NASILP Journal

The National Association
of Self-Instructional Language Programs

Contents

Editor: John B. Means
Temple University, Philadelphia, PA 19122

1993

Applications of Technology in Self-Instructional Language Programs

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One of the basic requirements in the implementation of any program of self-instruction is that it provide learners with a means to gain personal access to the material they wish to study. Without the benefit of frequent classroom teaching by a trained instructor, much of the responsibility for discovering and internalizing new information falls directly on the learners, who must rely on the material available to them. The principal form of instructional material in many fields of study is often a textbook or a collection of print sources which learners can read on their own time and at their own pace, with evaluation consisting of a demonstration that they have acquired sufficient understanding of the material to satisfy the learning objectives of the program.

In the development of foreign language skills, however, "book-learning" is not enough; as important as a clear presentation of information about the target language may be, it is also essential that learners be exposed to samples of authentic language in meaningful, realistic contexts, and that they be given opportunities to practice using the language, testing their hypothesis about how sounds are pronounced (the phonological rules of the language), how meaning is expressed (lexical selections and morphological processes), and how words are combined into acceptable structural patterns (the syntactic rules). The acquisition of competence in all of these areas depends on receiving prompt, accurate feedback in a supportive manner so that learners can avoid forming incorrect language production habits. Lacking constant direction from an instructor, it is essential that other means be found to gain exposure to the target language and to know how well one is mastering the various elements and rule systems that constitute communicative competence in the language.

This brief survey will focus on various types of technological aids that have been found to be of value in foreign language teaching, giving particular attention to their appropriateness for self-instructional programs, in which a major portion of the responsibility for learning is in the hands of the students. Of course, success in any language program depends to a large extent on the aptitude, motivation, and effort of the learners, but in a self-instructional framework it is especially important that, in addition to these personal factors, students must be provided with resources that are readily accessible, easily operated, and pedagogically sound. Such resources must give learners a means of gaining necessary exposure to aspects of the target language so that they may develop competence in the basic skills of listening, speaking, reading, and writing, depending on the learning objectives established for the course.

As with any component of an instructional program, the implementation of technological aids must support the pedagogical approach that is adopted, which in turn depends on the learning objectives and on an understanding of how those objectives can best be attained. The role of any technology-based activities will necessarily be different in a course designed around an audio-lingual framework than in one based on a communicative approach in which the development of spontaneity and fluency takes precedence over the achievement of precise pronunciation and grammatical accuracy. Regardless of the approach being followed, however, technology has a definite contribution to make in the language-learning process.

The types of technology to be considered in this overview include various configurations of equipment designed to present audio, visual and/or textual material, from tape recorders to sophisticated computer-controlled interactive multimedia workstations. For each technological aid, discussion will focus on potential for use in the study of the less commonly taught languages.

Audio tapes

The technological backbone of self-instructional language study has long been some form of audio recording: phonograph records, reel-to-reel tapes, and more recently audio-cassettes have been used to provide learners with samples of speech, primarily to serve as models for the development of accurate skills in listening and speech production. Well-designed audio programs recorded by native speakers of the target language are especially valuable in that they allow learners to hear accurate speech, using relevant forms and patterns, at any time and for as long as necessary. By including a number of speakers, it is possible to give students exposure to a variety of voices and even to present different speaking styles and dialects. If used in a language laboratory, students have the advantage of high quality sound reproduction through headphones, which makes it easier to distinguish among particular sounds of the language. Practicing in a laboratory setting also affords learners a sense of privacy, so they may be less hesitant to experiment with the production of the strange sounds and intonation patterns of the new language. The equipment at student positions in modern facilities typically makes it possible for learners to record their own voices on a separate track of the audio-cassette and then compare their pronunciation with that of the master recording, thereby receiving some feedback about their progress.

More precise and detailed feedback about oral production of a language can be provided through the use of speech analysis equipment which produces a visual image of the student's articulation in repeating a word, phrase, or sentence, in comparison with the model utterance. The learner can experiment with modifications in pronunciation, stress, and intonation until the analyzer indicates a reasonably close approximation to native speech patterns.

Audio-lingual principles on which many courses of language study are based emphasize the importance of providing learners with well-constructed structural practice exercises on tape, so they can drill the material to the point that production of language patterns becomes automatic. This approach assumes that habits formed through repetition and manipulative exercises of various types, including substitution, transformation, and expansion drills, can contribute to the achievement of linguistic accuracy and proficiency. Such drills consist of model sentences which are repeated with some kind of change, often requiring grammatical modification (creating agreement between subject and verb or adjective and noun, making verb tense correspondences,, changing statements to questions, etc.), or calling for the production of increasingly complex structures through sentence combining. Tapes usually provide responses to exercise items, permitting students to confirm or correct their own responses. One of the greatest values in the utilization of tapes is the possibility of self-pacing, since students can repeat sections of the material as much as necessary in order to gain mastery of the structure being practiced.

Recorded material can also be used within a communicative language-learning framework; rather than consisting of the types of mechanical habit-formation drills discussed above, however, taped material provides information that students need in order to

accomplish some kind of task using the language: instructions to be followed in making a drawing; clues to be used in identifying a person, place or thing; or a recorded passage to be analyzed in order to solve a mystery.

In addition to work in the laboratory, self-instructional programs often provide students with a tape duplication service so that they can spend time outside the laboratory listening to the target language. While such supplemental practice with tapes is certainly useful, it should not completely replace concentrated work in the language laboratory, since personal tape recorders do not usually have the recording capabilities found in lab facilities. Another potential limitation on the use of duplicate tapes is that it is sometimes difficult to obtain the publisher's permission to copy recordings; without such authorization, duplication is a violation of copyright restrictions.

