Evaluation of computer software for elementary school ESL classes

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Evaluation of computer software for elementary school ESL classes

by

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INTRODUCTION

"In our schools, every classroom in America must be connected to the information superhighway with computers and good software and well trained teachers."

President Bill Clinton
1996 State of the Union Address

In recent years computers have become more prevalent in elementary education. Students use computers to discover information on the WWW or with learning programs designed for specific areas of study. They offer a different learning environment than the average classroom and one in which students appear to have more control over their own learning styles. Krashen (1983), Terrell (1983), and Johns (1996) all looked at language acquisition for young learners and this aspect has been studied frequently, but the use of computers to help young learners with English has yielded little research and documentation. The lack of English as a second language (ESL) CD-ROMs available to teachers in central Iowa led to the idea of this study.

Today the field of CALL is gaining popularity and teachers are discovering that there are programs that can benefit the students in an ESL setting. The programs, used as a classroom tool, offer a variety of interactive activities, sound, video, and even voice recording. Teachers can monitor the student’s progress and use the computer to strengthen skills learned in the classroom along with using computers to augment or introduce new vocabulary or stories. Many programs in this study make use of popular children’s books and build activities centered around the text. Using computers in the classroom also presents a challenge to instructors and should be used as a tool to augment existing activities.
Use of Computers in Teaching

Many books and articles have been written on the subject of using computers in the classroom. Two of the more recent books, *Technology-Enhanced Language Learning* (Bush 1997) and “Classroom Practice: Creating Interactive CALL Activities” (Egbert 1999) address the role of the computer and how it can best be utilized in the classroom setting. The computer acts as a tool the student can use to improve learning and also offers the instructor a more independent form of teaching. Students have more control over what is being learned and can set their own pace and teachers can select authentic materials and provide students with the information and training to do their own research. The problem with using some language learning programs is the lack of adequate equipment. The ESL classrooms the researcher has encountered have one or two later model computers and are not capable of running the software. The software can also be expensive and the instructor may be hesitant to purchase a CD-ROM without a chance to try it out. Chapelle (1999) mentions that tasks must have goals and these tasks are carried out through the participants’ engagement in goal-oriented behavior. Robert Hart (1986) and Claire Bradin (1999) have created frameworks for evaluating language learning software which are used to create a list of questions for this study and provide the basis for the recommendations regarding the software evaluated in this paper. Their criteria will be addressed in the literature review.

In order to understand how computers can best be utilized in language learning we must first look at interaction between the user and the computer. Egbert (1999) suggests in some cases technology “will help create an environment that is unique in the way it supports interaction” (p. 27). Teacher-student interaction is also important because teachers can monitor the progress of individual students and detect any errors that may be occurring.
Teachers may also decide to focus on one or more skill areas such as listening, reading, writing, speaking or grammar. This decision can be made while evaluating the software.

**Skill Areas Focused on Using Computers**

Listening activities have become an increasingly important component of the CD-ROM programs observed because of the use of sound. Children can hear natural sounds and words and listen to and watch animated stories. In elementary school ESL students are at different abilities, for example, a fifth grade student may have a lower English ability than a second grader who has been in the English speaking country for a few months. Teachers often encounter the problem of handling different age groups along with language ability.

As a resource for instructors, a guide in which they can reference available software may be useful in order to find out what content areas are covered, recommended age for students, and what language proficiency it is appropriate for. Appropriate software and evaluations of such software are not available for the instructors who wish to use them. Elementary school teachers are often lacking the time to sufficiently evaluate programs for classroom use.

Computers in elementary ESL classes have become more prominent and it is possible that they are used as the first step to introducing the child to the English language. A teacher whose students' English abilities are not at the same level may have the student work at the computer with an interactive package. This allows the students to work at their own pace and experience the language on their own terms.

**Purpose of Study**

In this section I will discuss my rationale for performing this study and why evaluation of software is important to the instructor and also benefits the student. As
mentioned in the introduction computers are becoming more popular in the classroom, but it is important to evaluate if the software being used is: a) applicable to the classroom setting and b) the tasks performed are conducive to language learning for the student. The level of student targeted in this study is the K-2 ESL learner in the AEA 11 area which includes a large portion of central Iowa. The students in this region include a variety ranging from children of migrant workers, refugees, and immigrants to children of professionals. The research question being asked in this study is whether the CD-ROMs for native speakers have components or activities adaptable to ESL students in K-2 grade.

In order to evaluate the CD-ROMs a framework was designed by the researcher based on Hart (1986), Braiden (1999), and Higgins (1995). The recommendations and observations are designed to be used by instructors of ESL students in K-2 grade. The software currently being used in the classrooms and in what capacity may all have specific aspects in which students and teachers find beneficial but also aspects which can confuse the language learner or hinder the performance.

The applications of software in the classroom are numerous and offer the instructor a variety of options on how to best utilize the software with the students. Some teachers prefer that the software be used in groups, letting each student participate in the activity at hand. Some programs may be designed for individual use while others may involve the use of supplemental materials to be used in class or at home. The first programs used for language learning were drill and practice exercises in which the student could receive instant feedback. With the technology today the applications have increased enormously by using graphics, sound, multi-player simulations, and interactive tasks and have increased the skill
areas that can be utilized with the program. The next chapter will look at second language acquisition and computer assisted language learning.
LITERATURE REVIEW

Many aspects of language learning software must be taken into account when evaluating programs for elementary ESL classroom use. This chapter will look at the literature of three areas important in this study: Krashen and Terrell's Natural Approach and second language acquisition theories and approaches applicable to young learners along with Halliday's and Hennings' stages of development in language use, software evaluation, and aspects of CALL with a focus on teacher role, interaction, and authentic audience.

