

# **New Ways of Learning and Teaching: Focus on Technology and Foreign Language Education**

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# Exploring the Link Between Teaching and Technology: An Approach to TA Development

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As foreign language program coordinators we have an obligation to prepare graduate teaching assistants (TAs) to use technology. Yet, often we feel inundated with technological options and are in a continuous process of trying to understand how and where the new media fit. In fact, it is frequently an overwhelming challenge to be pedagogically correct (PC) as we design curricula and supervise TAs. Viewed in this way, technology is, in many instances, a burden rather than an aid. In order to present a more positive and functional perspective, I propose in this paper that technology can provide an opportunity for reexamining teaching and learning. Rather than focusing our attention on becoming familiar with various kinds of computer-assisted language learning (CALL) applications, I believe we should use technology to explore theories about how students learn a foreign language (FL). To explain this technology model for TA development I will first describe a paradigm shift that is effecting changes in FL teaching, then argue that TAs need to acquire skills for thinking critically about FL teaching and learning according to the tenets of the new paradigm, and finally propose that technology provides an ideal means for exploring current pedagogical theories.

## **From Teaching to Learning: a Paradigm Shift**

Most TAs in FL begin their graduate studies with little sense of the history that has shaped our profession. Their view of current classroom practice is often defined by how they, themselves, have been taught rather than through

a critical examination of FL pedagogy. In order to provide historical context, it is useful to begin by reviewing the shift that has occurred in the educational paradigm. During the years since the Second World War there has been a dramatic change in how we view learning. The behaviorist view of learning prevalent during the '50s and '60s emphasized stimulus-response conditioning. In this view language was learned by imitation and the FL teacher served as the source of input. Student behavior was reinforced through practice and drill. Ultimately, learning was something that “happened” to students; the source of learning came from outside and students were viewed as *reactive*. During the '70s and '80s, a cognitive view of learning gradually replaced the behaviorist view. In this view, language is acquired through cognitive processes that are inherent in the human mind. The learner is *active* in the learning process and the teacher serves as a facilitator or advance organizer.<sup>1</sup> This dramatic change in view of how language is learned brought about a change in the FL teaching paradigm.

During the past two decades many FL teachers have begun to rethink how to teach grammar, how to balance listening, speaking, reading, and writing, how to teach culture in our multicultural world, and much more. The practice and drill teaching strategies of the Audiolingual Method are no longer valid in a time when communicative language teaching and proficiency-oriented instruction are commonly endorsed. This shift in paradigm is outlined explicitly by Swaffar, Arens, and Byrnes (1991) in *Reading for Meaning: An Integrated Approach to Language Learning*. With regard to materials and techniques for language courses, they note a shift from culturally neutralized dialogues to personalized language, from discrete practice of grammar rules to an integrative use of grammar linked to meaning, from vocabulary lists to be memorized and largely cued by translation to vocabulary understood and cued in the FL context. Similarly, for upper-division courses, they outline curricular changes and additions in terms of a shift from teaching literature as genres and periods to teaching literature as part of cultural values with a focus on themes and intertextuality, and from language for sentence-level accuracy to a pragmatic use of language in double majors, career tracks, and study abroad (Swaffar, Arens, and Byrnes 1991, pp.12–13).

This shift in paradigm is not unique to the FL profession. In a recent article in *Change* magazine entitled “From Teaching to Learning—A New Paradigm for Undergraduate Education,” Barr and Tagg (1995) challenge American colleges to shift their focus from an “instruction” to a “learning” paradigm. They point out that colleges have traditionally operated according

to the instruction paradigm, in which the emphasis is placed on delivering instruction, or transferring knowledge from teacher to student. In their view, most colleges have defined their primary purpose according to this focus and have evaluated their effectiveness according to the quality of the instruction. However, they contend that this traditional approach is no longer valid and that colleges should redefine their purpose according to the learning paradigm in which the focus is on creating environments and experiences that lead students to discover and construct knowledge for themselves. The authors refer to “Learning Paradigm colleges” as being concerned with learning productivity rather than teaching productivity, where teachers are the designers of learning environments, and where effectiveness is measured by the quality of student learning.

In her introduction to the 1995 AAUSC volume, Kramsch’s assessment of FL education echoes that of Barr and Tagg:

Teaching is often seen as “conveying information,” “delivering foreign language instruction,” while leaving one’s own views and the views of the students out of the picture (Kramsch 1995, p. ix).

