

A Pedagogical Approach to the Design and Use of Multimedia Material in Russian Instruction

David S. Danaher and Christopher R. Ott

Introduction

In spite of the growth in the use and power of personal computers, and the proliferation of educational software, most courses today are taught the same way they were before the invention of the personal computer. Use of educational software in courses is still rare and, in the field of language instruction, educational courseware has barely begun to offer anything more than traditional course materials, such as handouts and cassette tapes, do.

Educational technology enthusiasts would have us believe that technology has only recently been able to address real educational needs. We take a contrary view and believe that technology has been sufficiently developed to be used to create practical educational multimedia for at least ten years (Apple's introduction of HyperCard in 1987, for example, is an important milestone). We believe, however, that educational courseware for language instruction has failed to live up to the promise of more effective learning through "technology in the classroom" because: 1) courseware designers tend to put technology before pedagogy, and 2) language instructors do not always understand how to use the material to its best effect. Until this state of affairs changes, the disparity between the promises made about educational software and its pedagogical value will remain.

Good educational software does not require the fastest microprocessors, the most capacious storage devices, the World Wide Web, or the latest software. Indeed, enthusiasm for technological glitter has led a great deal of courseware astray. Many projects we have tested are both unnecessarily complex, which makes them unusable by computers only a few years old, and redundant, in that they reformat materials which would be easier and less expensive to present through traditional media such as paper and audiotape. Moreover, educational multimedia cannot stand on its own. To be used effectively, courseware must be integrated as carefully into a course plan as traditional forms of instructional material are.

In this article we will outline general principles of design and use of multimedia material in language instruction that are consistent with a communica-

tive approach to language pedagogy. We hope these principles can serve as guidelines for courseware design, for the selection of pedagogically relevant courseware, and for its effective use in Russian instruction.

Design

1. Pedagogy Comes Before Technology

Multimedia material, like any other class materials, should provide a framework to help the student gain command of the subject matter. Therefore, the material's design must reflect, first and foremost, pedagogical objectives. As Jones (1991: 4) has argued: "One of the basic tenets of pedagogic materials design is ... that an activity's desired outcome in language-use and language-learning terms should determine the choice of technical means" (see also Nyns 1989: 44). A pedagogically oriented designer will likely ask some basic questions before beginning the design process, and the answers to these questions should be reflected in the material's design. These questions include:

- At what level is the material aimed?
- What skills will it be focused on?
- What should the student be able to do after working with the material?
- What degree of technical sophistication is needed to use the courseware?

A pedagogically sound program can be developed without the latest and best technology, great expense, or a high number of programming hours. Many programs suffer from a form of technological overkill. Unnecessary technical bells and whistles often get in the way of real learning and should be understood for what they are—flashy marketing gimmicks rather than tools intended to support learning. Supporting this point, Underwood (1984: 39) has claimed that we tend to be "mesmerized by hardware" and "remain remarkably uncritical of the software and its underlying principles." Examples of technological dazzle include:¹

(1) "Talking heads" in small, grainy digitized video segments aimed at teaching sounds or at representing native speakers engaged in "real" dialogue. These movies require large amounts of memory to run efficiently and contribute little to the learning process.

(2) Text-based programs, such as those offered commercially by Transparent Language, that provide the student with English glosses for nearly every word in the text at the mere click of the mouse. In addition, students can simultaneously open other windows to receive contextual translations and grammatical

¹ Illustrations of actual courseware or features of courseware which are included here are meant to be representative only. An exhaustive survey of available courseware for Russian instruction (and its pluses and minuses) is not the goal of this contribution.

information. This is an example of the misuse of technology which may interfere with learning. Features like these do not challenge students to apply their knowledge in comprehending a new text, to rely on contextual clues to meaning, or to develop a practical (and hard-earned) feel for the functional value of grammar in communication. An overly accommodating program design eliminates the need for the student to do necessary work, and the student ends up learning little more about the target language than he or she would have by reading the text in English translation.

For many years it has been possible to make pedagogically effective multimedia course supplements at low cost and without extensive programming knowledge or a great deal of time. One authoring application which makes this possible is Apple's HyperCard.² We have designed numerous strategically focused programs to support various levels of Russian instruction using HyperCard.³ Some of the latest include a series of vocabulary supplements to selected lessons in the textbooks *V puti* and *Focus*.⁴ A brief description of these materials' design will illustrate one way in which technology is subordinated to pedagogy and not the other way around.