Second Language Acquisition Theories and Approaches

The Natural Approach, a second language acquisition (SLA) theory proposed by Krashen and Terrell (1983) is based on the idea that the learner obtains comprehensible input and that language is primarily acquired by what is heard and understood, not what is said. Listening is the main emphasis for the Natural Approach. The majority of CD-ROMs evaluated in this study contain heavy use of listening as input and therefore the Natural Approach is best suited for guiding the evaluation of these software programs.

The Natural Approach is generally designed for beginning language learners and the goal is to assist the students in reaching the intermediate level of the target language. This theory was proposed before computers were widely used in the classroom although the theory behind the approach can apply to the evaluation of software. Krashen and Terrell (1983) also explain that there are specific factors that can influence second language acquisition; second language aptitude, role of the first language, and age. Second language aptitude means that certain individuals have a "gift" for language learning. Students who enter the school may have a good command of their first language and Krashen and Terrell (1983) explain how this can play a role in second language acquisition. The second
factor affecting second language acquisition is the role of the first language. This role between first language and second language is termed "interference". The concept of interference leads us to believe that having certain knowledge of the first language can actually hinder the performance in a second language. Newark (1971) suggested "that the first language does not interfere at all when we try to use a second language. Rather, errors show the influence of the first language are simply the result of 'falling back' on the first language when we lack a rule in our second language." (p. 14). Newark continues by offering the solution that language instruction does not need to assist the learner in combating the effects of the first language but instead helps the learner acquire the second language. Krashen and Terrell (1983) note the following:

The goal, then, of the elementary language classes, according to this view, is to supply comprehensible input, the crucial ingredient in language acquisition, and to bring the student to the point where he or she can understand language outside the classroom. When this happens, the acquirer can utilize the real world, as well as the classroom, for progress. (p. 1)

The term "comprehensible input" can be defined as being information or input the language learner receives and is able to understand. Computer software can be one means of supplying the comprehensible input to the ESL student.

Johns (1996) offers the following scenario between first and second languages. When some non-English speaking children begin school they already have the formation of their primary language and this can simplify the procedure for acquiring the second language. Johns (1996) introduces the "Dual-Iceberg Theory." Similar to an iceberg where the parts above the water are the concepts of language learned in the first language. The dual tips of
the iceberg above the water represent elements of both English and the second language and which “must be acquired independently as completely new information.” (p.15): Below the surface of the water is the where the two languages come together and share qualities of both languages.

The student’s first language plays a part in the rate and extent of acquisition. This role is referred to as individual variation. Individual variation deals with two factors and can be attributed to either one or both. The first factor focuses on the quantity of comprehensible input that the learner receives and the second factor refers to the affective filter and the power it possesses. Affective filter refers to the lowering of the student’s anxiety level and promoting a positive language learning experience. By taking this into account, minimizing anything that impedes the child’s learning but provides them with a sufficient and beneficial quantity of input is beneficial. How is it possible for computers to lower the affective filter? Students are able to work independently with error feedback from the computer and are not scrutinized by their peers. The computer should also allow the student to work at their own pace and discover language on their own terms. Some programs also allow for different learning styles which will be discussed later in this chapter. These concepts are important factors to keep in mind when judging software for classroom use.

The final factor that may influence second language acquisition is age. Referring to the fact that children are better at acquiring a language than adults may be, Krashen and Terrell (1983) say that children possess the advantage when it comes to ultimate attainment of the desired language. Children may possess the advantage because they are growing with using the language and have not fully gained mastery of their first language. Children possess less interference of their first and second languages and they have a lower affective
filter. This means that because children begin learning the language at such a young age they generally reach a higher level of competence. However, adults are more suited for grasping second language proficiency over a shorter period. "Thus, any explanation of age differences must account for why children excel in ultimate attainment and why adults are faster, at least in early stages." (p.45)

Krashen and Terrell (1983) continue to describe the implications of second language acquisition theory. Since there is need for comprehensible input the theory suggests that anything that assists in comprehension is useful. Thus when creating software programs it is important to keep in mind that the age of the student plays an important role, which in turn, determines what content is suitable.

The second implication posed by Krashen and Terrell (1983) is that vocabulary is important. Whereas approaches based on grammar mostly focus on syntax, thereby limiting the amount of vocabulary, the Natural Approach, on the other hand, emphasizes the important role of vocabulary. Vocabulary knowledge increases comprehension, which in turn has positive effects on acquisition. Software programs that contain useful vocabulary building exercises should be considered when evaluating is being done.

The third implication presented by Krashen and Terrell (1983) is that teachers have to be able to recognize that the students are understanding the message. Teachers may not necessarily be concerned about certain structures. "Thus, the crucial and central component of any language teaching method is input that is understood." (p. 56). This can pose a problem when using computer applications because the instructors may not be able to monitor the student's progress constantly. Thus a need for a record kept of the student's progress and errors made should be contained within the software. Students should be able
to comprehend the input in order for the language learning process to be meaningful. The role of the teacher is very important and will be discussed in more detail later in this chapter (p.14).

Krashen and Terrell (1983) continue to discuss the idea of input by proposing their “Input Hypothesis”. They state that the area of speaking is not necessarily mandatory for language acquisition. It would seem that speaking is a vital part in using the language but the input hypothesis claims that by placing an emphasis on listening and reading, speaking fluency will arise on its own. This input received by the language learner is turned into spoken words the learner is comfortable with using and progresses to more difficult words and phrases. Pronunciation problems or differences put more of an emphasis on beginning speech and recognizing problem areas. Krashen and Terrell (1983) mention a concern about learners who are already in the second language country and for these students early production of speech may be beneficial by using patterns and routines. These patterns and routines should focus on the actual needs of the students. “Speaking is of course a primary goal of most students. It is also important in that it stimulates conversation, which in turn will encourage more comprehensible input.” (p. 57).

Johns (1995) writes that because language learning involves the method of translation which provides the idea that the most intellectual manner to perfect the target language is by studying and learning the rules and guidelines of grammar and verb conjugations. This approach is used for older students but does not seem appropriate for younger learners who are neither scholarly nor interested in learning rules of grammar.