What is happening in academia is no less than a tidal wave of self-questioning regarding the nature and role of the disciplinary knowledge produced, preserved, and transmitted by the academy (Kramsch 1995, p. xiv).

Furthermore, Kramsch describes the paradigm shift in academia as having four components:

- 1) an ideological shift brought about by a change in our world view—“truths” and conceptual systems that were once accepted are being harshly challenged;
- 2) a demographic shift, brought about by an increasingly multicultural composition of our society;
- 3) a disciplinary shift, brought about by the growing influence of social and cognitive sciences; and
- 4) a technological shift, brought about by the electronic revolution with its unlimited sources of information.

In her view, “these four developments of the last decades constitute major upheavals that are shaking at the foundations of the old idea of the university” (Kramsch 1995, p. v).

## TA Development in the New Paradigm

In Lange's view, this shift in paradigm has brought about a curricular crisis. He notes that there are several contending theories of foreign language learning that exist in theory and not in practice: "The practice is still the learning and teaching of language as rule-governed linguistic behavior" (Lange 1994, p. 13). Moreover, he points out that the profession has been resistant to change and "teacher educators continue to work with the tried-and-true methods" (Lange 1994, p. 14). In order for us to avoid perpetuating this tendency, it is important that TAs understand the nature of the paradigm shift and its impact on classroom practice. Kern (1995a) points out that the language program director's task includes broadening TAs' perception of what language teaching is all about:

Many TAs come to us with a notion that language teaching is primarily drill instruction (most likely because that is what they remember from their own early foreign language learning experiences). We can show them that their role is much more significant than they may expect . . . [and] involves socializing students into new ways of thinking about meaning and communication (Kern 1995a, p. 85).

Clearly, one of the most important goals of the TA supervisor is to provide a context for current practice and to help each TA think critically about teaching and learning.

Typically, TA training involves studying theories and research regarding how students learn, or acquire, a foreign language. For example, theories concerning such issues as the nature of teacher input, error correction strategies, motivation, learning strategies, top-down and bottom-up processing, and the role of grammar instruction in language acquisition are essential to understanding effective FL teaching. In helping TAs understand and implement these theories, supervisors often subscribe to one of several models for TA development. Kinginger (1995) proposes a "reflective" model of TA education in which teaching is not portrayed as simply a skill, but also as a continuous process of analyzing theory and research as they relate to teaching. Similarly, Wildner-Bassett (1992) proposes that beginning TAs can benefit from keeping journals in which they discuss various aspects of their experiences. She suggests that with this type of introspection about teaching, TAs can better understand many things, including the fact that professional development is an ongoing process. Tedick and Walker caution against "a paralyzing focus on methodology" (1995, p. 502) that encourages teachers to concentrate on the **how** of language teaching rather than questioning the

**why** and **what**. While these models for TA development differ slightly, they share a commitment to engage TAs in a critical examination of how students learn and how those theories are translated into classroom practice.

### **The Technology Model for TA Development**

As a complement to the TA development models cited in the previous section, I would suggest that technology can serve as an entry point for thinking critically about teaching and learning. Rather than learning how to use specific computer-assisted language learning (CALL) applications, TAs can learn how to analyze CALL to examine the underlying pedagogical theories. Just as adopting a new textbook forces teachers to question how to teach and test students, TAs can use a CALL program to frame these same questions.

The first step in implementing the technology model involves exposing TAs to general principles about technology. To begin with, the use of technology often implies a change in teacher and student roles. As Patrikis (1995) points out, often teachers use new tools but then neglect to move beyond “traditional notions of teacher, tutor, and tester” (Patrikis 1995, p. 37). He challenges the profession to use CALL to explore new possibilities for teaching and learning:

With the explosion of the walls of classroom learning, it should be evident that the traditional roles of teacher and student are likely to change dramatically. As many colleagues acknowledge, the teacher will become a designer of tasks: he or she will no longer direct what students do but instead will create an environment of expectation and of possibility, where students are responsible for what and how they learn. I would like to pause, for a moment, on the word *responsible*. The term *responsibility* gives new, and perhaps higher, sense to the notion of a student-centered course. This *responsibility* entails the willingness and the duty of students to assume control of their learning and of their capacity to provide answers. In other words, it requires them to respond to their own intellectual needs . . . (Patrikis 1995, p. 38).