The vocabulary programs were designed to support the functional goals of the units on which they were based by giving students an opportunity to hear the pronunciation of new words and to challenge their interpretive abilities by seeing and hearing the word in context. Each vocabulary program presents new words in text and sound, and students can click on a word to hear its pronunciation. After hearing and pronouncing a new word, students can click on a speaker button to see and hear the word used in a sentence. The sentences are

² The first version of HyperCard came out in 1987, and the program makes it easy to combine text, graphics, and sound in one package. Programs produced with HyperCard can be converted into stand-alone applications which will run on any Macintosh computer with sufficient memory. Applications like HyperCard make it possible for instructors with little to no experience in programming to design and produce practical, user-friendly projects with a minimum of effort. A summary of HyperCard's features for instructors unfamiliar with programming tools is available from the authors of this article. Multimedia enthusiasts today often dismiss HyperCard as being too primitive compared to newer authoring environments such as Macromedia Authorware or Director. We do not mean to detract from courseware created with these applications or to deny that attractive, colorful designs can enhance a project, but professional-quality design does not automatically translate into pedagogical effectiveness. The finer points of design need only be worried about when they directly bear on the program's usability and effectiveness.

³ All the programs that we have developed or co-developed are freeware. For information on them, contact David Danaher at <dsdanaher@facstaff.wisc.edu>.

⁴ *V puti*. Olga Kagan and Frank Miller. Prentice Hall, 1996; *Focus on Russian*. Sandra Rosengrant and Elena Lifschitz. 2nd Edition. Wiley & Sons, 1996.

written to exemplify the grammatical structures presented or reviewed in the unit and to illustrate the unit's communicative theme.

The pedagogical strength of this kind of program is that students are able to challenge themselves to understand the spoken contextualized sentence before requesting the written text. They can listen to a sentence as many times as they like to try to grasp the meaning, and they can see the sentence in textual form rather than receive an English "give-away".

These programs are simple in design but accomplish their strategic pedagogical goals. They require only 4–5 MB of memory, and the accompanying sound clips are small enough to be handled on a computer with 8 MB of RAM. Since we have developed a template for producing material of this type, it takes fewer than four hours of programming time to complete a program for a unit. Furthermore, the contexts used can be easily changed as necessary or customized for new students. Most significantly, we have found that students who conscientiously use the programs once or twice per lesson (on their own time, in the computer lab) show a noticeably increased comfort with the vocabulary and the unit's grammatical and thematic structures.

Treating multimedia material like other kinds of instructional material (workbooks, handouts, class activities, etc.) demystifies the notion of technology as a miraculous teaching aid and puts it in a more rational position in relation to pedagogy. Multimedia material does not have to be expensive and glamorous to be useful. In fact, it may generally be true that the more expensive and flashy instructional multimedia is, the less practical and pedagogically oriented it is. As Jones (1991: 4) suggests, computer materials for language instruction are often examples of reversed priorities "with the technical tail ... wagging the methodological dog." Similarly, Kaleugher (1990: 78) has made the case that "simpler, yet more educationally sound programs may not receive all the recognition they deserve." Assuming that more technical sophistication makes for better courseware is unwarranted.

2. There Must Be Compelling Reasons for Using the Computer instead of Traditional Media

Courseware must make proper use of the computer, and must not be a mere recapitulation of material that would be easier and cheaper to present on paper or tape. It takes many times longer to make computer material than it does using traditional media. The extra effort is justified if it results in material that is greater than the sum of its parts—for example, if it allows students to read a text on screen, listen to it, and obtain target-language glosses instead of working separately with paper, cassette tapes, and dictionaries. In other words, the material should lend itself to multimedia presentation.

Computerization should not be imposed on material merely for the sake of promoting the use of technology in instruction. As Stephen Manes (B11) recently remarked about computer software: "Products often [appear] to have been designed simply because they could be rather than to fill any real need or solve a pressing problem." In designing courseware to serve pedagogy, we should start with a definable need and then ask ourselves if multimedia presentation is the most effective way to fill that need. It is possible that other ways will be more effective.

