12-2001

Comparative analysis of instructional software that supports the teaching of English to speakers of other languages

Roger Dale Ray

To the Graduate Council:

I am submitting herewith a thesis written by Roger Dale Ray entitled "Comparative analysis of instructional software that supports the teaching of English to speakers of other languages." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Education.

Edward Counts, Major Professor

We have read this thesis and recommend its acceptance:

Jean Derco, Al Grant

Accepted for the Council:
Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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Comparative Analysis of Instructional Software

That Supports The Teaching of English to

Speakers of Other Languages

A Thesis

Presented for the

Master of Science

Degree

The University of Tennessee, Knoxville

Roger Ray

December, 2001

ABSTRACT

Instructional Technology can play a major role in the teaching of English to speakers of other languages (ESOL). For it to realize this potential, though, essential shifts need to occur in how instructors and developers think about instructional technology: either as that which serves instruction or as that which supports learning. Instructors must also consider the extent to which they encourage learners to exert control over their own learning. Computer-assisted language learning (CALL) courseware is widely available for use in the Language Arts for children in kindergarten and elementary schools, but little is available for use by adolescents and adults who are not fluent in spoken English. In this study, a rationale is provided for making CALL courseware more user friendly to students who are speakers of languages other than English. That rationale may be stated as: CALL courseware and spoken English are not so much subject matter for primary or supplemental instruction as they are tools that enable students to function efficiently, both in the classroom and in society at large.

In support of that rationale, a survey was conducted of eight CALL courseware applications that purport to address the teaching of modern English to adult speakers of other languages. The researcher first determined what established criteria were available for evaluating CALL courseware designed for use by adults. These criteria were then applied to the courseware survey, making

use of a media comparison approach. The CALL courseware applications surveyed uniformly appeared not to address the kind of instruction necessary for teaching English to potentially non-literate speakers of other languages. Learning institutions can and do equip modern classrooms with CALL courseware aimed at potentially literate learners. This researcher maintains that a more reasonable alternative would be to equip many of those classrooms with courseware that enables non-literate learners as well to participate in drill and practice, tutorials, and educational games or simulations.

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CHAPTER I.

INTRODUCTION

Statement of the Problem

This study addresses a problem that exists with reference to a significant number of computer assisted language learning courseware applications. The applications are not user friendly to native speakers of languages other than English who do not read and write, especially if they do not read or write English. Nonnative English speaking adolescents and adults constitute a rapidly growing group of United States residents. Of the computer assisted language learning (CALL) courseware applications available, none may be used effectively either by adult students from pre-literate societies, or by adult students who are not literate either in English or in their native languages. The problem remains that non-literate adults who wish to use CALL courseware to study English appear to be largely ignored by CALL courseware producers.

Purpose of the Study

The purpose of this study was to evaluate CALL courseware applications. The evaluation was aimed at a reasoned attempt to determine what

improvements to the applications could be made to improve user friendliness for non-literate nonnative English speakers. To achieve this purpose, the researcher sought out established criteria for evaluating CALL courseware. The researcher then applied these criteria in a media comparison evaluation of eight specific applications used by teachers and adult learners of English for speakers of other languages (ESOL).

Significance of the Study

The application of Instructional Technology to ESOL is not like its application to English as a foreign language (EFL) or to English as a second language (ESL). This study takes the position that extant CALL courseware fails to address the strong aural/ oral emphasis of ESOL, and that it should address this emphasis. The emphasis originates from the necessity of teaching English to many adult speakers of other languages who are non-literate. CALL courseware that instructional technologists have enhanced with aural/ oral elements can potentially enhance the teaching of ESOL to these adults.

Particularly during the early stages of ESOL instruction, CALL courseware that does not provide audible instruction (initially in a learner's native language, later in English) for using the courseware, as well as audible directions for completing learning exercises, does not adequately address the aural/ oral

emphasis of ESOL. Due to constraints such as cost and availability, it may be necessary for schools to equip computers in classrooms with CALL courseware that does not address ESOL's strong aural/ oral emphasis. As soon as it becomes practical to do so, however, ESOL classroom computers ought to be equipped with CALL courseware that enables all ESOL learners, including non-literate adult learners, to participate in drill and practice, tutorials, educational games and simulations.