Ample practice with recorded material is essential to compensate for the limited exposure learners have to the target language in self-instructional courses, typically 2-3 hours per week of small-group tutorial sessions. Adequate mastery of language patterns through work with tapes can significantly reduce the time that must be spent on basic skill development during class periods, thereby making it possible to focus on a fast-paced review of the drills and on the application of the language to more meaningful uses.

TV/Film/Video Resources

The presentation of target language material to a learner is of little value if the meaning of that material is not clearly understood. It is very important, therefore, that language samples be contextualized in some way, allowing the student to make a mental connection between the words and expressions being presented and the "real world" which that language describes. The introduction of visual images through film or video technology can aid in comprehension of the spoken language, which in turn "can enhance the L2 learners' confidence, and give them a basis for hypothesizing about the language." (Johnson 1991:8). Carefully selected and properly implemented, film or video can be a powerful tool which brings the target language to life and exposes students to various aspects of the foreign culture and society, as well as giving them experience in hearing the language used in authentic ways. Care must be taken, of course, to select material that is appropriate to the interests and needs of the students and, as Garrett (1992) has emphasized, to make sure that the cultural contexts that are presented are not misinterpreted.

Especially relevant sources of authentic video material are TV news broadcasts, soap operas, or other types of programs in the target language. With the proliferation of satellite communications, schools can receive foreign broadcasts—either directly from the country of origin or via such services as SCOLA (Satellite Communications for Learning) and the International Channel—from around the world. To be of maximum value, permission to record the programs can be sought, either from the original broadcaster or through the distribution service, making it possible to review segments of particular interest and to prepare introductory material that will help students get the most out of their exposure to the foreign programming.

The successful implementation of video-based learning calls for close coordination with other components of the course, including preliminary work to prepare students for viewing, and follow-up activities to allow them to apply the new information to personally meaningful situations. Preliminary work with any new vocabulary and structural patterns

that may be selected, along with a general introduction to the topic(s) presented, will make the material more accessible to the learners and facilitate increased comprehension. Even with the benefit of preparatory activities, however, it is very likely that the rapid native speech encountered in authentic video materials will not be completely understood. To avoid the anxiety and frustration that may result from such difficulties, students should be made aware that they are not expected to comprehend everything, but rather to develop familiarity with certain aspects of pronunciation, vocabulary, and structure (depending on their level of study), and to gain insight into the foreign culture. Once a given segment has been viewed, it would be useful to engage in a series of practice activities through which students can use the new vocabulary and target structures in a productive way, depending on their level of proficiency. Beginning and lower-intermediate level learners might benefit from a concentration on pronunciation, basic vocabulary, and a global understanding of the film or video segment, while more advanced students could focus on more detailed comprehension, specialized vocabulary, and complex structures. Effective use of film and video resources in a self-instructional setting, in which adequate preliminary and follow-up activities may not be possible due to limitations in classroom time, demands that the learners be well trained in viewing strategies, and that good supplementary materials be prepared to enable them to get as much as possible out of the technology.

Computer Assisted Language Learning

The rapid development of computer-assisted learning technology is of particular interest for self-instructional programs since it has the potential of giving students immediate access to textual, graphic, and spoken language samples, reference such resources as on-line dictionaries and grammar summaries, and practice activities of numerous types. Wyatt (1987:88) divides computer-based activities into three categories: instructional, collaborative, and facilitative.

Instructional programs include applications of computers for tutorial purposes, giving individual learners an efficient, flexible environment for practicing various aspects of the language in a self-paced manner. Much of the software that has been produced by commercial publishers in the form of "electronic workbooks" is highly structured, but it often gives students some freedom of choice as they progress through lessons; branching capabilities can further help adjust programs to the level and interests of individual users. Computer programs which include digitized sound, or which are linked with interactive audio-tape players, have the advantage of presenting material in textual and oral form simultaneously. Most commercial programs also include some sort of record-keeping function that records student performance on a given assignment. Feedback possibilities range from a simple indication of whether or not a student response is correct, to provision of information about why the response was not correct and where the student can get further help in understanding the problematic item. Not surprisingly, most of the CALL software now on the market is in the more commonly taught languages. Fortunately, there are a number of authoring programs available which make it possible to develop lessons without having to be a programming expert.

Collaborative activities, more in line with communicative approaches to language instruction, involve using the computer as a tool with which students perform a language-oriented task: solving a puzzle, unraveling a mystery, or participating in a realistic role-play. Such programs encourage students to take more responsibility for their learning and a more active role in determining the directions to take in a lesson, and are therefore particularly appropriate for self-instructional courses. As with other forms of teaching

materials, however, little in the way of collaborative software has been produced for the less commonly taught languages.

Facilitative use of computer technology refers to its application in accomplishing real tasks not related to any particular aspect of the target language. Word-processing packages, for example, make it possible to prepare written reports in practically any foreign language. By hooking computers up with a communications network, students can exchange electronic mail with their instructors or with other students in their program, or even at other schools and in other countries. A number of telecommunications projects make it possible to establish "sister class" arrangements with schools in other countries, with the goal of allowing students to develop language proficiency through real communication with native speakers.