The role of grammar and pronunciation may also play a part in acquisition. Krashen and Terrell (1983) state that the study of grammar has a role in the language program and
should be used as a supplement to acquisition when appropriate and in specific situations.
The use of grammar can be demonstrated by looking at the use of spoken language in general
conversation compared to communication based on writing or formal speech.

Five guiding principles of the Natural Approach are found in Appendix C. They are:
Acquisition-Learning Hypothesis, The Natural Order Hypothesis, The Monitor Hypothesis,
The Input Hypothesis, and The Affective Filter Hypothesis. These principles do not mention
pronunciation but Krashen and Terrell (1983) explain that the role of pronunciation with
regards to the Natural Approach is not necessarily a strong component and that there does not
need to be a specific focus on pronunciation. They write that there may be a place for
pronunciation with the language learner. Pronunciation can be introduced for conscious
learning by means of language lab activities. Such activities are simply explanations of the
relationship between letters and sounds and the guidelines for producing the sounds. The
Natural Approach puts the emphasis on providing the learner with good models and large
amounts of comprehensible input. Comprehensible input often occurs in a typical classroom
setting. The problem with most of the comprehensible input occurring in the classroom is
that students are for the most part limited to what the teacher is saying. The more sources of
input are beneficial to the student in order to have a better understanding of how the language
is used and in different settings other than the classroom.

In the classroom the comprehensible input normally comes from the instructor and
O’Malley and Chamot (1990) address the problem behind this approach by taking into
account learning strategies of the students. O’Malley and Chamot (1990) recognize that
listening has become the foundation for many second language acquisition theories but they
indicate that the focus on the teacher to provide input “fails to take into consideration
deliberate learner strategies (i.e. metacognitive, cognitive, and social mediation) for comprehending language texts, for processing new information, and for learning and retaining concepts related to academic language and content.” (p. 129).

Krashen and Terrell make no mention of using computers to provide comprehensible input in the classroom. The Natural Approach seems adaptable to children learning a second language and it is possible to see the role of the computer as providing comprehensible input to the student while keeping the affective filter low. According to O’Malley and Chamot the problem behind the Natural approach lies with the teacher being able to address learner strategies. This presents one reason to use the computer as a tool to be used in the language learning classroom.

Students progress through different stages of development in which they find different uses for language. Halliday (1975) and Hennings (1983) break this language need down and divide it into categories. Halliday (1975) describes seven language functions based on children’s evolving social needs.

1) Instrumental- used to fulfill needs and desires
2) Regulatory- used to control the behavior of others
3) Interactional- used to relate to others
4) Personal-used to define self, express feelings etc.
5) Heuristic-used to find out about the world
6) Imaginative- used to create make believe language
7) Representational-used to convey information

These needs must be taken into account when evaluating software and determining if the software being used is addressing the social needs of the student. Hennings (1983) offers a
slightly different look at the evolving social needs. The role the language software fills may fit into one or many of these needs of the learner. The software can also provide the input for the child to develop social communication.

In comparison to Halliday, Hennings (1983) describes two stages of development in their use of language, egocentric and socialized, and can be further distinguished in the following manner.

**Egocentric Speech**

1) Repetition- repeats sounds but very little meaning
2) Monologue- talks to himself without listener
3) Dual or Collective Monologue- child talks in presence of another person although the person doesn’t respond or show attention.

**Socialized Speech**

1) Adapted Information- child exchanges thoughts with another person
2) Criticism- child comments on the activity of others
3) Commands, Requests, and Threats- child tells or asks others to do things
4) Questions- child asks questions
5) Answers- child answers questions

Early second language acquisition in children involves many components and must be considered when evaluating software for the ESL classroom. Students may be in different stages of learning, possess different learning styles, and require different needs for using language. Computers can aide in providing input for children and adapting to their specific language ability. The Natural Approach suggests the use of comprehensible input. With the use of sound and visuals, computer software has become a viable means of supplying this
input. The teacher is not the only resource in the classroom for supplying comprehensible input. Haliday (1975) discusses seven language functions and Hennings (1983) provides two stages of speech of the language learner. Instructors may find ESL software that fills certain areas of the given stages. Of course SLA is not the only aspect to consider when choosing appropriate software. Many components of CALL must also be taken into consideration and the following section will discuss these factors.

**Computer Assisted Language Learning**

This section will discuss some issues in computer assisted language learning such as teacher interaction and how the role of the teacher changes when implementing language learning software into the classroom, interaction between the student and computer or between the student and classmates, and finally authentic audience.

Pusack and Otto (1997) touch upon the past use of computers for instructional purposes. In the late 1960’s the industry began experimenting with grammar practice that used corrective feedback. In the 1970’s the phenomenon of computer assisted instruction (CAI) promised to revolutionize and individualize education but due to limitations of early computers CAI or CALL found limited acceptance among the professionals of the language field. Bush (1997) mentions a study done in 1996 by the RAND Corporation for the White House Office of Science and Technology Policy and Office of Technology of the United States Department of Education found the following conclusions about the role of technology in the public schools.

1) Educational technology has significant potential for improving student’s learning.
2) Extensive use of technology in schools has the potential to promote significant school restructuring and expand the time and motivation for student learning. (p.xiii)

Bush (1997) comments that today, as the use of technology in the schools is growing and increasing in use, that teachers will have to assume new roles and learn new skills in order to use the technology appropriately in the classroom. Since the 1960's society has seen computers become more available, inexpensive, more image oriented, less text based, and also the integration of sound has occurred. With the increased use of computers there has also been a change in how the teacher presents material for language learning. In order to make software useful, teachers may have to change the way they approach teaching a class.