Moreover, media used in courseware should be of the highest quality, or it should be omitted. For example, it is appropriate to use digitized sound recordings in language courseware, because it can equal or surpass the quality of voice recordings on CD or tape. Using new technology before it has matured, however, raises costs and, instead of adding value to the program, can distract from the learning process. Instructors planning to develop or use courseware should avoid technology that has not been widely used for at least two years, because technical sophistication is not equivalent to pedagogical sophistication. As Jones (1991: 5) has said: "[A] little programming power ... can go a long way."

A program we have recently developed to teach Russian phonetics and graphics is an example of courseware that satisfies these requirements. The program presents borrowings from English into Russian primarily in the fields of business, technology, and popular culture. Students work with the program over the first few weeks of beginning Russian by using their knowledge of the Cyrillic alphabet to guess the cognates' meanings. They can check their proficiency by clicking on a sound button to hear native pronunciation. In addition, words are contextualized in a sentence which students scan to find the cognate word, thus preparing them to read for meaning and not word by word. After finding the cognate in the sentence, students can hear a Russian reading of the sentence and brings up a translation on screen. Words are also grouped according to grammatical criteria (*-(ir)ovat'* verbs, nouns in *-(iz)atsija*, etc.) to accustom students to scanning Russian words for clues to grammatical class. This is an example of multimedia presentation allowing a combination of text and sound that is technically simple and pedagogically challenging.

Multimedia can also make otherwise difficult materials accessible. The program *Lenin: «What Is Soviet Power?»*, which we developed several years ago in cooperation with Snezana Tempest, now of University of Michigan, exemplifies this (Ott et al. 1995; Tempest et al. 1955). The original material was a low-quality recording of Lenin reading a 1917 speech. The speech itself was potentially useful for an advanced Russian language course or a content-based course on Soviet history, but only if it could be presented in short segments, heavily glossed, and contextualized for ease of comprehension. Multimedia computerization made possible the realization of the speech's pedagogical value.

3. Courseware Design Should Be Simple and "Student-Friendly"

Courseware must be as simple and as technically transparent as possible. Our experience in using technology in instruction has led us to adopt as a general rule the principle that what can go wrong will go wrong. While it may be true that today's students are becoming more technologically savvy, there is a difference between having a general feel for how technology works and knowing arcane and unintuitive procedures. Courseware should not require that students know how to do much more than turn the computer on and use a keyboard and a mouse. Last (1989: 82) has succinctly argued: "The software must be capable of being productively used within moments of a complete computer novice sitting down at the keyboard." Students should not be required to install fonts, navigate complicated file directories, plug in external microphones, configure files, use a command-line interface, or create Web pages. Requirements like these can frequently lead to frustrating mistakes and, even at best, they are a diversion from productive, communicatively-oriented instruction.

The importance of keeping courseware simple is demonstrated by examples from our own experience. Even courseware with a straightforward design can be problematic for students. Some students have repeatedly shown themselves unable to drag a copy of their work into an instructor's folder, to access digitized sound despite instructions to click on a speaker button, and have sometimes thrown away whole programs. Second- and third-year students of Russian have misinterpreted quit buttons marked *konec*. If a significant number of students, including excellent ones, cannot handle these simple tasks, we should not expect them to do even more.

The common-sense principle of straightforward design is often violated. One example was a Russian dictionary program presented at the 1996 AATSEEL National Meeting in Washington. The program was designed to allow students at intermediate and advanced levels to create personalized dictionaries in which words are encoded with (and potentially cross-referenced by) features such as the word's root, etymology, its relation to a family of similar words, and its grammatical class. The encoding was prompted by a series of English abbreviations. While the resulting personalized dictionary could be a powerful learning tool, the considerable effort required to create it, including time spent learning and navigating the DOS environment, probably distracts students from other more fundamental goals of language learning, especially at the intermediate level of instruction. The time intermediate students spend developing their dictionaries might be used more productively by working with one of the excellent skill-oriented textbooks now available for Russian instruction at the intermediate level.