Definition of Terms

CALL
Computer-assisted language learning; an approach to enhancing Language Arts instruction by applying digital technology.

Courseware
Computer software that supports direct instruction; depending on content and design, courseware can be used to present new information and concepts, present or reinforce skills, or enable students to solve problems.

EFL

English as a foreign language is frequently taught in countries where English is not the predominant language, much as French is taught in many U.S. schools. EFL has a literacy orientation; its teachers have, as instructional objectives, the teaching of reading and writing skills. In this respect, the teaching of EFL resembles the teaching of Latin, a language that few students ever learn to speak.

ESL

English as a second language is frequently taught to children and young adults whose birth language is other than English. Often an exercise in cultural broadening or socialization, EFL also has a literacy orientation.

ESOL

English for speakers of other languages is primarily taught by aural/ oral means rather than as a discipline of literacy; it is concerned with teaching spoken English to speakers of other languages. ESOL students may not be literate, even in their native languages. ESOL is taught to students who are

intent on making English their day-to-day conversational medium. The teaching of ESOL is unlike the teaching of ESL or EFL. Instructors of both ESL and EFL teach reading and writing skills such as correct spelling and properly written sentence structure. *Advanced ESOL* may include literacy, but in the beginning, English speaking fluency is the target behavior.

LAN

Local area networks are groups of digital devices sharing common operational protocols, joined by communications links. A LAN may include numerous semi-autonomous input, output, storage and retrieval devices as well as digital computers.

Speech recognition

In the speech recognition process, voice input by students to personal computers equipped with CALL courseware is represented graphically. This input is compared to standard representations of the same input from native speakers of the target language, and evaluated for equivalency. The student

is furnished with corrective feedback, both graphically
and aurally, by the CALL courseware.

Voice record/ playback   In the voice record/ playback process, voice
input by students to personal computers equipped
with CALL courseware is recorded digitally. Previously
recorded input from native speakers of the target
language is played back, interspersed with playback
of the students' input. The student is expected .to
emulate the input of the native speaker.

Delimitations of the Study

This study was delimited in that the principal researcher, alone,
conducted the media comparison courseware surveys. The researcher was
unable to find a formal ESOL program in East Tennessee, such as those with
which he is familiar in Florida, California and Texas. The researcher was thus
unable to recruit ESOL students, or other ESOL trained evaluators to participate
in CALL courseware evaluations and provide feedback.

CHAPTER II.

REVIEW OF RELATED LITERATURE

Instructional Technology and CALL

Cafarella (1987), and Jolicoeur and Berger (1988) maintained that educational software found to be useful in one context might not be as useful when used in another, with different students, or in a different manner. Therefore, ESOL instructors who would consider using ESL or EFL courseware must not rely entirely on existing reviews, but must also locate or develop criteria by which to evaluate CALL courseware in view of their own contexts and according to their own goals.

Instructional Technology will likely play a major role in adult ESOL in the near future. Realization of this potential depends, though, on issues such as, " . . . the shift from thinking of technology as assisting instruction to thinking of it as supporting learning. . .and of learner control over the learning environment" (Garrett, 1991).

Blaschke (1985) tells us that computers are found in classrooms in ever-greater numbers; this remains true a decade and a half after the observation was made. What institutional administrators or classroom instructors might select and install on classroom computers determines how the computers will be used.

Blaschke (1985) also says that the amount of instructional software in use on a typical school computer is normally limited to three or four applications per machine; this may have changed since his writing with the advent of multi gigabyte capacity personal computers. Instructors and administrators still must decide, though, which among the many available software applications is best suited to their students' needs. Thus, an instructor must make two basic decisions when selecting software: a program decision and a product decision. The first concerns how the instructor and students will use the computer; the second concerns whether or not the content and design of the software is consistent with the goals of instruction.

Language Learning

It is necessary, in addressing how computers will be used to support ESOL instruction, to consider how language learning has been taught in the past.