**Teacher interaction**

As education becomes more technology driven the instructor must assume a more specialized role in the classroom and learning process. Egbert (1999) briefly explains the role of the teacher in the language classroom. Egbert (1999) writes that in order for the instructors to help their students, they must know their strengths, weaknesses, concerns, and other attributes that may cause problems with language acquisition. The need for this knowledge leads to programs with good student record keeping. The use of an electronic journal is very helpful for the instructor and offers them the chance to monitor progress and also address any problems or errors the learner may be experiencing. Higgins (1995) wrote that “teachers will have to find new roles, as advisors, as managers, even as fellow learners discovering new insights into language by using the same facilities as their students.” (p.6). Some instructors may be hesitant to use computers in the classroom. Decoo and Colpaert
(1999) mention three proactive reasons why CALL has been such a slow integration into the classroom: interest, schedules, and financing. The first reason they offer is that there are only a small amount of teachers who are interested in CALL because many instructors lack the experience and training of using computers for teaching. Secondly, teacher’s schedules are not flexible, allowing little time for integration of CALL. Lastly, part of the problem has to do with the absence of financial resources. So while software may be able to benefit students it is often kept out of classrooms for these reasons. Making software available at reasonable prices, establishing teacher computer training, and make software resource guides available to the teachers are some solutions to these problems.

Pusack and Otto (1997) describe the role of the teacher not so much as a routine presenter of content, but as what has been called a facilitator, one who directs students in their learning to the opportunities both inside and outside of the classroom. The teacher must also be aware that students use different learning styles and CALL may be able to address these styles easier than what is done in the classroom. The software can contain drawing activities, independent activities, group work, creating stories, music, etc. Software can also include student progress reports. Yeok-Hwa Ngeow (1997) addresses the issue of assisting teachers in developing students’ learning styles with the use of computers. Since students may prefer a certain style of learning, this must be taken into account when evaluating or using software in the classroom. The learning styles are as follows:

1) Linguistic- read, write, tell stories, create presentations

2) Logical-Mathematical- work with numbers, reason things out, explore patterns and relationships.

3) Spatial- draw and design things, watch movies, play with machines.
4) **Musical**- listen to music, play an instrument, use rhyme

5) **Bodily-Kinesthetic**- move around, touch and talk, use body language (using the mouse, board games associated with the computer program, clapping along with songs and characters of the CD-ROMs)

6) **Interpersonal**- talk to people, develop social skills, work in groups

7) **Intrapersonal**- work alone, work at own pace, pursue own interests (p. 308).

A program implementing tasks and activities using all the learning styles will serve a wide range of students and create interest in learning. Good software should incorporate as many of these styles as possible in order to be interesting for all students and thus making the software more useful in the classroom setting. When the student becomes more involved in the learning process their interest is increased and the atmosphere is conducive to language learning.

**Interaction**

That computers are only machines and can not possibly reproduce what actual human beings say, may be true, but it is possible for computers to be used as a vehicle to bridge the gap between people or as a way for a group to work together in order to gather information or accomplish a task. The involvement of the student via the computer is termed “interaction” and a major component of good software.

Peyton (1999) presents the importance of interaction and the manner in which interaction can be enhanced by the computer. She also addresses the challenges that the teachers and students may face. The most important point to remember is that the interaction should be beneficial to the learner and the quality of interaction should consist of tasks that will challenge the student at the appropriate level. Because of the need for quality
interaction, teachers are at the heart of maintaining this level and they must hone and evaluate the activities and also the finished work of the student. Because of this, the role of the teacher is not being replaced by the computer, but instead the teacher must adapt his or her teaching style and classroom to the use of computers by learning how to use computers effectively in the classroom. Along with adapting, the teacher must be able to recognize interaction that is beneficial to the student.

Egbert (1999) discusses the idea of social interaction as being crucial in the language learning environment. She describes this interaction as taking three forms: one to one, one to many, and many to many. The use of the computer can play several roles in the creation of this interaction. It may be used solely as a means of gathering information or used as a means to communicate between two groups or people. The instructor plays a critical part in establishing meaningful interaction. Software being used by one student may use simulations or the characters of the software program may respond to the children’s selections.

Egbert (1999) also looks at the following configurations that may be used in the classroom: learners interacting with classmates, with the teacher, with other students in their school or other schools, and with community members and experts although this last one is reserved for more advanced students and does not pertain to this study since this study deals with students in K-2 grade. Since interaction among classmates is probably the most prevalent form because of availability and ease it is important that with the use of computers the quality of interaction is high. Drill activities can be a source of endless questions and practice and provide instant feedback but are often boring and tedious for the learner. By using a technique such as “information gap” where one student must supply information to
another student in order to complete the task, there is interaction between two students whereas before it was just one student doing all of the work. For more advanced learners a different strategy may be more appropriate and challenging. Egbert (1999) suggests having one student do work on the computer and another look up information in the textbook. Supplemental worksheets can also be supplied for this type of activity. Using the software in conjunction with the content of the class is important to remember when evaluating appropriate language learning software. A good user’s manual should offer suggestions of how the software can be implemented in the classroom.

Egbert (1999) continues to describe ways in which classes in the same school may interact. With the use of electronic media the original drawbacks of physical contact, scheduling, and space can be minimized. At the elementary school level the idea of a “peer tutor” comes into play. Peer tutoring means that an older student helps a younger student in the learning process and takes on the role of a mentor. Egbert (1999) suggests higher level ESL students complete an interview where they ask the younger learners questions pertaining to their interests or problems they may be facing. Electronic books can also be used in which an older student reads to a younger student. There are many CD-ROMs available that include multimedia books. This is also a way for teachers to spend more time helping the struggling learners.

Interaction is an important part of making software and the computer an integral part of language learning. With beginning ESL students this interaction is at a very low level and may only require the student to click on items using the mouse but as their language ability increases they can perform more difficult tasks. Along with interaction, authentic audience also plays an important role in choosing good software.
Authentic audience

Bill Johnston (1999) discusses two areas associated with audience: language use and language learning. Language use is dependent on the relation between the speaker and the audience and this affects the language forms chosen to present the desired material.