Such programs also raise an important question for Russian instructional multimedia: to type or not to type? The typing issue is not limited to instruction in languages with non-Latin alphabets. For example, Kaleugher (1990: 78) has written the following about requiring students studying any language to type on screen: "It can be frustrating and pointless for a student to 'hunt and peck' one letter at a time, and this may distract from the learning process." Our experience has amply confirmed this.⁵ Even talented language students often experience difficulty when asked to type in any language on a computer screen. Russian instruction at every level, and especially at the beginning and intermediate levels, should be focused on skill development in the language, not on technical training, whether that training is in DOS, applications for designing Web pages, or merely learning how to type (in Cyrillic!). Some programs try to get around the typing issue by having students use a mouse to click on individual letters in an alphabet box to spell out words, but it is unlikely that the pedagogical results of this tedious work justify it.

4. Courseware Should Have Aims Consistent with the Development of Communicative Skills

Multimedia materials should be treated like any other material or activity that supports instruction. They should be pedagogically effective, learner-centered (Nunan 1988), and focused on functional skill development for communication. While we recognize the need for every student of Russian to know declensional and conjugational endings (which are the building blocks of communicative expression), we believe that using a computer merely for drilling inflectional forms is a limited use of the potential of multimedia. The ease with which text, graphics, and sound can be made simultaneously accessible on a computer screen argues for multimedia material that focuses on contextualized learning. Discrete structural elements (grammar and vocabulary) should be presented in larger functional settings.

The need for more communicative-oriented courseware is a theme running throughout recent literature on instructional multimedia in language courseware. For example, Chun and Brandl (1992) have argued for "meaning-enhancing" over "form-restricted" design which would grammatically, semantically,

⁵ We ourselves experimented several years ago with a HyperCard Russian dictionary program. Although there was a small degree of pedagogical benefit, on the whole the program's drawbacks (the students' frustration with typing and the time devoted to creating the dictionaries) far outweighed what little benefit there was. Moreover, the instructor was also required to spend an enormous amount of time reviewing each student's dictionary for mistakes (especially in spelling, but also in encoding grammatical information and lexical contextualization) which could have resulted in the students' studying glaringly incorrect information.

and pragmatically contextualize the material being presented. Patrikis (1995: 37) has written: "We see a lot of boring drills, creating merely a high-tech version of 'drill-and-kill' ... [I]f an activity is boring in class, why would it be any more enthralling or effective on a cathode-ray tube?" Jamieson and Chapelle (1988) have noted that such drill-and-practice programs seem to satisfy learners' expectations of what it means to learn another language, and suggest that multimedia material should be designed to challenge that fundamentally passive understanding of learning.

In the case of many programs designed to drill vocabulary, the student is led to believe that learning vocabulary is the same as learning a set of one-to-one translation correspondences between English and the target language (see Fox 1989). Simple design changes, such as challenging the students to understand a sentence in which the word is functionally contextualized, paraphrasing meaning whenever possible in the target language, or—for vocabulary programs designed to accompany textbooks—requiring students to refer to the textbook rather than receiving a translated gloss, can help students to look at language acquisition differently. Many grammar drill programs convey the idea that inflectional endings are the starting and stopping points of language acquisition. Inflectional endings are often fetishized by program designers and, ultimately, by learners and are not understood for what they are: necessary components of functional communicative competence. As we attempt to integrate technology into instruction, we often forget that not all computerized material serves pedagogical ends, especially material designed according to the grammar-translation methodological framework.

The principle that courseware should serve the purposes of communicative instruction argues for the development of strategically focused programs with clearly defined goals and formats designed to assist in meeting those goals. The more focused a program is, the more assumptions can be made about what the students using it will know. The program can then be designed to maximum pedagogical effect: for example, instructions or buttons can be labeled in Russian understandable to the users, or contextualized sentences can be written to challenge the students' abilities.

Courseware that makes ambitious claims to maneuver around the difficulties inherent in learning Russian should also be avoided. Some programs make promises to improve learning efficiency by ten, twenty or thirty percent (whatever that means). These programs are not designed to help develop communicative skills, but to sell a product by promoting the myth that language acquisition is easily quantifiable, similar to the dubious claims made in advertisements for self-instructional courses in airline magazines that you will be speaking Russian fluently in thirty days "without tedious memorization."

Implementation

5. Multimedia Material Should Be Well Integrated into a Program of Study

Computer material, like other instructional aids, can enhance language instruction in the overall context of a lesson or course, but multimedia material cannot be used effectively without being integrated into a broader communicatively-oriented curriculum. Student 'interaction' with a computer program cannot be the beginning and end of language instruction for the simple reason that computers do not communicate.⁶ Attempting to reduce all instruction to courseware goes directly against the principle that language instruction is intended to promote communication.

