most students arrive to campus expecting a technology driven component to the language class, the incorporation of technology across all levels of language instruction is essential. At Washington University in St. Louis, the majority of freshmen place directly into advanced Spanish, and, often times, students begin their language major during their freshmen year.

Professional Development of Graduate Students

Traditionally, professional development of TAs has emphasized methodologies for lower-level language courses. Recently, however, Allen (2009) advocates for opportunities for graduate students "… to develop competencies critical in today's profession and to integrate their growing knowledge as scholars of literature and culture with their experiences as language teachers" (p. 95). The focus of this paper is to demonstrate how applications of technology to teaching can provide continuity for the L2 curriculum beyond the basic levels through TA scholarship and teaching. Courses that include technology as part of teacher training have become increasingly popular. A few years ago, 2010, the Association of Departments of Foreign Languages job list contained 20 different positions that required some sort of expertise in the use of technology to teach languages. Table 1 lists the distribution of jobs by language.

Table 1. Distribution of Positions by Language for Technology

French	German	Portuguese	Spanish
5	4	1	10

Note. Retrieved 12/8/2010 from ADFL database

At Washington University in St. Louis, a course, entitled Second Language Acquisition and Technology, is offered to all Ph.D. students of French and Spanish literature (S. Rava and B. Rossbacher initiated this course at the university in 1998). This seminar transforms knowledge about second language acquisition and pedagogy into practice while focusing on technology. The course fosters professional development for TAs as they formulate critical skills for assessing, developing, and integrating technology into the classroom (for a detailed description of the class, see Brantmeier, Flores, & Romero, 2006, & Brantmeier, 2008). As part of the course, students are required to develop CALL materials that are driven by research issues and theory at the intersection of technology and language learning. Through course readings, which emphasize publications from the free online journal, *Language Learning and Technology* (http://llt.msu.edu/), TAs learn to create their own materials.

IDVS and Advanced Classes

As part of the course, students read about prior research on individual learner differences in the language classroom and how CALL materials can help address these differences. Dörnyei (2005) devotes a book to this topic, and includes variables such as personality, language aptitude, motivation, learning and cognitive styles, learning strategies, learner beliefs, and more. As noted by Dörnyei, the majority of research that examines individual learner differences (IDVS) is conducted at the lower levels of language instruction. However, even at the advanced levels individual differences by skill are present. Tables 2, 3, and 4 feature a distribution of scores on a placement exam taken by incoming freshmen who placed into the advanced levels at Washington University. As shown by the wide range and distribution of scores, there is a great degree of variation among learners for scores with grammar, listening, and reading. It is important to note that despite these skill differences, all learners tested into the same advanced level of instruction, and consequently, it is the job of the course coordinators and instructors to provide supplementary materials that address these disparities by individual.

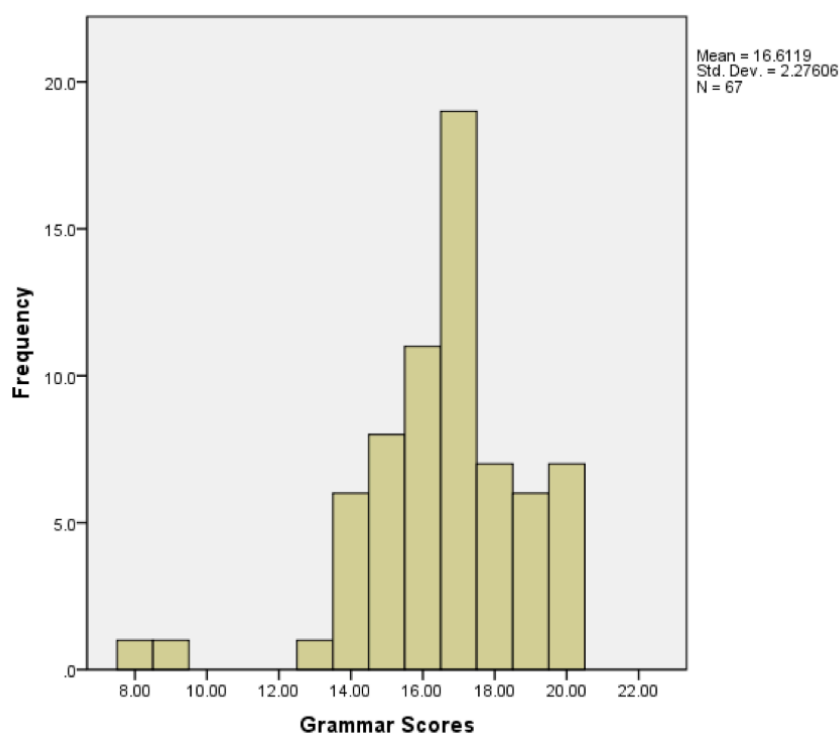**Table 2.** Grammar Scores for Advanced Language Learners