Multimedia Workstations

By connecting a videodisc player and a monitor to a computer, it is possible to implement a multimedia approach to language skill development. The speed with which specific segments of a videodisc program can be accessed, the clarity of visual reproduction of both stills and action sequences, and the durability of videodiscs themselves make the medium a superior format for instructional use. In addition to a limited number of discs which have been produced especially for language study, it is possible to repurpose selected movies or other types of programs, within copyright restrictions, or to record original material on videotape and have it pressed onto a laserdisc. Used by individuals or small groups of students at workstations, videodisc technology gives learners a powerful tool for exploring the target language and culture in a stimulating interactive manner. With the development of videodisc programs in various less-commonly taught languages and the increasing affordability of the technology, multimedia has the potential of making a significant contribution to language learning through self-instructional programs.

Conclusion

Clearly, technological advances can make a tremendous difference in the way foreign languages are learned. Modern audio and video resources allow the introduction of a wealth of authentic sounds, sights, and cultural images which can make the target language come alive and help students learn to use it in appropriate ways. Computers can give learners the power to control the instructional process as they engage in various types of interesting activities, aided as necessary by readily accessible reference sources. To take full advantage of the possibilities offered by this technology, it is essential that it be integrated into the instructional program in ways that are consistent with the objectives of that program and, above all, that learners understand the purpose of each component of the instructional system.

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THE TESTING OF STUDENTS IN SELF-INSTRUCTIONAL LANGUAGE COURSES

On the following pages, you will find guidelines for NASILP examiners which are grouped according to the five categories of oral interview testing: Grammar, Comprehension, Pronunciation, Vocabulary, and Language Utilization (Communicative Competence). In identifying a student's relative skill in comprehension and production of the target language, however, these five examination areas are not weighted evenly. While it is true that the inherent differences in the study of various languages (e.g., Portuguese, say, as opposed to Chinese) will have some effect on the emphasis placed on each testing category by the examiner, the following percentages are suggested:

Grammar..... 35%
Pronunciation..... 25%
Comprehension 20-25%
Utilization..... 10-15%
Vocabulary..... 5%

Examiners of NASILP programs, especially those not well acquainted with the self-instructional approach to language study, would benefit from viewing the NASILP video-tape, *What did the Student Learn?*, which features examples of testing at various levels of achievement, narrated by Professor Eleanor H. Jorden. Most NASILP member institutions should have a copy of this video-tape. Of particular interest is the illustration of testing formats, especially those based on "interpretation" and "question/response" (the latter based on either actual or created reality in the examination room). For our purposes here, it might be more useful to identify those testing formats which are generally to be avoided: Vocabulary test, examining lexical items in isolation; Straight translation, except when in the "interpretation" mode; True-False or Multiple Choice (oral tests rarely involve written responses); Questions of a linguistic nature, including specific grammatical forms tested in isolation; Monolog format based on pictures, etc.; Straight repetition.

Since a NASILP end-of-term exam is primarily (often exclusively) oral, it is important to note that the examination is always individual—one student at a time—and is very seldom less than twenty minutes in duration. Indeed, tests of this type frequently require 30-45 minutes, particularly when examining students beyond the elementary level. The exam should be as natural as possible, involving real-life situations while avoiding artificial contrivances often characteristic of such approaches as "total physical response" or the direct translation of written passages. The skilled examiner controls conversational management strategies so as to guarantee a high degree of diagnostic precision. With regard to the latter point, it is worth noting that NASILP exams are, by the very nature of the instructional process, testing achievement (i.e., the exam is totally curriculum oriented, text-specific). Accordingly, since the examiner tests the degree of proficiency in controlling only that material for which the student is held responsible in his/her course of study, the test is specifically *not* designed as an evaluation of "performance" in any sense which transcends the specific requirements of the program of study.

Since it is important for NASILP examiners to be well acquainted with the methodology and tutorial techniques of the self-instructional approach to language study, the Association recommends that at least one of NASILP's video-tapes on this topic (e.g., *Text, Tape & Tutor*, or *The Typical Tutorial Session*) be viewed at a NASILP school which has these video materials. Study guides for NASILP orientation video-tapes also are available.

GRAMMAR

Grammatical control is, of course, to be checked only in terms of patterns that have been introduced in the instructional materials. There should be a thorough check on new patterns occurring for the first time in the lessons over which the students are being examined, but grammatical errors in patterns previously introduced are also noted.

I. **Unsatisfactory**
Student has no apparent control of any new grammatical patterns. (In this category, control of previously introduced patterns has no bearing on the rating.)

II. **Poor**
Student has at least limited control of a few fixed utterances that contain new patterns (for example, sentences from dialogs) but may be unaware of the pattern as such, and may have no manipulative ability. Frequent errors in previously introduced grammatical patterns probably also occur. Errors are rarely self-corrected even if brought to the attention of the student.

III. **Good**
Student demonstrates control, even if not complete mastery, of a majority of the newly introduced structures. Other new patterns are either totally unfamiliar or, at best, very weakly controlled. Errors in previously introduced grammatical patterns may continue. Errors are sometimes self-corrected, but usually only after having been brought to the student's attention.

IV. **Very Good**
Student has solid control, though not complete mastery, of all new grammatical patterns. He/she may try to use these patterns in appropriate contexts. Control of previously introduced structures is also strong. Errors are often self-corrected, particularly if brought to the student's attention.

V. **Excellent**
Student demonstrates mastery of all new patterns, and controls previously introduced patterns equally well. Grammatical errors are extremely rare.