ESOL has its roots in the pre-literate past. When speakers of *Old English,* Anglo- Saxons and the inhabitants of Jutland, invaded Britain, they found it far easier to teach their own language to the diverse populations of the island group than to learn a plethora of local dialects and commingled languages. Similarly, the Normans taught a variety of French to their subjects following the Anglo-

Saxons' defeat at Hastings in A.D. 1066. This combined with Old English to become *Middle English.*

According to Frank M. Grittner (1977), discussing language learning,

> "Even before the war (WWII), . . the American Council of Learned Societies (ACLS) . . . put a number of linguists to work analyzing . . . foreign languages and developing methods for teaching them with the greatest efficiency. In addition to advocating longer exposure to the language, utilization of electronic equipment, use of native speakers, and emphasis on listening and speaking skills, . . . (they suggested learning) by drill in the foreign language rather than by analysis in English. The so called 'Audio-Lingual Materials' developed in Glastonbury, Connecticut with a federal grant from the U.S. Office of Education became the prototype for . . . (foreign language) instruction."

CALL Courseware

Courseware is computer software that supports direct instruction. Depending on its content and design, courseware can be used to present new subject matter, to present new skills or reinforce previously learned ones, or to enable students to use problem-solving abilities in novel situations.

CALL courseware is typically classified into four categories: 1) drill and practice, 2) tutorials, 3) games, and 4) simulations (Bialo and Erickson, 1985). Each category may be used to teach ESOL.

Drill and practice courseware is the most common sort available as of this writing. Instructors use drill and practice courseware to reinforce previously learned skills. For ESOL learners, repetition and skill reinforcement are crucial to

fluency. The computer is especially suited to presenting drill and practice while maintaining attention to task. Branching and feedback are two common features of drill and practice courseware. Depending on students' responses, a computerized drill may branch either to more demanding or less demanding drills. Immediate feedback from the courseware may either confirm that a student provided a correct response, or the courseware may offer the student more practice. Extremely sophisticated courseware may even offer the student an explanation for why a response was incorrect or inappropriate.

Stevens (1989) maintains that, though drill and practice courseware has a role to play in reinforcing the learning of specific grammar points and vocabulary items, the overall trend is away from such behaviorism, and toward providing functional and communicative experiences that better serve learners' needs and help to develop all of the language skills: reading, listening, speaking and writing.

Bialo and Erickson (1985) claim that tutorial courseware allows students to learn new skills, concepts or processes. Instructors must carefully review tutorial courseware to ensure that content and presentation are appropriate for the learning styles of their students. Sophisticated tutorials often *include* follow-up drill and practice activities that provide immediate reinforcement for new material. A few even include built-in instructional management features that keep track of student progress, thus providing the instructor with valuable information for planning the student's individualized learning program.

Games use a contest format; students apply accepted rules and principles to compete either with the courseware or with other students to achieve learning goals. When two or more students participate in group work, cooperative learning takes place, with all that it entails.

Simulations integrate students into situations that imitate real life. In ESOL classrooms, for example, students may get to test what they have learned about appropriate verbal responses, comprehension skills and cultural contexts while solving simulated problems. Simulation courseware is especially useful in presenting situations that are too challenging (e.g.: a job interview) or too dangerous (e.g.: driving an automobile cross-country) to experience directly. In a simulation, students get to make choices and deal with the consequences of those choices without having to experience trauma.

Problem-solving courseware generally consists of computerized versions of games and simulations. Both games and simulations require students to use a variety of learned skills and acquired knowledge to complete exercises. Feedback is usually informational rather than evaluative. Sophisticated problem-solving courseware provides information that helps students make better choices in subsequent trials.

Non-Courseware Software

Other computer software applications, particularly word processing, databases and spreadsheets (for workplace computer literacy exposure) are currently in use both in CALL and ESOL. However, they fit the definition of *'tools'* better than the definition of courseware. Unlike courseware, the content of tool applications is unspecified. Instead, tool programs provide structure for organizing and manipulating information, while the learner determines the content of any instruction the application might hold. Digitized audio and video recordings, animated graphics, and local area and distance network communication applications are other non-courseware used in ESOL classrooms. In addition, interactive hypermedia, and other forms of multimedia, are constantly being explored and expanded. (Gay & Mazur, 1989)

Garrett (1991) discusses how, for teachers, the greatest flexibility in using software is in the area of authoring programs. Instructors can use these computer programs to create their own simple or elaborate courseware using their own materials. In this way, they are able to design instructional programs to fit their lesson plans.