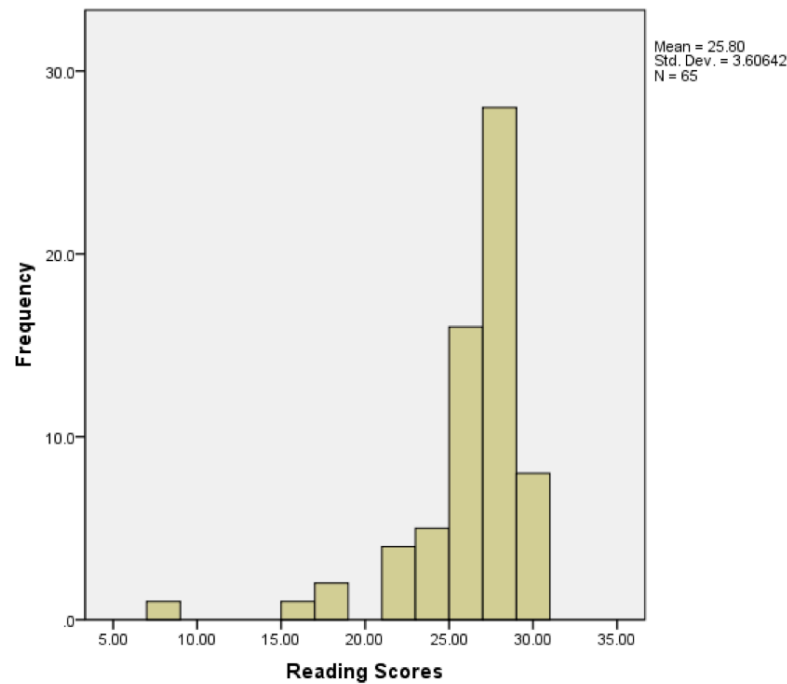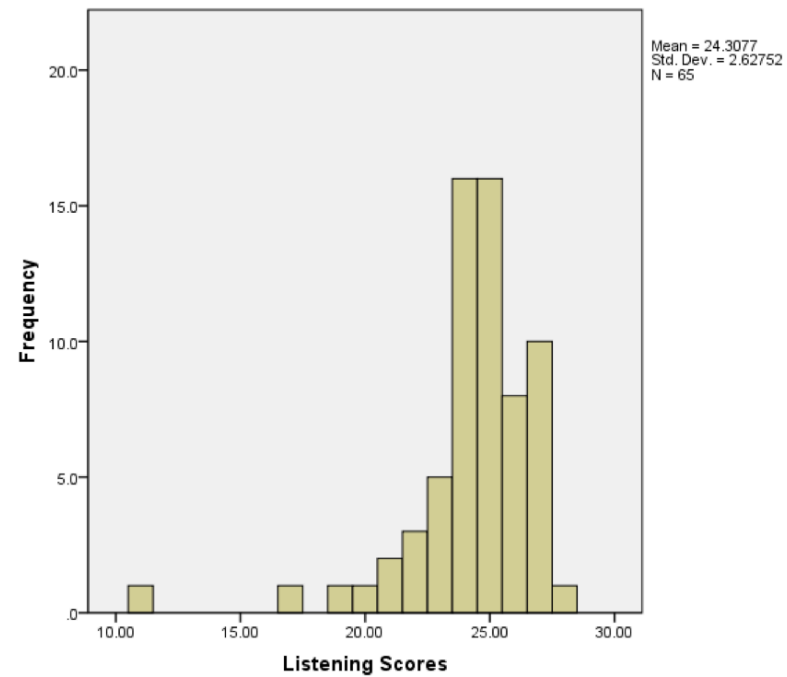**Table 3.** Reading Scores for Advanced Language Learners