PRONUNCIATION

To be tested: Competence in the production of the following categories:

1. consonants and vowels (including sequences of consonants or vowels, consonant or vowel length, etc.);
2. stress, tone or pitch, according to the language;
3. intonation;
4. word-juncture phenomena (elision, epenthesis, liaison, etc.);
5. sentence rhythm and tempo.

I. **Unsatisfactory**
No control of non-English consonants or vowels, or other pronunciation categories.

II. **Poor**
Tentative control of consonants and vowels and imperfect control of stress (pitch/tone); no attempt at proper intonation.

III. **Good**
Fair control of consonants and vowels, stress (pitch/tone) and major intonational patterns; imperfect control of positional variants of consonants or vowels. Frequent errors in most categories.

IV. **Very Good**
General control of all consonants and vowels, stress (or pitch or tone) and intonation. Occasional errors in the various categories.

V. **Excellent**
Firm and comfortable control of all distinctive contrasts in phonemes, including variations in pronunciation according to the environment (allophones), and of stress (or tone or pitch) and intonation. Includes awareness of word-juncture phenomena and sentence rhythm. Errors are sporadic or word-specific.

COMPREHENSION

The inability to comprehend utterances in the target language may result from weak control of phonology, grammatical structure, and/or vocabulary. The learner may fail to hear the phonemes, to understand certain grammatical structures, or to know lexical items or idioms. However, a lack of comprehension may be a much more complex inability to recognize the meaning of sequences of forms which the student can understand only when used in very simple structures.

In assessing proficiency, distinctions are made on the basis of the complexity of utterances, the degree to which they coincide with memorized material from the text, and the necessity for repetition by the examiner.

I. **Unsatisfactory**
Understands only a few basic utterances in exactly the form in which they occur in the text, and often requires repetition even of these.

II. **Poor**
Understands most utterances in their original form without repetition. Can understand simple new combinations, but often requiring repetition.

III. **Good**
Understands simple new combinations without repetition, and longer new combinations with some repetition and rephrasing.

IV. **Very Good**
Understands longer sequences based on instructional materials, but involving new combinations of those materials. Need for repetition is rare, but may miss nuances or details.

V. **Excellent**
Understands virtually everything immediately, as long as only familiar grammatical structures and vocabulary are included. Appears at ease when listening to the target language.

VOCABULARY

Although an indirect testing of the student's control of lexical items is inherent in the examination of all language features, it is nonetheless useful to evaluate vocabulary as one of the full set of features around which the examination is structured. However, it is seldom appropriate to test for individual vocabulary items in isolation.

I. **Unsatisfactory**
Limited ability to use, in familiar contexts, even those items which are most heavily emphasized in the basic sentence patterns of the instructional materials.

II. **Poor**
Ability to use some newly introduced lexical items in the contexts provided in the instructional materials.

III. **Good**
Ability to use most newly introduced items in familiar contexts, and some items in new combinations. May require a brief reminder.

IV. **Very Good**
Ability to use most new (and previously introduced*) items in a range of appropriate contexts, with some difficulty evident in recall.

V. **Excellent**
Ability to use with facility all introduced lexical items in a range of appropriate contexts.

***Note**: Knowledge of vocabulary from previously tested material will not raise a student's grade, but failure to recall such vocabulary can lower the grade (assessment of control of required lexical items).

LANGUAGE UTILIZATION (COMMUNICATIVE COMPETENCE)

Utilization: The goal of the student's self-instructional program is to learn to communicate in the language being studied and to do so at a level of efficiency that focuses attention on content rather than language forms and structures *per se*. Since "utilization" may be unfamiliar as a testing category, the following descriptions define several dimensions of behavior representing a low level of utilization ability at one extreme, and a high level at the other.

(1) LOW: The student approaches each question or utterance as a puzzle, takes an inordinate amount of time and/ or repetition to "figure it out," then laboriously constructs a response with obvious conscious calculation.

(1) HIGH: The student immediately comprehends the examiner's utterances and responds to them appropriately, perhaps with a degree of hesitation that is natural, but not with need for lengthy calculation.

(2) LOW: The student can only produce items in the context of the dialog or drill in which the items were learned—i.e., as a memorized rote exercise.

(2) HIGH: The student can produce the same items as appropriate responses to an interlocutor (the examiner) and thus, for example, can answer a question when asked, or return a greeting when actually greeted.

(3) LOW: The student can produce only memorized sentences and could say, for example, that the pen is *new* and the dictionary is *old*, but could not say that the *dictionary* is *new*.

(3) HIGH: The student creates novel meaningful utterances on the basis of the instructional materials and can produce sentences not actually memorized, yet does not produce impossible sequences through over-generalization.

(4) LOW: The student is unable to speak/reply to the communicative situation, or to that created by (e.g.) lesson 9, when the student has already studied it.

(4) HIGH: What the student says conforms to the real situation, or to that created by visual aids.

(5) LOW: The student has not learned the speech-act value of utterances. For example, reacting to a negative question in Japanese as a question rather than as an invitation when it is intended as the latter or, conversely, trying to invite someone by directly translating the English formula "do you want to..." or "would you like to..." rather than using a negative question as appropriate.

(5) HIGH: The student immediately comprehends the speech-act value of utterances and readily responds appropriately, for example, by correctly accepting or declining if invited, or by opening the door if asked to.

(6) LOW: The student responds, but not in a socially appropriate manner: using, for example, forms appropriate only for members of the opposite sex, or for people in social positions very unlike his or her own.