Compact disk-read only memory (CD-ROM) technology also promotes instructional flexibility, and the technology is widely used in ESL and other modern language instruction. Publishers may put complete encyclopedias, which

could fill numerous bound volumes, onto a single compact disk. Using them, students and instructors can access information quickly and efficiently, for use both in and out of the classroom. Digitized sound has been added to many CD-ROM software applications. This offers quick access to aural information as well as offering exceptional digitally mastered sound quality. Digital sound recordings are superior in many respects to analog recordings (i.e.: phonograph records or magnetic tape). Although the space needed to store digital sound files is great, advances in digital audio and CD-ROM technologies offer to alleviate the storage problem in the near term future.

Some activities have been pursued with elementary and secondary ESL students such as interactive writing within a classroom. This is made possible by web browser software and local area networks (LAN). For example, LANs like the ENFI system at Gallaudet University provide for interactive learning. Exercises performed on such systems enable students and instructors to communicate back and forth over distances. Students can also engage in cooperative writing exercises, type 'conversations' in target languages, and complete problem solving exercises. Instructors can observe students' activities and progress, and make comments to individual students, from a teacher station similar to that found in a modern language audio lab (Peyton & Batson, 1986). Communication across international boundaries via LAN allows students to correspond with native speakers of target languages. Correspondents use electronic mail, or

digital bulletin boards, over great distances. Other uses of computers and tool software include cooperative data gathering projects, newsletter production, and "pen pal videos" (Levin, Riel, Rowe, & Boruta, 1985; Milheim, 1989; Sayers, 1989).

Criteria Applicable to Courseware Evaluation

Language learning, using CALL courseware, is accomplished through the complex interaction of learner input (the courseware's output), learner output, and critical context variables. ESOL courseware, the purpose of which is to foster English language learning, must be characterized by courseware output that is, "comprehensible, developmentally appropriate, redundant, and accurate" (Holt, 1993).

To facilitate learning, courseware output must be **comprehendible** (Krashen, 1982). Much extant ESOL courseware does not present written procedures, or directions for completing learning exercises, in a manner that a learner who does not *speak* English, much less *read* it, can comprehend them. Fortunately, some problem-solving CALL courseware may be used by two or more students working together. Pairing learners who speak different native languages in front of a computer terminal, especially learners with complementary skills or strengths, promotes cooperative learning by creating a

de facto peer-tutoring situation; this is one way to facilitate effective learning. Experienced instructors realize that cooperative learning, when it involves peer tutoring, can have a dramatic positive impact on almost all critical context variables. This is especially true when group work techniques are used (Johnson & Johnson, 1986; Piper, 1986).

Even if courseware output is comprehended by learners, it will not stimulate subsequent steps in learning if it is not developmentally appropriate. Vygotsy (1978) points out that peer tutoring (a cooperative learning phenomenon associated with CALL group problem solving) makes the courseware's output **developmentally appropriate**. It does this by focusing learner input not at the widely dispersed developmental level, but into the proximal level associated with involvement in group learning activity.

Comprehendibility and developmental appropriateness by themselves will not ensure effective learning. According to Swain (1985), students become fluent speakers of English if they speak repeatedly on the same topics. Effective courseware must thus provide opportunities for repetition. The cooperative CALL context is a natural source of **redundant** communication. Students in small groups, using problem-solving courseware, discuss the problems to be solved. Ideally, they discuss them in the target language. Each student uses a variety of phrases and clauses, thus providing them with opportunities for the repetition necessary to move from short-term to long-term language learning.

Accurate communication (syntactically correct, with proper word choice and pronunciation) facilitates language learning says Holt (1993). In this area, again, cooperative CALL may have an advantage over traditional language learning. The ESOL instructor need no longer be the sole source and model of accurate speech; the audible output of a sophisticated CALL courseware application can provide speech models. While audible peer output may be less accurate than audible instructor output, sophisticated CALL courseware combines accuracy with frequency to produce spoken target language fluency far more readily than infrequent (though accurate) instructor output.