Mean = 25.80
Std. Dev. = 3.60642
N = 65

Table 4. Listening Scores for Advanced Learners

Mean = 24.3077
Std. Dev. = 2.62752
N = 65

CALL Projects for Advanced Language Learners

Both CALL projects emphasize the fact that learning a language is both personal and individual, even though all instructors must follow the same syllabus and use the same methodology as mandated by the language program. Equally, both projects were created for advanced-level courses of Spanish. As mentioned earlier, at Washington University, most freshmen studying Spanish place directly into an advanced grammar and composition course, Spanish 307, which marks the start of the major. In this course students move swiftly through critical grammar features of Spanish as they read and write about authentic texts. The emphasis of the course is to prepare students for the level of reading and writing needed for the upper-level literature and linguistics courses. Accounting for individual learner differences in this class is an important and difficult challenge that TAs frequently encounter.

A critical component of both domestic and international TA professional development is training in the use of technology, and Irene Domingo Sancho, a Ph.D. student in literature and a native of Spain, embraced this challenge with enthusiasm. In her project, which is designed to teach *ser* and *estar* in the advanced-grammar class (both verbs mean *to be*, but there is a difference between them that students of Spanish usually have a difficult time learning), she raises cultural awareness through issues that are grounded not only in research and theory, but in her own personal and cultural identity.

Seruotros (Ser u Otros) [To Be and Others]**: A CALL Project for an Advanced Grammar Class**

This project was specifically developed for the Spanish 307 class, but thanks to its medium, any student across the world with access to the Internet can benefit from it. These CALL materials focus on the differences between *ser* and *estar*, reinforcing these features from the early to late stages of acquisition. Recently, studies have suggested that the problems students encounter when acquiring these structures lie in the fact that traditional instruction, which contains decontexualized and mundane activities, tends to be misleading (Aletá Alcubierre, 2005). This software attends to this drawback by providing students with explicit as well as implicit instruction, with contextualized practice outside the classroom. The primary goal of the program is to help students overcome difficulties with the feared verbs while improving the students' learning experience. For that purpose, it is essential to allow students to create their own language-learning identity. Their dialogical interactions with the online resource makes it possible for students to enjoy the freedom of engaging with the presented material at their own pace, respecting their IDVs, while at the same time facilitating an equal acquisition among users. (Ware, 2005). "Ser u Otros" eases cross-culturally active collage-like formations between the software and each student. Consequently, students' anxiety is decreased, creating more balanced classroom participation.

The project combines both explicit and implicit instruction for two reasons. To begin, structured treatment, as supported by Ellis (1994), helps students learn rules and use them in an immediately efficient and effective way. Additionally, as new and difficult materials need to be contextualized in a meaningful way, this CALL project combines explicit grammatical instruction with structured-input based activities. Furthermore, since different learning styles, beliefs and strategies require various teaching approaches, the software attempts to account for as many personal preferences as possible. In that way, students that tend to rely on rules can rely on

them as often as they want, whereas those who work in a more intuitive way can freely access the tasks related to the area that causes them trouble and practice until they master the features.