(6) HIGH: The student shows whatever control can be expected (given the material) with respect to forms indicating social position, intimacy, age, etc., of speaker and addressee, and would not use forms inappropriate to one's own sex or rank, or would not use forms expressing great intimacy to the examiner.

(7) LOW: The student has not learned culturally appropriate responses, and thus may agree with a compliment in Chinese instead of denying it, or may tell a Thai that he found Thai food inedible instead of wonderful.

(7) HIGH: The student has learned (at least to the extent made possible by the instructional material) to alter natural responses as an American speaker of English and substitute, instead, more appropriate ones as exemplified in dialogs (or as explained in notes).

Utilization is a more global category than the others, so it may be more difficult to separate previously-covered material from newly-covered in this category. However, weight should be given to naturalness of handling new items involving politeness, new speech-act values for previously learned patterns, and new greetings and other ritualistic exchanges. Students can be judged according to the following three communicative levels.

I. The student is at the low end of the continuum on most of the points outlined above. He or she may be able to recite memorized material directly from the text, but is unable to respond to the examiner's utterances. Attempts to do so result in prolonged silences, numerous requests in English for repetition, and lengthy mental calculation. The examiner is watching a computational process rather than having a conversation. In such instances, only a fraction of the exam material will be covered in the allotted time.

II. The student is neither consistently at a low or high end of the continuum outlined above. The student is capable of some conversation and verbal interaction relating to the covered material, but obvious calculation of response is also evident. There is some ability to employ what has been learned as communication devices. The examiner has engaged in conversation with the student, albeit a somewhat inefficient one.

III. Student is at the high end of the continuum on most points most of the time. There are no grossly inappropriate responses, such as failure to return a greeting or other significant sociolinguistic errors. The tone of the exam is smooth and conversational, and all material is covered in the allotted time. The exam-ination has had the feel of a conversation with the student. Obvious mental calculation on the part of the student is absent or, at most, occasional.

The Uses and Misuses of Technology in Language Learning

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Last year, I was asked to write a grant proposal for my department at George Mason University, where we hope to install a new language learning center to teach more students more foreign languages under a greater variety of circumstances than has heretofore been possible with a conventional curriculum. The pedagogical success of this budget-oriented rationale for investing in technology, much favored by many of today's university administrators, depends on our seriously exploring the potential of the technology for supporting what is really a modified self-instructional program of language learning — creating an environment in which students' learning is so fully supported that they need less time with teachers, largely for working on speaking.

In addressing the pedagogical concerns particular to NASILP members, I should begin with the similarities and differences, as I understand them, between NASILP programs focused on the Less Commonly Taught Languages (the LCTLs) and those of language departments dealing with the Commonly Taught Languages (the CTLs). It seems to me that the CTL category is breaking down. The differences of number are not as extreme as they used to be, now that Japanese is becoming the fastest growing foreign language in the U.S. and more universities are jumping on the "internationalization" bandwagon. More interesting, the purposes of learning LCTLs and CTLs are converging: in former times conventional language learning was taken for granted as being one of the basics of the liberal arts curriculum. The study of literature and Culture was the centerpiece of the humanities, while it was assumed that one only studies "exotic" languages if one had some special purpose, not always academic, for doing so. However, nowadays an increasing number of majors are undertaking language study because they want to be able to make use of it in business or for other professional purposes, while academic recognition of the importance of non-Western cultures has also increased. "Languages across the curriculum" is a new rallying cry.

Another reason for studying LCTLs has always been the "roots" phenomenon, in which the children (or often the grandchildren) of immigrants recognize the importance of understanding the language and culture of their families. This is now increasingly a reason behind the study of the CTLs as well. At George Mason University, nearly 25% of our students now come from families in which English is not the native language, by far the largest percentage of them Hispanic. At the same time, the staffing and scheduling problems of the CTLs are growing more similar to those of the LCTLs. We have a greatly increased number of what used to be called "non-traditional" students: adults, working full-time, whose needs for an undergraduate degree are based on non-academic goals.

Regarding the advantages or disadvantages that accrue to both categories, I think they balance out. The LCTLs have often not had a clear pedagogical tradition because so many of the teachers of these languages are native-speakers untrained as teachers. On the other hand, the pedagogical tradition of the CTLs tends to be rigid and ideologized — and not enough of their teachers are native-speakers. The LCTLs have suffered from a lack of commercially obtainable teaching materials, and as a consequence they have relied on authentic language materials. The CTLs, by contrast, have much more material available to them, but it is often sadly lacking from the perspective of authenticity and may be seriously limited by current fashions in pedagogical ideology. Finally, the importance of self-

instructional programs is growing for both the LCTLs and the CTLs, though sometimes for opposite reasons: the LCTLs have relatively few enrollments, the CTLs often too many.

It could be argued that the LCTLs have several significant advantages over the CTLs. For one thing, there is government funding for the development of materials for the LCTLs, which is not the case for the CTLs; for another, students of the LCTLs tend to be more highly motivated and self-selected. Most important is the fact that classes in the LCTLs tend to be significantly smaller, and at most schools there are only a very few teachers of each language who teach all levels and are therefore not tyrannized by the need to cover X amount of material before passing the students on to another level and another teacher.