Noblitt concurs with Patrikis, stating that “the instructor’s goal in the new learning environment will thus be to provide expert guidance, facilitation, and mentoring” (Noblitt 1995, p. 289). In this view, the use of technology encourages students to be *interactive* since they must understand the learning tasks as well as the relationship between the tasks and the topic or goal.

In addition to changing roles, TAs must examine the kinds of learning that can be invoked by the use of technology. Noblitt (1995, pp. 282–283) identifies three basic learning modes:

- *the sequential learning mode*, in which it is important to maintain the integrity, or semi-linearity, of the object of study;
- *the relational learning mode*, in which students explore information and discover relationships with other areas of knowledge in a non-linear way;
- *the creative learning mode*, in which the student must apply what is learned.

For the sequential learning mode, instructional technology that presents material in a linear fashion, such as videos or software programs that reinforce what is being taught in the classroom, would be appropriate. For the relational learning mode, information technology, such as the Internet, might be best. Finally, for the creative learning mode, communication technology, such as e-mail or software programs for listening, reading, and writing, would be preferable.<sup>2</sup>

Once TAs are familiar with general principles regarding teaching with technology, they can begin to explore specific CALL applications to determine the underlying pedagogical theory. For example, a close analysis of the computer program for writing in French, *système-D* (Noblitt, Willem, and Pet 1992), leads to fundamental questions about what is involved in writing in a foreign language. This program, which includes a bilingual dictionary, a verb conjugator, and three indices for grammar, phrases, and vocabulary, evokes questions, such as: Is it good pedagogy to allow students access to information that may not have been explicitly taught? What level of language proficiency should students have before using it? What characterizes good writing? What strategies characterize good writers? Will students learn to write autonomously if they have this kind of grammatical and lexical support?

As another example, TAs might examine *Nouvelles Dimensions* (Noblitt and Wolf 1995), an interactive multimedia program for developing listening comprehension and cultural awareness. This program requires an analysis of how students learn to understand authentic speech and subtle cultural information: Does having access to transcriptions and translations of each video clip enhance the development of listening comprehension? Do the guiding questions about each video clip sensitize students to subtle gestures and facial expressions? Would students benefit more from working alone or in small groups? Do the video clips and exercises engage the students over time?

More often than not, these questions have no simple answers. Challenging TAs to find the answers can be a valuable dimension of professional development. In fact, Tedick and Walker (1995) contend that research skills are an essential part of the development of new teachers and that it is important for them to seek answers to their questions by doing research. Empirical research on technology does not have to be elaborate or difficult. Qualitative research might simply involve describing what students actually *do* when they are using a given software program.<sup>3</sup> Or, it might involve questionnaires to determine student reaction to using a given software program.<sup>4</sup> Quantitative studies might involve comparing test scores before and after using a software program, or perhaps comparing the performance of students in one section that uses technology and one that does not. These kinds of informal empirical research experiments can be invaluable to a TA's approach to teaching. They may also provide insight that can benefit the profession. Pusack and Otto (1995) note that with regard to technology descriptive research and case studies are extremely valuable. Finally, encouraging TAs to engage in these kinds of research can respond to Noblitt's challenge that ". . . the future learning specialist must bring an understanding of the *educational uses of the media* to the learning environment" (Noblitt 1995, p. 226).

### Case Studies

In the undergraduate French language and literature program at Vanderbilt University, several kinds of technology are fully integrated into the curriculum. That is, many of the courses provide opportunities for students to use technology, and some courses actually require students to use it. For example, in the elementary-level course, students can choose either a traditional workbook or a CD-ROM workbook.<sup>5</sup> Another option for first-year students is *Nouvelles Dimensions* (Noblitt and Wolf 1995), an interactive multimedia program for developing listening comprehension and cultural awareness. In the elementary and intermediate level language programs, all students are required to use *système-D* (Noblitt, Solá, and Pet 1992), a computer program for writing in French.<sup>6</sup> Students in phonetics are required to use an interactive computer program to practice aural discrimination and phonetic transcription.<sup>7</sup> Students of literature often have the option of reading texts in a hypertext mode on a computer with opportunities to access cultural and linguistic information.<sup>8</sup> Advanced-level conversation students must use *À la rencontre de Philippe* (Furstenberg 1993), an interactive multimedia program for developing listening comprehension and cultural awareness. In addition,

advanced-level language and literature students may use the *Correcteur 101*, an interactive computer program for checking the grammatical and lexical accuracy of compositions, and *Cinéinteractive*, an interactive computer program for viewing films while developing both linguistic and cultural awareness.