The materials take into account other IDVs as well. As Brantmeier (2004) points out, advanced classes are usually composed of heterogeneous groups of students that may especially benefit from alternative computer-based materials that treat students as individuals. In *seruotros*, students are presented, in addition to the regular written input, with aural input through fun music videos that helps lower students' affective filters, and implicitly teaches Spanish culture.

Figure 1. Music Videos and Other Links

Moreover, activities are designed and presented in various formats without a time-out factor. The existence of links to supporting materials (an online dictionary, further activities, contact information, and videos) that students can access regardless of their stage of acquisition fosters a sense of autonomy. The project demonstrates that individual interaction with CALL material improves the learning experience by addressing the difficulties that a heterogeneous ESL class may face when studying a language that demands a new approach (Warschauer, 1996).

While keeping in mind Lee and VanPatten's (2003) guidelines for the design of structured-input activities, this project follows empirically tested theories related to the use of technology in the classroom. Chapelle (2002) gives a series of qualities to be followed by pedagogues when designing a CALL task: "(1) Language learning potential, (2) learner fit, (3) meaning focus, (4) authenticity, (5) positive impact, and (6) practicality" (p. 499). The main purpose of the software is to teach advanced students unconventional ways of thinking about the verbs *ser* and *estar*. Activities function as a scaffolding structure: They become increasingly difficult and nuanced as the student moves ahead. The whole unit is divided into five steps with pertinent subsections. Appropriate pictures that visually support the given cases and songs provide students with authentic input, and increases the frequency of exposure to the grammatical features.

Figure 2. Steps and Supporting Pictures

By presenting one concept at a time, the materials allow learners to acquire the capacity to think about each rule independently. All activities push students to focus on both forms of the verb *to be* while always keeping meaning in focus. By asking them, for example, to find synonyms for *estar* but not for *ser*, the activities slowly and implicitly help with the culturally embedded information on which both structures depend.

The actual activities contain simplified and enriched examples of Spanish sentences or connected discourses that direct students' attention to the form-meaning connections that *ser* and *estar* make with the nouns, adjectives or adverbs with which they appear. A wide variety of the most effective activity formats, such as "fill-in-the gaps" or "drag and drop," ask students to actively participate in the construction of meaning to complete tasks (Heift, 2003). Delayed feedback that assists learners in noticing and diagnosing problems is fundamental (Tsutui, 2004). Since structures that use *ser*, *estar,* or its synonyms are extremely sensitive to context, feedback usually does not approach the assessment in a right/wrong way, but instead guides the student in a more pragmatic approach to further learn the differences between the sociocultural uses. Feedback, explanations, and supplementary help in the form of hints that point at the unavoidable form-meaning connection that students need in order to satisfactorily prove their understanding of *ser* and *estar* are all in Spanish to maximize the users' exposure to authentic language use.

Figure 3. Activities with Feedback and Tips

In the end, the vision of this project is for individual learners to interact autonomously with the program in order to learn the features of *ser* and *estar*. Each learner will always finish each session having learned something new about the Spanish language and its culture, and also having developed their own persona as a language learner.

Voces de la Edad Media: Blogging with Medieval Literature

Arens (1993) contends that we should not separate the scholarly endeavors from teaching when we train graduate students because the teacher-scholar role will continue upon graduation. Megan Havard, a Ph.D. student of literature who is writing a dissertation on Medieval narrative and gender, designed materials that use blogs to teach literature of this time period. Enrollment and interest in medieval literature courses tends to suffer in many foreign language departments. In the case of the Spanish language, medieval forms can differ substantially from the modern, standardized forms that are more familiar to students, making the comprehension of assigned texts difficult and frustrating. Additionally, 21st-century students perceive an enormous disconnect between medieval Spanish culture and their own. The Voces de la Edad Media blog addresses these challenges by allowing instructors to adjust the difficulty level of written input according to their students' needs, incorporating more varied and engaging multimedia resources, and relating common literary themes to aspects of the students' own lives.