In both kinds of programs there is growing awareness of the importance of interactive technologies. (I shall not be discussing the use of conventional tape cassettes and language labs; programs in the LCTLs already use these resources more than do the CTLs, and NASILP is fortunate in having the active participation of many experts who know more about them than I do.) The LCTLs already have some extremely sophisticated interactive materials, such as the videodisc programs of Eleanor Jorden in Japanese and Edna Coffin in Hebrew. Teachers of the LCTLs should not assume that they are behind those of the CTLs in technology use, especially not if the criterion for comparison is full-scale pedagogical integration: the LCTLs may not have had the necessary resources in hardware and software, but the CTLs still have too few resources for the much larger number of students, with the result that most technology development has been for peripheral purposes.

And in programs for both LCTLs and CTLs, the serious pressures to meet rapidly growing and even more rapidly changing needs with shrinking resources present conflicting demands. On the one hand, we are told to stretch teaching staff time by increasing class size and/or encouraging students to work in a self-instructional mode. The demand for oral proficiency grows more insistent, especially in the language-for-real-world-purposes constituencies. Unfortunately, oral proficiency is not only the skill most demanding of time and effort from both teacher and student, and the one soonest lost, but also the one least amenable to direct support from technology-based self-instruction.

Turning now to the specifics promised by my title, let me qualify it a little. I don't want to suggest that there is a dichotomy between right vs. wrong ways to use technology. Rather, there is a continuum of more potential-realizing and productive vs. more limited ways to think about the relationships of technology to the process of language learning. The point is to suggest that we need to rethink that relationship at a fundamental level.

Up to the present, most uses of technology have been designed to extend, enhance, and enrich what we already do in pedagogy, what we already offer students in the environment and support for language learning. In computer-assisted language learning (CALL) as in conventional pedagogy, we focus our efforts on the traditional four skills, on grammar, vocabulary, and culture. There are some excellent (and many not-so-excellent) packages of CALL materials available to support these efforts. But most of these materials are less than optimally productive uses of technology in the long-range goal of realizing its true potential. It is a maxim that in designing CALL materials we should always think first of what we know to be good pedagogy, then explore the ways in which technology can appropriately support it. It is pedagogically "politically incorrect" to take some exotic capability of the technology and then to ask how it could be put to use in lesson design; we tend to speak slightingly of over-enthusiastic CALLers who show us fancy tricks and add "I can't think of any pedagogical use for it, but it's so neat I had to show it to you." But this disdain perpetuates our unexamined assumption that we already know enough about the

process by which adult learners learn another language to discount the potential of technology to provide new ways to present material, new ways for students to practice language use, new ways of helping students make best use of their personal strategies and best organize their own learning processes. I wouldn't want to suggest that language learning should be planned around gimmicks. On the other hand, we do not know enough about classroom second language acquisition to justify limiting the ways we facilitate the process to those we already know. Even though we may justifiably refute much of the unfair criticism of language education which is popular nowadays, we must also admit that the level of proficiency to which we can bring our students in conventional classes is less than we would wish.

But just as there are conventional assumptions about language learning, so are there conventional assumptions about CALL. For example, one of our favorite encomia in describing technology-based materials is "interactive." In some discussions, the word refers to the degree of interaction between student and machine: "page-turners" are frowned on because they are not interactive enough. However, the terms "interactive video" and "interactive audio" refer to interaction between devices, between the computer and the video or audio, to distinguish them from "straight" video or audio not controlled by a computer. We tend to take it for granted that all three — computer, video, and audio — are more worthwhile when interactive than when used independently of each other, but unless we ensure that the interplay among technologies represents a principled interaction and synergy among modes of learning, "interactivity" may be only gimmickry. There is no shortage of lesson material in which students are asked to interact with the machine often enough, but in which their actual engagement with the material is trivial.

Another classic guideline, not only for CALL but for language pedagogy, is that learners learn to do what we provide them with opportunities and stimuli to do. They learn to read by practicing reading, they learn to speak by practicing "meaningful" communication in authentic contexts, etc. Although this is both obvious and true, it derives inappropriate power from its origin in the reaction against the grammar-translation method, when we realized students don't learn to speak the target language by talking in English about it.

In the past few decades, our pedagogical emphasis has rested on the primacy of oral language and the prime importance of oral proficiency, largely ignoring the fact that adult learners are trained, in our literate society, to depend heavily on written language as a basis for learning. Of course we should not allow them to depend on written texts as a substitute for learning to listen, but there is good reason to believe that, if carefully structured (as in well-designed interactive audio), the availability of text can facilitate the acquisition of listening comprehension, and the availability of audio support can facilitate the acquisition of reading skills. We have barely begun to explore the extent to which learning to read and to speak, or learning to write and to speak, interact with each other, because too much "theorizing" about second language acquisition insists that it follows the model of first language acquisition, which takes place before children learn to read and write. (Of course, as Ronald Walton points out, this suggestion is irrelevant in the learning of a language whose orthography is not phonetically based.) A growing body of research on journal writing and live interactive classroom writing (in which students "converse" with each other and the teacher on networked computers) suggests that practice in the writing of oral language can have a positive influence on the development of speaking ability and the ability to write more formally.