Many of these courses are taught by TAs who are teaching for the first time and must face both the challenges of traditional classroom teaching and the use of various technologies. All the TAs were asked to reflect on how using technology had affected their teaching. The responses from five TAs, all of whom have taken a graduate course on the methodology of foreign language teaching at Vanderbilt University, demonstrate how teaching with technology helps them continue to think critically about various aspects of teaching and learning<sup>9</sup>:

- 1) Leah Tolbert Lyons, M.A. student, TA in first-semester French.

I oriented my students to the *Rosetta Stone* CD-ROM software in response to their request for extra help with speaking, listening, and reading. By introducing this software to my students, my role has changed; in fact, I am redefining my role continually. I am no longer in full control of what my students are learning and this has caused me to evaluate at least two things: the place in the classroom for information found outside the classroom and the method of error correction I should use when such information is used incorrectly. Should the teacher take an active role in seeking out what students have found during their technological experimentation? And should that information be brought to the classroom on a strictly voluntary basis? How should I deal with a student who has a question or a comment about an idiomatic expression right in the middle of my perfectly planned lesson on regular *-er* verbs? And, if students do use information gained through use of the program on quizzes and exams, should they be penalized for incorrect usage even though they haven't actually been taught the information? If so, how will this change the students' attitudes toward risk taking?

- 2) Richard Espénant, M.A. student, TA in second-semester French.

My students use *système-D* to write compositions and with this software they can access, at any time, grammatical and lexical information accompanied by several examples. As I watch my students use the French expressions in *système-D* and try to compose a text, I wonder about the role of translation in writing. I also wonder about how

French stylistics are different from English stylistics. In addition, I think about the role of writing in a language program that places emphasis on communicative language teaching. The methods of teaching that I encountered in French educational institutions placed an emphasis on grammar through different kinds of written drills. When I grade my students' compositions written with *système-D*, I find myself thinking of these various dimensions.

- 3) Jennifer C. Gilbert, M.A. student, high school French teacher.

I conducted research in two upper-level French classes at the University School of Nashville, a private high school. My objective was to study the reading process by having one group of students read a text in a traditional print medium and a second group read the text in a hypertext computer medium. The focus of this study was to determine whether technology effectively promotes students' comprehension and retention of texts read in the target language.

In the course of this empirical research, I began to view reading from a different perspective. My experience working with technology in this study prompted me to rethink the strategies I use to teach reading in my classes. In particular, I considered the notion of background knowledge and ways of assessing comprehension. Consequently, I am much more aware of how I teach and assess reading in my classes.

- 4) Margaret Splane, Ph.D student, TA in second-semester French.

When students write compositions with *système-D*, they employ a greater variety of vocabulary and idiomatic expressions and generally a greater quantity of ideas than compositions written without the program. However the occurrence of grammatical errors is not infrequent. By encouraging students to explore the French language and by making available to them vocabulary, colloquial expressions, and grammatical structures to which students have never before been exposed (in class or in their textbook), *système-D* makes second-semester students especially prone to using the language incorrectly. In a certain respect, *système-D* is a trade-off and causes one to seriously consider the importance of content and communication as opposed to flawless manipulation of grammar structures. As a result, I now have a tendency to focus more on the content of my students' compositions and I have begun to set higher standards and to expect better compositions. *système-D* has led me to realize that second-semester French students are, in fact, capable of writing interesting, entertaining compositions that even native

speakers are able to comprehend and enjoy, despite the grammatical errors. I think that my experience with this software has caused me to place greater value on the theory that one learns through the mistakes one makes.

5) Lara Semones, Ph.D student, TA in second-semester French.

I used *Nouvelles Dimensions* in elementary French to capitalize upon different grammar structures, reinforce vocabulary, and most importantly to encourage students to apply the language. However, the real question I asked myself was “what did this computer program provide that I could not give the students myself?” Ironically, the response was within the rhetorical question itself. What I found most helpful was that *Nouvelles Dimensions* seemed capable of setting into motion everything that we practiced in class. In short, it was a true test of the students’ communicative skills. Even if my particular focus was on vocabulary, the students were also exposed to authentic culture, context, and meaning in ways in which neither I nor a textbook could ever begin to provide for them.