Voces de la Edad Media is a CALL project designed to supplement an introductory course in Medieval Spanish literature for university students. The project utilizes a basic blog layout to expose students to authentic literary texts relevant to the course, and the blog's posts are designed to supplement the weekly assigned readings of a semester-long course. Organized thematically (e.g., the ideal woman, true friendships, chivalry and knighthood, etc.), the posts draw from different texts and genres produced during the medieval period in Spain. Each blog post features at least one pre-reading activity, two to three excerpts from diverse authentic texts, and post-reading activities to serve as comprehension checks. Martínez-Lage (1997) has outlined the ways in which technology can address learners' needs during all phases of L2 reading: anticipating content and providing background information before reading, resolving ambiguities and drawing attention to particular forms during reading, and summarizing main ideas and discussing opinions after reading. The project addresses these phases of the reading process.

The overall premise of Voces de la Edad Media is simple: A modern day student is told that the best advice about life comes from medieval literature, and the curious student proceeds to read different medieval texts in order to apply their wisdom to his life. Descriptions and instructions are written in the target language, as the blog is designed for students that have reached advanced stages of acquisition. What follows is a sample blog entry titled "La mujer ideal" [the ideal woman], which includes excerpts from two of Spain's most canonical medieval texts, *Libro de Buen Amor* (The Book of Good Love) and *La Celestina*.

Figure 4. Pre-Reading Activities

Brantmeier (2003a) maintains that the activation of students' background knowledge and pre-existing mental schemata, as it relates to the subject matter of unfamiliar texts, leads to improved reading comprehension, and the pre-reading activity included in the sample blog entry does this using multimedia input. The student is asked to watch a short video (via an embedded link) and study an image before answering three discussion questions regarding conceptions of the ideal woman in the student's own culture. Instructions indicate that the student should type his or her answers and bring them to class for discussion.

Figure 5. Pre-Reading Questions and Introduction to First Text

Figure 6. Excerpts from First Text with Glosses

After completing the pre-reading activity, the student continues to the first short text. A brief description of the text (genre, year of publication, authorship, etc.) is provided along with embedded links to additional information in the target language and a full-text version of the work, often in the original medieval Spanish. Then the student is presented with a few strophes or paragraphs of the text itself where the Spanish has been modernized, mostly in terms of its orthography. Excerpts used in the blog are taken either from critical student editions or from online sources such as the *Miguel de Cervantes Biblioteca Virtual* (www.cervantesvirtual.com). Cited sources are given credit at the end of each blog post. Challenging lexical items are glossed using hyperlinks to definitions in the target language that are published by the *Real Academia Española* online (www.rae.es). Bowles's (2004) research shows that L2 glosses in CALL programs increase both noticing of lexical items and text comprehension. Similarly, De Ridder (2000) finds that visible links, like those utilized in Voces de la Edad Media, lead to better vocabulary retention. Although Erçetin (2003) finds that advanced learners use glosses less frequently than intermediate learners, nonetheless the availability of lexical glosses accommodates individual learner differences as each reader can use them as needed.

Each text excerpt is followed by at least one comprehension exercise which is accessed via a link embedded in the blog. *Hot Potatoes*, a free educational software provided in part by Victoria University (http://hotpot.uvic.ca), enables instructors to create their own interactive exercises and tests which can be published as web pages. Between their numerous tutorials and their responsive user support team, the *Hot Potatoes* software is decisively user-friendly. The software boasts six exercise formats: multiple-choice, short-answer, jumbled-sentence, crossword, matching, and cloze exercises. Best of all, *Hot Potatoes* is not cost-prohibitive like some language software.

Heift (2003) has found that matching, cloze passages and exercises which require learners to type or drag the mouse are more effective than multiple-choice exercises in the context of CALL materials. In the sample blog post shown here, the excerpt from *Libro de Buen Amor* is followed by two comprehension activities. In the first, the student must drag descriptive adjectives from the right-hand column to match body parts listed in the left-hand column. The second exercise asks the student to drag words or phrases from a word bank to complete a cloze passage according to what she or he learned about the ideal woman's personality.