Courseware therefore needs to be designed and used to supplement classroom instruction rather than substitute for it. As Jones (1991: 5) has said, computer programs should be used as "lesson aids rather than the lesson itself." Well over a decade ago, Last (1984: 88) reached the same conclusion: "The computer should be integrated into the teaching process, not become a separate and unrelated activity." Many designers, users, and enthusiasts of technology in instruction do not seem to understand this principle.

Before selecting and using courseware, instructors should ask themselves:

- Does the material directly support the skill-based goals you want to achieve?
- Does it fit sensibly into a unit or course?
- Does it lend itself to follow-up activities that involve writing, oral review of the material, or application of the material to other contexts?
- Does it come with helpful suggestions for integration into a course?

In our experience, many if not most programs, especially commercially produced ones, fail all of these tests.

Human history teaches us that the computer is not necessary for successful language learning.⁷ Multimedia can facilitate teaching, but it does not replace

⁶ In our opinion it is difficult to conceive of a computer program which could communicate in any human sense of the word, despite decades of hype about artificial intelligence. Recent approaches to cognitive linguistics and the semiotics of language strongly suggest that interpretation is indispensable to meaning and that how we meaningfully interpret is ultimately grounded in our common human experience of reality (see Danaher 1998 for a comparative summary of a cognitive and semiotic approach to linguistics from this viewpoint). Unless a computer—or, perhaps more plausibly, a robot—could be designed that experiences reality in the much the same way that human beings do, communication (via interpretation) will not be possible.

⁷ This simple fact seriously deflates, or at least puts into a more reasonable perspective, the current mania for "technology in the classroom" which seems to be going on at

teaching. An overwhelming focus on teaching with technology can distract from more fundamental concerns in language instruction such as student motivation and self-initiative in learning, the orientation of pedagogy toward communicative and learner-based instruction, and the need for systematic assessment of skill-outcomes in addition to student satisfaction with language courses. At worst, computer programs that are designed and implemented independently of a communicative program of language study reinforce a passive model of learning. This model is captured in the metaphor that teaching is a transfer of knowledge (a set of facts, sometimes pictured as a collection of brightly-colored marbles) from an instructor's full head to the students' empty heads. The students in this paradigm are empty vessels waiting passively to be filled by knowledge flowing from the instructor.

Multimedia material that is produced to stand apart from a rigorous course focused on the development of language skills is produced with the assumption that learning is merely a transfer and that the computer can replace the instructor as the source of the brightly colored marbles. It further assumes that students will work through computer programs with far more self-initiative, self-discipline, and a greater awareness of how to learn than they generally have in working with textbooks, handouts, and other traditional media. In its worst form, this thinking leads to the absurd belief that real teaching and learning cannot take place without technology.⁸

Our thesis is that computer programs can make a significant contribution to skill-oriented instruction only if they are designed to do so and if the instructor carefully integrates them into a course. As part of a humanities curriculum, language education is focused on the cultivation of critical thinking skills, which can only take place in a setting where the goal is creative and interactive communication among all participants. Multimedia's role in such an environment is secondary and subordinate.

How can programs be effectively integrated into a course of study? Some programs, such as the contextualized vocabulary programs we mentioned ear-

universities throughout the country, especially in regard to humanities education. It could be well argued that technology as a cultural phenomenon does less to facilitate genuine humanities learning than it does to subvert it. Has the computer age yet produced any philosophers as important as Aristotle or writers with more creative ability than Tolstoy or Gogol?

⁸ This kind of thinking is implicitly reflected in the fact that, at more than a few universities and colleges, newly created centers for the promotion of technology in instruction are called Centers for Teaching and Learning or something similar. The unstated (and perhaps even unintended, although no less real) implication is that teaching and learning cannot occur without technology. This is an idea which is as destructive to education as it is blatantly untrue.