Swain (1985) tells us that student output that is functional and communicative, frequent, redundant, and consistent with the identity of the speaker fosters English language learning. If a nonnative speaker practices speaking English in a way that differs from the way a native speaker speaks in everyday settings, it adds little to the student's communicative competence. Learning *about* a language is very different from learning the language for functional communication says Swain (1985). In the cooperative ESOL study group, students learn to speak English by speaking English. A great advantage of cooperative CALL is the **frequent** language output allowed per student. In a traditional ESOL classroom (with, for example, ten students), for the instructor to provide a student with a minute of speaking practice may consume twenty minutes of instructional time. In paired- discussion (a variation of cooperative

CALL), providing the student with the same minute of practice consumes about three minutes of class time. With cooperative CALL, then, three minutes are sufficient for what takes twenty minutes in a non CALL classroom.

Finally, speech practice that is not consistent with students' identities does not lead to fluency. Members of various cultural groups resist learning to speak English fluently because they resist being culturally assimilated. In the cooperative CALL classroom, peer-oriented and expressive use of spoken English is less threatening to the cultural identity of students than is the formal speaking done in whole-class settings. This **identity-consistent** approach makes English language learning less stressful.

Adult students generally have positive attitudes toward cooperative CALL. They are eager to learn computer skills *per se* for the workplace. Computers have become increasingly available and affordable to individuals, and CALL is effective with a variety of adult learners. Computer assisted learning gives adults a number of advantages: flexibility of use, control over pacing, control over sequencing of learning, individualization, privacy, and immediate feedback. (Askov, Maclay, & Meenan, 1987; Kulik, Kulik, & Shwalb, 1986; Patton, 1987; Turner, 1988).

Reviewing Courseware

Once instructors determine the most effective way to use courseware to support the instructional process, they can select specific conforming courseware applications for review. Before reviewing particular applications for consistency with overall instructional goals though, instructors must find out how curricular decisions are made about courseware within their educational institutions.

Taber (1983) suggests that the process of determining how decisions (about obtaining specific products) will be made should be conducted in two parts: one involving external processes and another involving internal ones.

External processes involve collecting information about products and their effectiveness from outside sources. Internal processes are those conducted within an institution, and usually involve a thorough in-context examination of individual courseware applications. The purpose of both kinds of processes is to determine how well applications match instructional goals. The most useful external source of information will likely be other instructors. There are several resource groups that develop and disseminate product reviews. Information from these sources may help instructors in determining courseware appropriateness.

Doll (1988) explains that the best internal processes involve firsthand examination and evaluation of the courseware under consideration. Most courseware producers, knowing that school policies require software to be

previewed before purchase, have liberal preview policies. In order to obtain preview, or 'demonstration' copies, instructors must make requests, often on institutional letterhead, and guarantee that no duplicates of the software will be made. A few courseware producers are reluctant to lend materials, but with an institutional purchase order, they may allow (only) courseware to be returned within 30 days. When courseware cannot be obtained by either means, it may be possible to borrow examples from a library or to examine the courseware *in use* at a nearby school. During this internal evaluation, instructors should pay attention to both instructional and technical features of the courseware.

Developing evaluation criteria whether formally or informally, provides an excellent way to determine what questions to ask about the courseware under review. Evaluation criteria may range from one-page checklists developed by an instructor to forms developed by product evaluation centers similar to the Educational Products Information Exchange (EPIE). Many organizations publish courseware evaluation criteria. The Northwest Regional Education Laboratory (NWREL) sponsors the MicroSIFT Project, a clearinghouse for information about educational software products, including courseware. NWREL produces the Resources in Computer Education (RICE) Database, with a lot of descriptive information about courseware. They also publish MicroSIFT Reports, product comparisons issued three times a year. MicroSIFT Project publications are announced in ERIC's *Resources in Education*. The *Characteristics Of Good*

Courseware checklist, by NWREL's MicroSIFT Project (1986) is a particularly

useful instrument for the preliminary evaluation of courseware.

CHAPTER III.

METHODS

To answer various research questions, a media comparison approach, a type of comparative research model (Reeves, 1986), was used which involved the quasi-experimental evaluation of various CALL courseware applications. Each courseware application was evaluated, and observations were made that tended to corroborate or not corroborate whether the courseware possessed both affective and performance benefits, particularly in students' verbal interaction vis-à-vis the personal computer and CALL courseware.