Language learning on the other hand deals more with the acquisition of the language and the knowledge of the language the learner possesses. Johnston (1999) concludes that interaction is a necessary component of language learning and that an authentic audience has an impact on how fast and to what extent the language is learned. Johnston offers one criterion in defining authentic audience: “An authentic audience is an audience that is concerned exclusively with the meaning of the speaker’s message.” (p. 60). He also notes that the teacher is not part of the audience because he or she is more concerned about form. However, in some cases they can be considered an authentic audience when they are interested in the meaning of what is written and spoken by their students. In the case of software the authentic audience is often simulated as a character of a CD-ROM or as an imaginary person associated with that program but as a student’s language ability increases he or she has the opportunity to explore new avenues of using their language to communicate with other students and people.

How can the idea of authentic audience be used in CALL? Johnston (1999) elaborates on how computers are used to create authentic audiences in the ESL environment. As is often the case, there is a lack of native speakers in which to interact with. Today, with the use of email, electronic discussion groups, and chat rooms, this problem has dissipated. Even though there may be a large distance separating the parties, there is still interaction occurring. Understanding the meaning of what is being communicated is the main aspect.
Johnston (1999) defends the notion that communication via computer is authentic because the focus is on meaning and not form. While the information exchanged is mostly in written form, it resembles aspects of more informal language and spoken discourse. The absence of punctuation and correct forms can make it difficult for the language learner when faced with the challenge of trying to learn and communicate in the second language. Johnston (1999) explains that the distinction between eavesdropping and hearing is more ambiguous because of computers. In language learning the role of eavesdropper is considered to be when the learner listens to something that is not directed to them. The conversation may be something that was pre-recorded and is not likely to be heard outside of class. Johnston contends that by making the choice of what the learner wants to hear, they become a hearer. The researcher believes that distinction lies in what the learner chooses to participate in versus what the learner may observe or what the learner is required to listen to.

Opp-Beckman (1999) explores the idea of audience in TESOL and CALL. She notes that within the classroom computers can be used to augment existing activities. Again, this is important to remember when evaluating the user’s manuals that accompany the computer software. She defines the role of the audience in four ways. (p. 80):

1) Passive- language learners are not engaged
2) Receptive- language learners function as an authentic audience.
3) Active- language learners address an authentic audience.
4) Interactive- language learners communicate both as and to an audience.

Passive activities are omitted because no CALL activities that she mentions fit under this category.

The role of the audience is given in further detail as follows:
1) Receptive Activities: reading electronic documents, listening on-line, using search engines and downloading files, receiving simulcasts, and lurking on a list or MOO.

2) Active Activities: producing formulaic, short answers, producing short answers on electronic quizzes, commenting on other student’s writing, playing simulation games on-line, telephoning in to satellite broadcasts, and creating a WWW page.

3) Interactive Activities: holding asynchronous text-based conversations, holding synchronous text based conversations, participating in audio exchanges, video conferencing, and taking distance learning courses.

The issue of authentic task must also be addressed when discussing authentic audience. This statement means that what the student is doing in class has some correlation with the language he or she will be using and encountering outside of class and this is important so the student will be motivated to learn the language and be able to use it to fulfill his or her needs. So while the software being used is the audience for the student it is providing feedback and meaningful activities to the student. The use of microphones and recording further develop the idea of authenticity for the computer software by allowing the student to speak and receive feedback from what he or she has spoken, similar to what may occur in the classroom or in the “real world”. Authentic audience is a very important component when reviewing software but there are many more aspects to be considered.

In conclusion students must be presented with tasks that are meaningful and CALL can provide the students with an authentic audience other than the teacher. The following section will review a detailed list of the evaluation process.
Software Evaluation

In this section three authors will be referred to in establishing a framework for software evaluation. In 1986 Robert Hart wrote the framework for evaluation in his article titled, "Evaluation of Computer-Based Language Teaching Materials". Claire Bradin’s article “CALL Issues: Instructional Aspects of Software Evaluation” and also this chapter will briefly look at Higgins (1995). On the basis of these frameworks the researcher will create a framework used to evaluate the selected CD-ROMs in this study. In order to choose the appropriate software for the classroom or individual, an evaluation of the software must be done prior to implementation. In the methodology chapter the researcher discusses what aspects of the following criteria were chosen to be evaluated in this study.

The most recent guideline for software evaluation was presented by Claire Bradin (1999) who offers a comprehensive look at evaluating software and important aspects of software that should be considered when choosing the program for a particular setting. She divides the process of software evaluation into two steps. The first step is exploring feasibility and the second step is determining quality.

Feasibility:

1) Can you use the software in the current environment?

2) Will the software run on your computer or platform?

3) Will the software run on your network?

4) Can the software be made available to many students?

5) Does the software require Internet access?

6) Can you afford the software?

Bradin then divides up quality into three subcategories called format, operation, and content.
Format:

1) Is the interface consistent?
2) Is the screen display effective?
3) Are the motivational devices effective?

Operation:

1) Is the software easy to use?
2) Can the text and graphics be printed?
3) How much control are the learners allowed?
4) How interactive is the software?
5) Are the quality and degree of feedback adequate?
6) What kinds of records does the software keep?

Content:

1) What is the goal of the software?
2) Is the level appropriate?
3) Is the content accurate and up-to-date?
4) Is the material culturally appropriate?
5) Does the software accommodate the students’ learning styles and preferences?
6) Is the software interesting?
7) How flexible is the software?