lier, are obviously designed to be used in direct conjunction with a unit. Others may not be geared toward a specific textbook lesson, but could be used flexibly and creatively by instructors in different lessons or courses depending on the topics and structures they present. Two examples of the latter variety in Russian multimedia are *Lenin: «What Is Soviet Power?»* and *Limpopo* (Ott et al. 1995; Tempest et al. 1995). *Lenin* has been used in a content-based course on Russian history and in advanced Russian language courses as a centerpiece of a unit on Russian culture. The program is used in conjunction with non-computerized material (Mayakovsky's poems, historical texts relating to the Soviet period, humorous anecdotes about communism and Soviet leaders, contemporary newspaper articles on communism's legacy or reactions of post-Soviet Russians to Lenin as a historical figure) to explore the different associations Russians and Americans have with such loaded terms as 'communism', 'capitalism', 'bourgeoisie', 'democracy', etc. *Limpopo*, based on one of Chukovsky's stories in which Dr. Aibolit heals sick animals in Africa, has been used in late first-year, second-year, and third-year Russian courses for very different purposes: to review verbs of motion in an entertaining and culturally significant context, to practice oral and written narrative skills, and in conjunction with a unit on health. It has also been used in a fourth-year Structure of Russian course as raw material for phonetic/phonological and morphological analysis.

Integrating multimedia material into a unit or course requires identifying what pedagogical features (lexical, structural, or discourse-based) the material has to offer and then deciding if it is worthwhile in terms of time and student level to use the program. Deciding to use a program often requires spending time devising handouts to make the program useful as a pedagogical aid. And this is precisely our point: multimedia material does not need to be used 'as is' or independent of a class or course. In fact, multimedia material, like all other teaching aids, is best used in close conjunction with other instructional material or activities in the wider context of developing students' communicative skills.

6. Multimedia Material is Best Used Outside of the Classroom

In many Russian programs, the number of contact hours between instructor and students is being reduced. Whatever the reasons for this reduction, and regardless of whether it is a healthy trend, the weekly hours of class time are precious to an instructor who focuses on the development of communicative skills. Instructors will want to devote as much time as possible to activities that promote communicative exchange. In other words, classroom time is probably best used in developing skills that students cannot develop on their own outside a communicative environment: speaking, reacting, interacting with fellow students and the instructor, functionally synthesizing the lexical and grammatical topics introduced in a given lesson.

It is our belief that most multimedia material can best contribute to skill development if it is assigned as homework, to be completed by the student (with the instructor's direction in the form of supporting handouts) in the language or computer laboratory. This use of multimedia has several clear pedagogical advantages: it encourages students to take responsibility for their own learning (especially when the program incorporates learning-how-to-learn goals), and it allows weaker students to spend more time on the activity than stronger students so that everyone theoretically returns to class the next day with a similar command of the material. Class time after the completion of the assigned program can be devoted to contextualizing and synthesizing the material in a communicative fashion.

This principle calls into question the utility of multimedia labs that at some schools have been built into classrooms, which are only accessible to students during class. A more flexible solution would be to design a computer classroom in a separate language laboratory which is generally accessible to all students or can be reserved for classes. Given the amount of funding necessary to build a multimedia space, it is essential that schools carefully plan the space for pedagogical use.

In this regard, we would argue that the expression "Technology in the classroom" is a misleading slogan. From a pedagogical perspective it would be more correct to say "Technology in support of instruction", which does not imply that the technology is best used during class time.

7. Educational Multimedia Should Not be Used "Just for Fun"

A serious approach to incorporating multimedia material in language instruction does not relegate the material to what one commentator has aptly called "Friday-afternoon fun status" (Jones 1991: 5). In our experience, however, this is precisely how many instructors view and use multimedia. Like any material aimed at supporting instruction, multimedia should be designed, selected, and used for the concrete and measurable pedagogical benefits it brings to the learning process. Its use in a course or lesson does not relieve instructors from the demands of curricular preparation or students from the rigorous demands of skill development. In fact, instructors usually need to spend as much time integrating multimedia into a unit as they do in using traditional supplements to learning. Likewise, students should also be taught to treat multimedia material as seriously as they do any other assignment or activity. Used successfully to full pedagogical benefit, multimedia should be seamlessly integrated into a program of instruction. Of course, none of this prevents multimedia from being fun. After all, one of the signs of any good instructional activity is that students and instructors alike become engrossed in the process of learning and lose sight of the instructional framework (the assignment, the lesson plan, the pedagogi-

cal objectives) of which the activity is a hopefully well-designed component. Multimedia that is an integral part of a well-developed course can play a powerful role in learning.