The researcher is an experienced teacher of ESOL and a long time user of CALL courseware applications. The effectiveness of CALL courseware was assessed through use of the media comparison approach. Courseware is increasingly used in schools, often in spite of the lack of evidence regarding its educational value or an understanding on the part of instructors of how best to use it. The media comparison approach provided a workable evaluation methodology that supplied information regarding both the quality and usefulness of CALL courseware.

The standard evaluation form for the NWREL MicroSIFT Project was reviewed to determine what established criteria were available for evaluating courseware. The evaluation was modified to address those criteria addressed in

the comparative research model and applicable to CALL courseware, and to give

emphasis to those instructional characteristics applicable to adults learning

ESOL. The study considered the cumulative effects of a number of CALL

courseware elements (e.g.: voice input-output, extent of interactivity, etc.). Using

media comparison methods, answers to the following questions were sought:

i)   Were the **learning outcomes** of reviewed CALL courseware applications clearly **defined?**

ii)   What general or specific **instructional functions** did evaluated CALL courseware serve?

iii)   What **roles** did the courseware's designers appear to have presupposed for the computer, for students and for instructors?

iv)   What **style of learning** did the courseware appear to encourage; cooperative language learning, self-paced skill practice or some other style?

v)   In what **kinds of activities or exercises** did the courseware involve students or instructors while they used it?

As Reeves (1986) mentions, media comparison focuses on the

combination of various elements in the teaching and learning process, rather

than viewing the instructional medium as standing alone. On completion of the

survey, specific elements of the CALL courseware were considered, and a

number of sustainable conclusions were drawn. The CALL courseware

applications surveyed were:

English Language Learning Instructional Software (ELLIS 1.0). This

Windows and Macintosh compatible, speech recognizing,

interactive CALL courseware, produced by CALI, Inc. of Provo, UT

is marketed exclusively to educational institutions.

DynEd 6.8. *New Dynamic English* by DynEd International, Inc.,

Burlingame, CA. This speech recognizing, interactive

EFL/ESL/ESOL courseware is available in both Windows and

Macintosh formats to international businesses and educational

institutions.

ESL Instant Immersion English: *Listen! Disk 1*, by English Computerized

Learning, Inc., Edmonton, Alberta, Canada. This over-the-counter

commercial CALL courseware, in both Windows and Macintosh

formats, is voice record/ playback enabled.

ESL Instant Immersion English: *8-in-1 English Dictionary*, also by English

Computerized Learning, Inc., Edmonton, Alberta, Canada. This

interactive illustrated dictionary, in both Windows and Macintosh

formats, is voice record/ playback enabled.

Addison Wesley Longman: *Focus on Grammar CD-ROM, Basic.* This

voice record/ playback enabled English Grammar CALL

courseware is produced in both Windows and Macintosh formats by

Exceller Software Corporation, Ithaca, NY. It supplements texts

published by Addison Wesley Longman Publishers, White Plains,

NY for ESL educational Institutions.

Addison Wesley Longman: *Longman Interactive American Dictionary*. This is a voice record/ playback enabled multimedia illustrated dictionary of the English language. It is produced in Windows format only by Addison Wesley Longman Publishers, White Plains, NY as a supplement to ESL textbooks.

The Rosetta Stone Language Library, by Fairfield Language Technologies, Harrisonburg, VA. This speech recognizing, interactive, over-the-counter commercial CALL courseware is marketed in both Windows and Macintosh formats to international businesses and government agencies (e.g.: NASA, and the US Department of State).

Multi-Lingual Talking Picture Dictionary, by SoftKey International, Inc. of Cambridge, MA. This is a voice record/ playback enabled, over-the-counter, commercial multimedia illustrated dictionary of the English language. It is produced in both Windows and Macintosh formats for speakers of French, Spanish and German who wish to build their English vocabularies.

The courseware applications were installed on either PC or Macintosh personal computers (or both). The researcher then worked through each courseware application while completing a media comparison survey similar to that proposed by Reeves (see Table 3.1, below). What, if any, modifications to

the courseware applications were determined that might make each more developmentally appropriate, more flexible, or more user friendly to ESOL students.