This comprehensive checklist from Braiden does leave out some information that teachers may be able to gather quite easily from previous users of the software. Higgins (1995) suggests some “tools” for CALL evaluation. The majority of these tools deal with actual use in the classroom and how the students react to the software.
1) Sales figures- what program has been sold the most

2) Plagiarism- amount of imitation of software

3) Usage figures- time logs, time spent by learner

4) Attitude questionnaires- response from learner

5) Introspection and Recall- pre and post session interviews

6) Class records and teaching reports- observations from teachers

7) Class observation- outsider’s observations

8) Verbalization- prompting students to comment on what they are doing

The majority of suggestions made by Higgins require actual use by students and may pose difficulties with regards to time taken to actually perform the observations.

Robert Hart’s unpublished manuscript in 1986 looks at important issues to consider when evaluating computer-based language materials. He divides his issues into context, instructional design, instructional management, human factoring, and documentation.

Context refers to how the software is to be used and in what specific situations. Some software may be more related to younger students as compared to older students. The audience should be defined. Hart (1986) presents the following questions in trying to determine the intended context.

1) What is the intended target audience of the materials?

2) Are the materials self-contained, or do they assume or require use of other, non-computer-based, materials?

3) How are the materials to be coordinated with class work and homework? Do the computer materials make explicit assumptions about the overall syllabus or the kinds of activities which will go on in class?
4) Are the materials intended to provide the major portion of instruction for the content which they cover, or are they simply supplementary?

5) What are the overall goals and lesson objectives of the material?

6) Is the material under review self-contained, or is it a part of a larger set of computer-based material? If it is part of a set, are the units in the set integrated into a tightly ordered series, or are they designed as relatively independent modules which can be freely selected and rearranged?

7) What are the entry conditions for the material? (p. 3).

Secondly, Hart discusses instructional design. He defines two terms important to understanding the concept of instructional design. He defines instructional operations as the operations performed by the computer. Hart defines cognitive operations as the operations performed by the student. Good design also includes achieving the objectives of the software in terms of the student and that use of good instructional operations permit an effective use of the software. Important aspects of this category include the following: what kinds of activities are used, learning history, meaningful manipulation of the target language, reasonable step size, authentic use of target language and at appropriate level.

Thirdly, Hart looks at instructional management which refers to the record keeping of the program. In this area some important factors to consider are the following: restart capability, status, handling of multiple users, access by instructor to view all or one student’s information, print-out of information, measurement of goal completion.

Fourthly, human factoring refers to ease of navigation for the student. Hart poses seven questions to ask when analyzing human factoring.
1) Is the screen display planned so that visual attention is focused on information important to the task at hand?

2) Is information arranged to minimize the need for visual search?

3) Does the program operate according to a consistent user model?

4) Is the student kept informed of his status within the program?

5) Are the mechanics of program operation simple to learn and not prone to confusion or error?

6) Is the program sufficiently responsive?

7) Do the students and the program share in the initiation of events or is the student forced into a totally passive or responsive role?

Finally Hart looks at the use of documentation. This refers to manuals, systems requirements, and directions on how to use the software.

A framework incorporating the works of Krashen and Terrell, Hart, Braiden, and Higgins was designed in order to evaluate programs for ESL students.

The following framework was considered when reviewing each CD-ROM in this study.

1) The cost of the program.

2) Are there sufficient listening activities to provide the comprehensible input?

3) Do the manuals contain sufficient information for the teacher and provide assistance for troubleshooting.

4) Are there supplemental worksheets and activities for students to do without the use of the computer?

5) Are the contents and activities appropriate for ESL students in K-2 grade?
6) Are there student record keeping and notification of errors made and when they occurred?

7) Is the program consistent to what is being learned in class?

8) What are the system requirements? (PC, Mac, mouse, Quicktime, etc.)

9) How much instructional time is needed in K-2 grade ESL students for them to become familiar with the program?

10) Are there enough activities to keep ESL students engaged for longer periods of time (over 20 minutes)?

11) Does vocabulary learning play a large part in the software?

The criteria used to develop the above framework is further discussed in the methodology chapter.

In conclusion the information gathered from the three authors is often overlapped and repeated and there is a necessity to create a framework combining aspects of each author. SLA must also be taken into account and how the material is presented and whether or not it is applicable to ESL students. Teachers must take into consideration that all software may not be applicable to ESL learners. There may be a lack of comprehensible input and the software may not correspond to the speech needs of the student. Teachers need to become informed on how to evaluate software and to optimize its use in the classroom. The next chapter will look at the methodology of the study and explain the procedure used to conduct the study and discuss the use of the mailing survey along with presenting a table of the CD-ROMs evaluated.
METHODOLOGY

Materials

In this chapter the researcher discusses the materials and procedure used in evaluating the software. For this study fifteen CD-ROM programs, (Appendix A), were evaluated. The CD-ROMs included a user’s guide along with a teacher’s guide and system requirements. Most of them could be operated with a Macintosh and Windows format. For the majority of programs an iMac (350 MHz, and 64 MB RAM) was used to preview the software. The CD-ROMs and computer were available at Heartland Area Education Agency 11 (AEA 11). The software contained interactive activities along with listening components and animated graphics. Table 1 lists the CD-ROMs evaluated in this study along with purpose, activities, ESL strengths and weaknesses.

Table 1. CD-ROM Information

<table>
<thead>
<tr>
<th>CD-ROM title</th>
<th>Purpose</th>
<th>Activities</th>
<th>ESL Strengths</th>
<th>ESL Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Magic Letter Factory</td>
<td>Explore letters, sounds, word formation, and sentences</td>
<td>Songs, videos, make words, sentences</td>
<td>Variety of activities suited for many learning styles</td>
<td>Very little vocabulary, navigation is difficult, low interaction</td>
</tr>
<tr>
<td>Millie and Bailey Preschool</td>
<td>Learn math and reading</td>
<td>Make stories, learn alphabet, practice numbers</td>
<td>Large vocabulary building activities, high interaction</td>
<td>User manual does not recommend how to use with ESL student</td>
</tr>
<tr>
<td>Chicka Chicka Boom Boom</td>
<td>Learn letters</td>
<td>Sing-along, reading</td>
<td>Very musically oriented</td>
<td>Very little vocabulary, navigation is difficult</td>
</tr>
<tr>
<td>A to Zap</td>
<td>Recognize letters and identify words</td>
<td>A short activity for each letter of the alphabet</td>
<td>Manual explains how to be used with ESL students</td>
<td>Very little interaction</td>
</tr>
<tr>
<td>First Phonics</td>
<td>Teach letter-sound correspondence and build vocabulary</td>
<td>Matching exercises, listening activities</td>
<td>Many activities for students and student progress report,</td>
<td>Very little vocabulary building, navigation may be difficult with beginners</td>
</tr>
</tbody>
</table>
Table 1. (continued)