Conclusion

The exciting potential for multimedia technology to support the teaching and learning of languages is indisputable. Ironically, however, the way in which much language courseware has been designed and used actually undermines language learning geared toward functional ends and does little to justify the claims made about the benefits of technology in instruction.

Multimedia is a learning tool which may prove effective to support the achievement of certain goals, but it is neither indispensable nor necessarily of central importance in language instruction. Multimedia courseware should be designed and used based on the same principles that have motivated language instructors since long before the invention of computers. Like a handout, a cassette tape, or a textbook, educational technology is first and foremost a teaching aid and should be understood in this light.

Last (1984: 5) has rightly stated that the computer is not a "panacea for the problems of language teaching," and Underwood (1984: 33ff) has aptly pointed out that the vaunted claims being made about multimedia sound eerily similar to what was being said about audio language labs decades ago. Both of these observations are already more than ten years old today, and yet their cautionary words have often not been heeded. On the whole, we still have an unexamined enthusiasm for the integration of technology in instruction, and we seem disturbingly willing to relegate pedagogy to secondary status in exchange for trendy gadgets and gimmicks.

In this article, we have argued for a realistic approach to the use of educational technology. In spite of the remarkable power of personal computers and the potential of multimedia courseware, the essence of language learning remains the same. Students must still work, under the guidance of a teacher, to learn the material at hand for functional and communicative ends. Multimedia material can help us to do this, but only if it is designed for that purpose and used judiciously with pedagogical ends foremost in mind.

Works Cited

- Chun, Dorothy, and Klaus Brandl. 'Beyond Form-Based Drills and Practice: Meaning-Enhancing CALL on the Macintosh.' *Foreign Language Annals* 25.3 (1992): 255-67.
- Danaher, David. 'Peirce's Semiotic and Conceptual Metaphor Theory.' *Semiotica* 119.1/2 (1998): 171-207.

- Fox, Jeremy. 'Can Computers Aid Vocabulary Learning?' *Computer Assisted Language Learning*. Ed. K. Cameron. Norwood, NJ: ALEX Publishing, 1989. 1-13.
- Jamieson, Jon and C. Chapelle. 'Using CALL Effectively: What Do We Need to Know about Students?' *System* 16:2 (1988): 151-62.
- Jones, Francis. 'Mickey-Mouse and State-of-the-Art: Program Sophistication and Classroom Methodology in Communicative CALL.' *System* 19.1/2 (1991): 1-13.
- Kaleugher, Pamela. 'Computer-Assisted Instruction.' *Georgetown Journal of Languages and Linguistics* 1:1 (1990): 75-84.
- Last, R.W. *Artificial Intelligence Techniques in Language Learning*. Chichester: Ellis Horwood, 1989.
- . *Language Teaching and the Microcomputer*. Oxford: Basil Blackwell, 1984.
- Manes, Stephen. 'Some Gadgets That Are Still Not Ready for Prime Time.' *New York Times*, 18 February, 1997, B11.
- Nunan, David. *The Learner-Centred Curriculum*. New York: Cambridge UP, 1988.
- Nyns, Roland. "Is Intelligent Computer-Assisted Language Learning Possible?" *System* 17:1 (1989): 35-47.
- Ott, Christopher, Snezana Tempest, and David Danaher. 'The Communicative Classroom [Multimedia in Russian Instruction].' *AATSEEL Newsletter*, November (1995): 7-9.
- Patrikis, Peter. 'Where Is Computer Technology Taking Us?' *ADFL Bulletin* 26:2 (1995): 36-39.
- Tempest, Snezana, Christopher Ott, and David Danaher. "Limpopo and Lenin: Multimedia Programs from the Internet for Students of Russian." *Virtual Connections*. Ed. M. Warschauer. Honolulu: Second Language Teaching and Curriculum Center, 1995. 339-43.
- Underwood, John. *Linguistics, Computers, and the Language Teacher: A Communicative Approach*. Rowley, MA: Newbury House, 1984.

David Danaher
University of Wisconsin, Madison
Slavics Department, 1432 Van Hise Hall
Madison, WI 53706
dsdanaher@facstaff.wisc.edu

Christopher Ott
P.O. Box 2202
Madison, WI 53701-2202
chrisott@earthlink.net