Table 3.1 Media Comparison Survey

COURSEWARE NAME	Learning outcomes clearly defined?	Instructional functions served	Presupposed roles: Computers, Students & Instructors	Encouraged learning style	Kinds of presented activities/ exercises
ELLIS 1.0	Yes	simulation accent eradication vocabulary building	Learning management tool oral input and response source cultural touchstone	cooperative learning self-paced drill	drills games interactivity
DynEd 6.8.	Yes	simulation accent eradication vocabulary building	interactive digital tutor & management tool oral input and response source & cultural touchstone	cooperative learning self-paced drill	drills games interactivity
Instant Immersion English: Listen! Disk 1, by	Yes	simulation accent eradication skill practice vocabulary building	interactive digital tutor information absorber basic skill mentor	self-paced drill	drills games interactivity
Instant Immersion English: 8-in-1 English Dictionary	Yes	accent eradication vocabulary building	digital reference source & textbook supplement information absorber basic skill mentor	self-paced drill	drills games interactivity

Table 3.1 (continued)

COURSEWARE NAME	Learning outcomes clearly defined?	Instructional functions served	Presupposed roles: Computers, Students & Instructors	Encouraged learning style	Kinds of presented activities/ exercises
Longman Focus on Grammar CD-ROM, Basic	Yes	simulation accent eradication vocabulary building	digital audio visual supplement to a textbook information absorber basic skill mentor	cooperative self-paced other	drills games interactivity
Longman Interactive American Dictionary	Yes	accent eradication vocabulary building	digital reference source & textbook supplement information absorber basic skill mentor	self-paced drill	drills games interactivity
The Rosetta Stone	Yes	simulation accent eradication vocabulary building	Interactive digital tutor oral input and response source cultural touchstone	cooperative learning self-paced drill	drills games interactivity
Multi-Lingual Talking Picture Dictionary	Yes	accent eradication vocabulary building	digital reference source & textbook supplement information absorber basic skill mentor	self-paced drill	drills games interactivity

CHAPTER IV.

RESULTS

The learning outcomes of the various CALL courseware applications were clearly defined. One or more professional educators had carefully planned the content of the courseware to maximize student learning of one or another facet of the English language.

Other than the dictionaries, a general instructional function that all of the evaluated examples of CALL courseware served was involving students in everyday situations. This involvement often appeared to be contrived, though. It appeared intended to make students comfortable within a learning context more than to familiarize them with any cultural context. Social gatherings, face-to-face greetings, and similar scenarios were heavily used. Few scenarios that involved problem solving of a culture specific nature appeared in any courseware, even in the advanced levels of courseware. Some specific instructional functions that the courseware and dictionaries did serve were accent eradication, listening and speaking skill practice, and vocabulary building.

The role that several courseware's designers appear to have presupposed *for the computer* was as a digital version of the venerable audio-visual supplement to a textbook. This was the case with Addison Wesley Longman Publisher's products.

All three interactive dictionaries surveyed might serve as in-class workstation textbook supplements at an instructor's discretion. Only two evaluated CALL applications, the DynEd 6.8 *New Dynamic English* application and *ELLIS 1.0* made extensive (and therefore appropriate) use of the personal computer's tracking, feedback and record management capabilities.

The role that the courseware's designers appear to have presupposed *for students* was that of information absorber. While vocabulary building is an essential language learning function, students need to use target language words in as many appropriate contexts as possible. It is not sufficient that they simply learn the target language's terminology for (often unfamiliar) objects. Though all of the evaluated CALL applications claimed interactivity, only three of the eight applications: *ELLIS 1.0, DynEd 6.8,* and *The Rosetta Stone,* processed learner oral input and provided direct corrective feedback in response. Of these, only *ELLIS 1.0* supplied users with word practice using multiple contexts to any significant extent.

The role that the courseware's designers appear to have presupposed *for instructors* was that of cultural touchstone. All of the courseware applications evaluated would require the constant presence of an instructor to explain much of what the courseware attempted to communicate. The applications used American English colloquialisms and abbreviations heavily (without first providing

explanatory or context referent material). Standing alone, the applications could do little to help ESOL learners build basic skills in spoken English.