<table>
<thead>
<tr>
<th>Letter Sounds</th>
<th>Learn sounds and letters</th>
<th>Word sorting, create words, create tongue twisters</th>
<th>Large quantity of spoken English and can use a microphone</th>
<th>User manual does not recommend how to use with ESL student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phonics Alive</td>
<td>Introduces sounds</td>
<td>Five modules of matching exercises</td>
<td>Focus on phonics and progress report is thorough</td>
<td>Very little vocabulary, very little flexibility with order completing the tasks</td>
</tr>
<tr>
<td>Bailey's Bookhouse</td>
<td>Teach prepositions, adjectives, letters, and make stories</td>
<td>Create stories, practice using adjectives and prepositions.</td>
<td>See Mille and Bailey's Preschool</td>
<td>Advanced activities may be difficult for beginning students</td>
</tr>
<tr>
<td>Dr. Seuss's ABC</td>
<td>Reading and learning the alphabet</td>
<td>Reading the book</td>
<td>Focus is on listening and reading, good for peer tutoring</td>
<td>Difficult phrases, Very little interaction and lack of activities</td>
</tr>
<tr>
<td>Farm Buddies</td>
<td>Learn animals, make stories, learn letter sounds</td>
<td>Jigsaw puzzles, matching exercises, and story building</td>
<td>Good vocabulary building activities, listening is a main component. Also includes a Spanish version</td>
<td>Navigation is difficult, instructions are sometimes difficult to understand</td>
</tr>
<tr>
<td>Let's Go Read</td>
<td>Learn letter names, letter sound, phonics, and sentence building</td>
<td>Choosing correct sound, games, story activities</td>
<td>Large quantity of listening comprehension, can use microphone, good variety of activities</td>
<td>User manual does not recommend how to use with ESL student</td>
</tr>
<tr>
<td>How Many Bugs in a Box</td>
<td>Learn numbers</td>
<td>8 activities used to teach numbers</td>
<td>Good number vocabulary practice and interactive book</td>
<td>May require a lot of teacher assistance for beginning students</td>
</tr>
<tr>
<td>Read Write and Type</td>
<td>Use phonics, learn to type and form sentences</td>
<td>Sending e-mail, use keyboard to type words</td>
<td>Authentic tasks, speech is natural and many activities</td>
<td>For a more advanced student</td>
</tr>
<tr>
<td>Travel the World with Timmy</td>
<td>Introduction of Japanese, Swahili and Spanish</td>
<td>Vocabulary building, making stories, singing songs</td>
<td>Not suitable for ESL students unless in a bilingual setting</td>
<td>Not suitable for ESL students</td>
</tr>
<tr>
<td>Kindergarten Interactive Learning Center</td>
<td>Learn letters, numbers, shapes, time, and money</td>
<td>Drawing and painting, dot-to-dot, movies, and videos</td>
<td>Many listening activities, variety, good vocabulary building</td>
<td>No student progress report. User manual does not recommend how to use with ESL student.</td>
</tr>
</tbody>
</table>

Procedure

The first process of the implementation of this study was to discuss the possibilities of language learning software with an elementary ESL instructor in the Ames School District to
determine if software was used in class and if software was available to instructors in Central Iowa. Upon further discussion the lack of software evaluation became evident. A follow-up discussion was held in order to identify a more detailed list of what type of programs the instructor was looking for and possibilities of procuring the software.

The researcher contacted AEA 11 in early December, 1999 and made a preliminary trip to Johnston, Iowa to evaluate the site and to briefly review the software and determine what was available. A printed catalog provided a list of the educational software provided to the teachers and the researcher began his search by looking under the heading of “Language” and selected 25 programs that were applicable for elementary school. After noting the 25 CD-ROMs the next step was to read the brief summaries written in the back of the guide. By doing this, the researcher was able to eliminate all of the software that was not related to language learning and also eliminate those that were not suited for elementary education, narrowing the list to 20 CD-ROMs to be used for this study.

The next step in the process was to quickly scan the user manual and teacher’s guide of each CD-ROM and read the objectives stated by the software producers. The CD-ROMs that contained no guide and/or had very few activities were not selected for further evaluation. As a final number 15 CD-ROMs were evaluated.

In order to thoroughly evaluate the CD-ROMs that were selected the researcher used Robert Hart’s, Claire Braiden’s, and John Higgins’ guidelines to create a framework adaptable to ESL students. The first step in the evaluation process was to locate the software and review the manuals. In order to get a better idea of how to navigate through the program the researcher read through the user’s manual, becoming familiar with the icons and commands of the software. The researcher also noted the system requirements and what
platforms they would operate on. In some cases the manuals were very complete whereas with a select few the manuals did not contain enough information. The next step in the process was to review the teacher's manual and any supplemental material. These might have included a list of activities to be done without the software or in conjunction with the software and also reproducible worksheets, games, or cards for the instructor to use in class. After completing the review of the manuals the following step was to install the software on the iMac and begin investigating the CD-ROM. At this stage of the evaluation I also relied on the manual in order to guide me through the activities. The researcher took notes on the following aspects of the program: skill areas focused on, use of graphics and digitized video, student record keeping, ease of navigation and how the instructions were presented to the student.