Along the same lines, I believe we must come to a more sophisticated understanding of the relationship of working on grammar to the development of oral communicative ability. I have discussed elsewhere the misunderstandings and theoretical distortions that have led many to feel that a concern for "grammar" is different from, or even antithetical to, attention to "meaning," and I won't take this occasion to challenge that notion again. Just as we have to recognize that learning to read and write can have a connection to learning to speak, we must also understand that if we conceive of grammar appropriately, learning grammar also can be directly related to learning to speak — in fact, it must be. We need to establish the underlying concepts by which grammatical form shapes the meaning of lexical items (and conveys meaning itself too), and is directly related to the development of communicative competence in both its original theoretical meaning and in common pedagogical parlance. Doing simple-minded morpheme-manipulation drills is not learning grammar, but because of our twenty-year prejudice against grammar, the development of sophisticated grammar-concept tutorials that give students practice in communicative uses of the full range of a language's formal features lags far behind the development of materials which are more obviously "communicative," and therefore more "correct" from the perspective of current academic ideology. Part of the irrational prejudice against grammar is related to that common assumption that learning a second language is, or ought to be made to be, very much like learning the first. But adult language learners have spent years developing their cognitive abilities and depending on them for all their learning. Even if we were sure that second language learning works best when most like first language learning, there is simply no way that adult learners can turn off their cognitive functioning and think like two-years-olds — and it would be a tremendous waste of time if they did.

Another positive value for CALL is "individualization." (This is not the same as self-instruction, but the relationship is easy to understand.) Learners of the LCTLs generally come from a wider range of backgrounds as regards experience, age, first language, and ability. But even in conventionally more homogenous CTL classes we find enormous differences of ability, strategy types, motivation, etc. Recognizing individual learner needs is politically correct in education today, and is sound pedagogy as well — and individualization has always been one of the touted advantages of CALL. But what does it actually entail? For the most part, it has meant allowing learners to move at their own pace through the material provided. That is a great advantage, but if all learners are going through the same material in the same order, getting the same treatment, receiving the same feedback, it is only the crudest beginning of individualization. However, it's not simply a matter of providing a range of lesson materials for students to browse through as they please, because another assumption we need to examine is the benefit of learner-centeredness. Whether under the aegis of a structured class syllabus or in a more self-instructional mode, learners' ability to make intelligent choices about the options offered depends on their understanding quite a lot about (a) how to learn a language, and (b) how to shape their own largely unexamined strategies, styles, and preferences. We need not pin down specific psychological variables, develop lessons according to type, and assign them on the basis of "independent" performance measures, because there are far too many variables which don't cluster. We can describe a range of learner characteristics from field-dependent to field-independent, from impulsive to cautious, from analytic to holistic, from deductive to inductive, from visually oriented to aurally oriented, from intuitive to cognitive — but we can't categorize these in two or three basic types, and create two or three sets of language learning materials.

A corollary to the notion of individualization is that of student control, student empowerment. Our current pedagogical mandates include the recommendation that we make the language learning experience more student-centered, less teacher-centered (as

the self-instructional mode is, de facto), and the use of technology allows us to achieve this by placing enormous resources at the student's fingertips. However, students are not always aware of what it is they need to learn, or of how to go about it. They are generally not very sophisticated about what it means to learn a language and, since they are seldom conscious of their own styles and strategies in learning anything, they rarely assess the effectiveness of their approach to language study. Nor do we have much evidence as to the appropriateness of the paths students take through a complex body of language material. Do they browse at random? Do they get lost in hyperspace, forgetting what task they are working on when they look up a help or a cross-reference? Do they learn more efficiently if given advice about optimal paths? Do they work on those aspects of a task they most need to work on, or on aspects they've already mastered? NASILP members probably know better than teachers of the CTLs that if we turn over to students the responsibility for their own learning, we must train them to understand what they are learning and how best to go about it.

Belief in the value of immediate feedback is a fundamental axiom of CALL, and is potentially one of the most important benefits of CALL for NASILP programs. However, we cannot take its value for granted. It is all too easy for learners to go through CALL materials making choices, receiving feedback, correcting errors, etc., without actually learning anything, by using the Binary Correction Strategy: "if it isn't x, it must be y." Pedagogical materials often set up learner tasks as a binary choice — betweem two cases, two tenses, a regular and irregular form (and indeed, many features of natural language come in binary sets) — so that it's easy for a learner to change a wrong answer to a right one without any idea why one was wrong and the other right. When it functions that way, the value of immediate feedback is questionable.

Similarly, we take it for granted that one of the major advantages of sophisticated lesson design in hypertext and multimedia is the richly supportive environment of helps: easy to access, enticing to browse through, directly relevant to whatever the student is working on. But we have very little evidence of how much the use of these helps affects long-term learning, rather than just making it easier for students to get through that task at the moment. We've all had the experience of looking up the same word in the dictionary several times or looking up telephone numbers in the directory, using the help for the task at hand and immediately letting it slip out of short-term memory. On-line helps are so much faster, students are all too likely to find it easier to access a help repeatedly than to learn it.

The importance of culturally authentic materials is not something I want to question *per se,* but we need to examine the prevalent assumption that their availability is automatically going to have the effect we'd like to believe. For students who have never been outside their native culture, who may have little conscious awareness of cultural differences even within the U.S., much of the cultural information embedded in authentic materials may be lost. Or worse, it may be seen through the filter of the students' own prejudices and stereotypes. Certainly we want to bring as much culturally authentic material to our students as possible, and certainly multimedia CALL is a superb way to do so, but we need to do a great deal of pedagogical preparation for the follow-up on its use, to ensure that such materials aren't perceived in ways that confirm stereotypes instead of challenging them.