Using this multimedia program in the classroom gave me a real feeling of success. Afterwards, however, came an entire rethinking process. For instance, why were the students so receptive to this program? What did it provide for them that the textbook had not? What could I, the instructor, be doing in class to reinforce this positive experience? Although I am not certain that I have answers to these questions, the simple fact is that I have begun asking these things of myself and of my materials. I found myself reevaluating my role as the “facilitator of knowledge.” I became, more or less, another link in the chain that connected the students with another language and culture. In addition, I felt that somehow the program legitimized and accentuated my lesson plans. The students seemed to be reminded that French was not just something “out there somewhere,” but rather it was within their reach, easily accessed, and worth pursuing.

## Conclusions

It is likely that technology will exert an increasingly important influence on pedagogy. The principles that characterize the new paradigm for FL teaching and learning will not be static, and materials and classroom practice will evolve to meet current demands. In particular, Internet technology will continue to expand our resources and thus redefine our course content and

goals. As TA supervisors face this challenge, it is imperative that they adopt a model for professional development that encourages novice teachers to focus on sound pedagogical theory. In order to ensure that technology supports and enhances teaching and learning, TAs must learn to frame questions about what specific CALL applications assume about FL learning and whether the assumptions are valid. Schwartz maintains that “without proper teacher-training, evaluation of CALL materials, and research on student use of computers for language learning, CALL is likely to meet the same fate as the language laboratory of the 50s and 60s” (Schwartz 1995, p. 534). In order to avoid this fate, technology itself should never be the focus. Rather, technology should serve as a means to reflect about FL teaching and learning. Finally, when TAs are taught to assess technology in this way, they will learn to frame the theoretical questions that ought to inform their pedagogy.

## Notes

1. See Omaggio Hadley's *Teaching Language In Context*, 2nd edition (Heinle & Heinle Publishers, 1993), for a more detailed review of the effects of behaviorism and cognitive psychology on language teaching.
2. In “CALL Today: Implications for Multisectioned Language Programs” (*Challenges in the 1990s for College Foreign Language Programs*, AAUSC Issues in Language Program Direction, Heinle & Heinle Publishers, 1990), Ariew categorizes computer technology into four groups, each one for a different purpose: 1) presentation, 2) communication, 3) research, and 4) instruction, or CALL.
3. Several graduate students at Vanderbilt University have made interesting discoveries by videotaping students who were using different kinds of software. Elizabeth New videotaped students using *système-D* while they were writing and observed the kinds of additions and deletions they made as well as the ratio of pause time to writing time. Lara Mangiafico videotaped students using *Nouvelles Dimensions*, the interactive multimedia program for developing listening comprehension, and observed how often students accessed the transcriptions and the translations of video clips as well as what kinds of students used those tools. Jennifer Gilbert videotaped students reading a play on the computer and documented when students accessed the available cultural and linguistic information. All of these descriptive studies provide interesting information about what students really do with the software that

they are required to use. Other interesting CALL research projects include Kern (1995b), Lyman-Hager (1995), Mangiafico (1996), and Scott and New (1994), to name just a few.

4. For example, one of the qualitative findings in a study by Oliva and Pollastrini (1995) is that FL students (in this case students of Italian) consider that Internet-Mediated Instruction has a positive impact on their learning and that they feel that their writing skills improved most from their work on the Internet.
5. *J'veux bien!* by Bragger and Rice (Heinle & Heinle Publishers, 1995) includes either a traditional workbook (*Manuel de Préparation*) or a CD-ROM version.
6. See Scott and Terry's *Teacher's Guide: système-D Writing Assistant for French* (Heinle & Heinle Publishers, 1992) and Scott's *Rethinking Foreign Language Writing* (Heinle & Heinle Publishers, 1996) for a detailed description of how *système-D* can be used to teach writing in French.
7. This program, authored by Professor Dan Church, Vanderbilt University, is not currently available for purchase.
8. Professor Dan Church, Vanderbilt University, often puts texts in an interactive hypertext format. None are currently available for purchase.
9. Graduate TAs in French at Vanderbilt University must have 18 credit hours at the graduate level before they are permitted to teach. Students beginning their graduate study have one year of full support before they are required to teach. All graduate TAs in French, regardless of their previous academic or teaching experience, are required to take a one-semester graduate course on the methodology of foreign language teaching. Some students take this course before they begin teaching while others take it during the semester that they begin their teaching at Vanderbilt.

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