The style of learning encouraged by different CALL courseware applications, and even that often encouraged by different portions of the same courseware, ranged widely. Some of the applications seemed intended to be used in cooperative language learning. Other applications seemed intended to support individual, self-paced skill practice. As previously mentioned, two applications seemed to be meant simply to supplement the texts they would accompany within a traditional classroom setting.

The kinds of activities or exercises in which the courseware involved students or instructors while they used it were primarily drill and practice, extremely simple games, and interactivity of one or another sort that only approximated true simulation.

Additional Considerations

Two of the *ESL Instant Immersion English* CD-ROM disks proved to be Windows platform compatible only (though they claimed multiple platform compatibility). Loaded on more than one Windows machine, with different drivers and peripherals, the audio output quality of both was unacceptable. This application set was developed in cooperation with a subsidiary of Microsoft.

The DynEd 6.8 *New Dynamic English* application's output sound quality varied considerably from exercise to exercise within the application. The researcher attempted to use the courseware on more than one machine; this did not relieve the problem. Except in the *advanced* interactivity portion, the animated graphics of *New Dynamic English* left a great deal to be desired. The courseware's cartoon talking heads seemed to offer more potential for distraction to ESOL learners than not providing animation at all would have done. This was especially true when the cartoon characters' mouth movements were not synchronized with the sound output.

Focus on Grammar contained outstanding cartographic learning aids and presented good quality audio output. It was, though, a very basic CALL courseware application. As such, it offered little to assist non-literate ESOL students. Addison Wesley Longman's other application, the *Interactive American Dictionary*, contained a sub-application called *The Dictionary of Common Errors*. This sub-application would have been vastly improved by the addition of audio output to accompany the text.

In evaluating *The Rosetta Stone,* the value of including such vocabulary items as "airplane," and "elephant" in preposition drills is questionable. As stated before, language learners need to build vocabulary. However, everyday American icons (e.g.: telephones and traffic signals) could as easily have been

used to teach prepositions and other word functions as could exotic modes of transport and animals.

A major shortfall of the evaluated CALL courseware applications bears mentioning. Except in two applications, SoftKey's *Multi-lingual Talking Picture Dictionary* and *The Rosetta Stone*, there was no provision for a nonnative English speaker to obtain instructions for using the courseware in any language other than English. Even these two applications did not provide aural assistance for potentially non-literate users.

CHAPTER V.

CONCLUSION AND RECOMMENDATIONS

In this study, eight computer aided language learning (CALL) courseware applications were surveyed that have the potential to be used in the teaching of English to speakers of other languages (ESOL). Established criteria were located and then applied in evaluating the courseware applications.

The application of Instructional Technology and CALL to ESOL is unlike their application to other language learning disciplines such as English as a foreign language (EFL) and English as a second language (ESL). ESOL has a strong aural/ oral emphasis that stems from a concern with teaching spoken English to potentially non-literate adults. None of the courseware applications evaluated in this study addressed this strong emphasis.

While it may be necessary to equip computers in ESOL classrooms with language learning courseware substantially similar to the applications surveyed, these classroom computers ought instead to be equipped with courseware that does address the strong aural/ oral emphasis of ESOL. Such courseware should include, for initial use, easily understood instructions that non-literate learners can use. These instructions should be either graphic or audible in the speakers' native languages. The courseware should also include procedures for completing

learning exercises in a form that a non-literate ESOL student could use while their sophistication in spoken English increases.

The researcher recommends that studies of instructors' use of authoring programs be conducted. ESOL instructors have used authoring programs in the past to overcome the shortcomings of existing CALL courseware. They have used authoring programs to address the strong aural/oral emphasis of ESOL. Studies of the ways in which instructors have used authoring programs would point the way to improving the courseware for ESOL application.

The researcher further recommends that, in addition to studies of authoring programs, research and development studies be conducted aimed at producing courseware that intentionally addresses the strong aural/ oral emphasis in ESOL. Such courseware would be built around easily comprehended instructions for use, and procedures for completing learning exercises to be used by non-literate ESOL students.

Finally, this researcher recommends that research be conducted following the production of ESOL oriented CALL courseware that is aimed at validating improvements in the performance of students as a result of the production of ESOL specific courseware.

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