All in all, the only real misuse of technology is the unexamined use. Conventional pedagogical maxims presume that we should use technology only to support activities that teachers (or native-speaker informants) don't want to do in the classroom — focus explicitly on grammar or vocabulary, for example — so as to "free up" teachers to

concentrate on the spontaneous oral communicative interactivity that no machine can handle. That could be in fact a powerful role for the technology, but if we present grammar and vocabulary as badly on the computer as we have traditionally done in textbooks and the classroom, the resultant learning will be no better, and perhaps even worse. (Bad workbook exercises are just as bad when they come with instantaneous feedback.) Furthermore, if we use technology to do altogether different things than teachers do, we cannot assume that useful connections will automatically take place between students' work with teachers and with technology. It has been said we used to assume that if we taught for grammatical competence, students would automatically build communicative competence; now we teach for communicative competence and assume it will induce grammatical competence. For most learners, neither is true.

We should not continue teaching as we have always done, tacking on technology wherever it seems plausible ("video is a natural for teaching culture" and "the machine can correct their grammar drills"). Neither should we, in enthusiastic desire to integrate technology as a central component of our pedagogy, rush to transfer everything-we-know-about-language-teaching to the network. The most serious misuses of technology, in my opinion, are the developments based on the assumption that we already know how language is learned, and technology should be an electronic extension of familiar pedagogical techniques.

And finally, the most serious uses of technology are those which allow us to collect data on many of the questions about language learning which I have raised here, uses serving both pedagogical and research purposes. By attaching software tracking devices to the programs our students work with, we can gather virtually infinite amounts of data on-line, in two senses. That is, not only can the data be assembled and some analysis carried out by the computer, but these data can be collected "on line," representing the product of students' interaction with the material. Software devices can monitor the process of language learning as it takes place, while students are engaged in doing something with language. They can keep track of how they go about comprehending and producing language in different contexts and for different purposes. The tracking data compiled in such an agenda — I call it CARLA (Computer Assisted Research on Language Acquisition) — can contribute to pedagogical and basic research, and to SLA theory. They can help us improve the design of software, improve the pedagogical context in which learners work with the materials, improve students' understanding of their own learning styles, and tailor the conditions of learning to individual needs. Such research can also contribute to basic Second Language Acquisition theory by providing insight into the effect on second language processing of a wide range of variables.

SLA research is not really linguistic but psycholinguistic, not the study of a language system but of the acquisition of an ability to connect the meanings of a different culture to the forms of a different language, the development of that ability, and the system that encodes it in the learner's mind. This developing system deals with all kinds of meaning, from the simplest referential semantics of lexical items to the most complex cultural, literary, and sociolinguistic connotations. In pursuing the goal of understanding second language acquisition, technology can play an integral role. The issues involved in considering "the uses and misuses of technology in language learning" have considerable significance and complexity, and I am sure that the exploration of these issues by NASILP members will be of major importance to the field.

NASILP NOTES and NEWS

JAPANESE VIDEO-DISC. Schools teaching Japanese using Jorden and Noda's *Japanese: The Spoken Language* now have interactive video technology available to augment the text material. The Core Conversation videodiscs are available through Interactive Language Instruction and Development (ILIAD). The videodiscs may be used with consumer model videodisc players, or with professional computer-controlled systems. For basic models, the videodiscs contain chapter marks for each lesson, allowing easy access to particular sections. For models with internal computers, the videodiscs contain a "level II" program menu system enabling more complete access. A "level III" software package also is available that allows even greater control over the material through the use of an external computer. Direct inquiries to Allen Rowe, ILIAD: (801) 752-6344.

BRAZILIAN ASSOCIATION. A group of scholars in Brazil and the United States is organizing a Brazilian Studies Association (BRASA) for the purpose of supporting the study of Brazilian-Portuguese language and related subjects in the humanities and social sciences. The new association hopes to participate in international conferences, develop academic databases, and facilitate the exchange of scholarly information. If interested, contact Prof. Jon M. Tolman, Latin American Institute, University of New Mexico, Albuquerque, NM 87131-1016. Preliminary dues are $15.

SWAHILI. The African Studies Program, University of Wisconsin (Dr. Patricia Kuntz, Outreach Director) has created a Swahili conversation board to enable readers of Swahili to use their skills. All messages and articles are written in Swahili on any topic. Subscriptions are free by request to Patricia S. Kuntz, but subscribers will need access to Internet/Bitnet linkages and a modem or mainframe linkage. The "Swahili-l" address (and for requesting subscription) is: kuntz@macc.wisc.edu

TECHNOLOGY AND LANGUAGE. Athelstan has published Volume 4 of the *Technology and Language Learning Yearbook*. Part 1 contains contact information for companies and organizations that use software, video and other technologies in the language classroom. Part 2 contains bibliographic citations for articles on computer assisted language learning. Two hundred citations are indexed and arranged by author. The cost is $6.75 (postpaid). Contact Athelstan, Box 8025, La Jolla, CA 92038. Phone: (800) 598-3880.

TELEPHONE. The telephone numbers for the offices of NASILP have changed. Please make note of the following new numbers:

NASILP office manager, (215) 204-8268
exec. director, (215) 204-1715
FAX, (215) 204-3731

VIDEO TAPES. All orientation videos produced by or for NASILP are now available from the Secretary of the association: Daniel Gross, ALSO Program, Grinnell College, Grinnell, IA 50112. There are currently five titles available, and a sixth is being prepared on pro-chievement testing. The tapes are available in any video format (VHS, SVHS, Beta, U-matic, etc.) for $20 each, but distribution is limited to current institutional members of NASILP.

NASILP Journal
A publication of
NATIONAL ASSOCIATION OF
SELF-INSTRUCTIONAL LANGUAGE PROGRAMS
Executive Director: John B. Means

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