Once the student has completed the comprehension exercises associated with the first text, she or he is free to proceed to the second and final text from the blog post, a selection from *La Celestina* which also gives a description of an ideal woman. As the subject matter has not shifted, and relevant schemata have already been activated, there is no need for a second pre-reading activity. Like the first text, hyperlinked glosses offer definitions in the target language for difficult or new lexical items. As the final line of this text alludes to the myth of Paris's judgment of the three goddesses, the last embedded hyperlink takes the learner to the Spanish language Wikipedia page to explain this classical reference which may be unfamiliar to the reader. Finally, the *Hot Potatoes* exercise which follows this text is a cloze passage which compares and contrasts the ideal women described in the two texts.

As a medium for L2 teaching and learning, blogs offer a number of benefits. Blogs can be created at no cost and, since they are designed to serve the needs of the general public, are user-friendly in their interface and require little technological proficiency. Blogs are easily manipulated by their creators, thus giving language instructors greater control over the linguistic input included therein. Although critical editions of many canonical medieval texts are now available for purchase in North America, by using a blog the instructor can better manage text

selection, modernization of orthography, and additional glossing in the target language. Instructors can also introduce supplementary resources such as links to historical information, images of original manuscripts, and related multimedia materials.

Figure 7. End of First Text and Links to Comprehension Exercises

Figure 8. Second Text with Glosses and Link to Comprehension Exercise

Simultaneously, the blog format is easily accessed by students and allows them to focus on small, key portions of texts outside of class so that classroom time can be used for more in-depth discussion. After completing the post-reading comprehension exercises linked to the blog, students come to class with a better knowledge of what they did and did not understand in the text. As the *Hot Potatoes* software does not provide a way for instructors to verify that their students have completed the exercises, a way to make sure that they do so is to give a short quiz in class and let the students know beforehand that some of the quiz questions will duplicate those seen in the comprehension exercises. Having mastered the basic concepts outside of class, students can then build on this knowledge in order to think more critically, participate in creative assignments in class (e.g., making a dating profile for the ideal woman), and eventually apply their understanding of the text to more lengthy written assignments.

CONCLUSION

As discussed, these projects are substantiated by relevant research and theory while they simultaneously embrace scholarly interests of TAs. Some prior publications have indicated that technology's availability does not guarantee a realization of its potential when training TAs (Burnett, 1998, 1999). The present TAs, who were invited to connect technology use to scholarly interests while becoming informed about relevant theory and research, embraced the use of

technology, and made principled decisions in the creation of innovative and useful materials for upper levels of Spanish. As TAs are trained to use modern technology appropriately, they can identify specific problems with the Spanish curriculum, and they can attempt to solve the problem through the use of self-authored and developed CALL materials. As scholar-teachers, TAs can create technology driven materials for courses beyond the beginning and intermediate levels. The knowledge gained through the development of these projects is fundamental for future foreign language professors who may teach at all levels of language instruction. The next step is to realize, and empirically test, how the use of these projects improves language learning and the language-learning environment.

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REFERENCES

Aletá Alcubierre, E. (2005, March 5). Una nueva perspectiva sobre un viejo problema de la gramática de ELE: *ser* no se opone a *estar [A new perspective on an old problem of the grammar of ELE: "ser" is not opposed to "estar"]. Revista RedELE*. Retrieved April 10, 2010, from http://www.educacion.es/redele/revista3/aleta.shtml

Allen, H. W. (2009). Beyond the language-literature divide: Advanced pedagogy for training graduate students. *ADFL Bulletin, 41*(2), 88-99. Retrieved March, 2010 from http://works.bepress.com/heatherwillisallen/22

Allen, H. W., & Negueruela-Azarola, E. (2010). The professional development of future professors of foreign languages: Looking back, looking forward. *Modern Language Journal, 94,* 377-395.

Arens, K. (1993). Applied scholarship in foreign languages: A program of study in professional development. In D. P. Benseler (Ed.), *The dynamics of language program direction* (pp. 33-64). Boston: Heinle.

Bowles, M. (2004). L2 glossing: To CALL or not to CALL. *Hispania, 87*(3), 541-552.

Brantmeier, C. (2003a). Does gender make a difference? Passage content and comprehension in second language reading. *Reading in a Foreign Language, 15*(1), 1-27.

Brantmeier, C. (2003b). Technology and second language reading at the university level: Informed instructors' perceptions. *The Reading Matrix: An International Online Journal, 3*(3), 50-74.

Brantmeier, C. (2004). Technology and the individual: Students in control of advanced second language acquisition. In Y. Saito-Abott, R. Donovan, & T. Abbot (Eds.), *Emerging technologies in teaching languages and culture* (pp. 279-298). San Diego, CA: Language Acquisition Resource Center.

Brantmeier, C. (2008). Meeting the demands: The circularity of remodeling collegiate foreign language programs. In H. Byrnes (Ed.), *Perspectives*: *The Modern Language Journal, 92*(2), 306-309.

Brantmeier, C., Flores, L., & Romero, G. (2006). Theory driven technologies: Frameworks for individual language learners. *The Reading Matrix: An International Online Journal*, *6*(3), 299-309.

Burnett, J. (1998). Language alternation in a computer-equipped foreign language classroom: The intersection of teacher beliefs, language, and technology. *Canadian Modern Language Review, 55*(1), 97-123.

Burnett, J. (1999). Classroom-management-classroom survival: One teacher's story of constructing practice in a computer-equipped foreign language classroom. *Foreign Language Annals, 32*(3), 279-294.

Byrnes, H. (2001). Reconsidering graduate students' education as teachers: "It takes a department!" *The Modern Language Journal, 85*(4), 512–530.

Chapelle, C. A. (2002). Computer-assisted language learning. In R. B. Kaplan (Ed.), *The Oxford handbook of applied linguistics* (pp. 499-505). Oxford: Oxford University Press.

De Ridder, I. (2000). Are we conditioned to follow links? *Computer Assisted Language Learning, 13*(2), 183-95.

Dörnyei, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition.* Mahwah, NJ: Lawrence Erlbaum Associates.

Ellis, N.C. (1994). *Implicit and explicit learning of languages.* London: Academic Press.

Erçetin, G. (2003). Exploring ESL learners' use of hypermedia reading glosses. *CALICO, 20*(2), 261-283.

Heift, T. (2003). Type or drag, but don't click: A study on the effectiveness of different CALL exercise types. *Canadian Journal of Applied Linguistics*, *6*(3), 69-87.

Lee, J. F., & VanPatten, B. (2003). *Making communicative language teaching happen*. Boston: McGraw-Hill.

Martinez-Lage, A. (1997). Hypermedia technology for teaching reading. In M. D. Bush & R. M. Terry (Eds.), *Technology-enhanced language learning* (pp. 185-213). Lincolnwood: National Textbook Company.

Rava, S., & Rossbacher, B. (1999). Teaching and technology: A new course for TA development. *ADFL Bulletin, 30*(3), 63-71.

Tsutsui, M. (2004). Multimedia as a means to enhance feedback. *Computer Assisted Language Learning***, *17*(3/4), 377-402.

VanValkenburg, J., & Arnett, C. (2000). The professionalization of teaching assistants: Can it be accomplished? *Die Unterrichtspraxis (Teaching German), 33*(1), 1-6.

Ware, P. (2005). Missed communication in online communication: Tensions in a German-American telecollaboration. *Language Learning & Technology, 9*(2), 64-89.

Warschauer, M. (1996). Comparing face-to-face and electronic discussion in the second language classroom. *CALICO, 13*(2), 7-26.