Criteria

The criteria used to evaluate the software were based on the framework created by the researcher. The researcher wanted a reference that would be quick and easy to read and with useful information for the instructor. The evaluation criteria were also suggested by the elementary ESL teacher as items beneficial to the instructor. One of the main concerns for instructors was the cost so this was included at the beginning of the evaluation. The next category was titled “Contents and Activities.” This encompassed a brief description of the software and what its intended use is along with the activities available to the student. The researcher also included what skill areas were focused on within each activity. The next category, “Manual”, gives a short description of the contents of the manual and what types of manuals were included with the software. The next category, “System Requirements”, is one of the most important with regards to whether the instructor will actually be able to use the
software on the computers that he or she has available. The last category included in the
evaluation was “Teacher Evaluation and Student Progress Report”. The majority of CD-
ROMs evaluated did not make use of some kind of record keeping but of those that did a
brief example of how the student’s progress was reported was explained. Observations and
ESL applications were comments noted by the researcher regarding overall thoughts of
program and its possible use with ESL students.

Mail Survey

In order to receive feedback from teachers, a mailing survey was constructed and sent
out to 43 instructors. In order to determine what teachers had purchased one of the 15 CD-
ROMs, a printout of names and schools was procured from the AEA 11 Media Resources
Center. The names were randomly chosen from each CD-ROM. The design of the mailing
survey was centered around the ideas of Don Dillman (1978) and his book titled Mail and
Telephone Surveys, The Total Design Method. Some of the principles that Dillman (1978)
notes in his book were implemented in the mailing survey. First, the questionnaire had to fit
into a letter-sized envelope and also contain a return envelope that would accommodate the
completed questionnaire. In order to confine the questionnaire into the letter-sized envelope
the size of the questionnaire had to be appropriate. For this reason a brief explanation of the
study and importance of the return of the questionnaire was stated at the top of the survey.
Following the introduction were the questions. The questions used on the survey were
chosen in order to answer some of the questions posed by the framework presented in the
literature review. For example; What level is the software appropriate for? How much
instruction time was needed? What attributes make the program less or more likable? Some
of the questions posed by the framework were answered by the researcher and for this reason not present in the mailing survey.

Dillman (1978) recommends that “ordering for questions in a questionnaire is to begin with something ‘easy’.” This is based on the idea that by encountering “easier” questions at the beginning of the survey the more likely the survey taker is to continue answering questions. A question that requires “only a few seconds to comprehend it and another few seconds to answer it.”

Another important aspect of creating the survey was to use lower case letters for questions and upper case letters for answers. The reasoning behind this focuses on the idea of readability. The participant recognizes that all the questions are lower case and all of the answers are upper case, thus making the survey easier to follow and also draws a distinction between the questions and answers.

Directions for answering most questions were stated with each question and in concordance with Dillman used the instructions to “circle the response or all that applied.” “The encirclement process results in fewer ambiguous markings and should thus be encouraged.”

Since the survey mailed out was only two pages long it was important to make sure the last question on page one did not overlap onto page two which can create confusion and errors. As Dillman states, “it also makes the questionnaire less attractive to respondents, especially when (as may often happen) respondents scan the questionnaire before sitting down to fill it out and find it necessary to read several lines down some pages before they can make sense of the questions.”
A return envelope was included in order to facilitate the return of the finished questionnaire. The return address was printed on the envelope and a postage stamp already attached.

Two weeks after sending the first questionnaire a follow-up letter with additional questionnaire was sent to all participants who did not respond to the first questionnaire. It is also important to note that personal information was not included on the survey. This information was not important for the survey and also let the respondent remain anonymous.

The questions posed on this survey were meant to discover aspects of the CD-ROM that seemed to “work” in the elementary classroom. There was also an open-ended question at the end of the survey in order to let the respondent add any additional comments they may have had in regards to the software.

The following chapter will state the results, recommendations, and interpretations of the researcher.
RESULTS, RECOMMENDATIONS, and INTERPRETATIONS

Results

Appendix A contains a complete list of the CD-ROMs evaluated, therefore this section will look at generalizations of the evaluation with regards to cost, system requirements, manuals, content, and record keeping (Table 2). A brief look at the survey results will also be included in this chapter, corresponding to Table 3.

Cost

The first aspects of the results will look at cost of the software. Since all of the software was available through Heartland Area Education Agency 11 the price for instructors in the district are charged ten dollars and the software could be used on multiple machines within the same school. It is interesting to note that some CD-ROMs contained no supplemental materials and the user’s manual was not very comprehensive. The cost was not reflective of actual activities presented by the software. At one end of the spectrum a program with eight different activities and three skill levels and at the low end of the spectrum may be a program with only two games or activities and no interaction on the student’s part.

System requirements

The next section looks at system requirements. Fourteen of the fifteen CD-ROMs evaluated were able to run on both the Macintosh and Windows platform. (Table 2). They generally required 5-8 MB RAM and for Windows a sound card was also needed. Windows95 or 98 and Macintosh operating system 7.0 or better were required for most programs.
Table 2. CD-ROM Data observed by researcher

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The Magic Letter Factory</td>
<td>Yes</td>
<td>Yes</td>
<td>8 MB</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Millie and Bailey Preschool</td>
<td>Yes</td>
<td>Yes</td>
<td>8 MB</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Chicka Chicka Boom Boom</td>
<td>Yes</td>
<td>Yes</td>
<td>8 MB</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>A to Zap</td>
<td>Yes</td>
<td>Yes</td>
<td>8 MB</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>First Phonics</td>
<td>Yes</td>
<td>Yes</td>
<td>8 MB</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Letter Sounds</td>
<td>Yes</td>
<td>Yes</td>
<td>8 MB</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Phonics Alive</td>
<td>Yes</td>
<td>Yes</td>
<td>N/A</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Bailey's Bookhouse</td>
<td>Yes</td>
<td>Yes</td>
<td>4 MB</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Dr. Seuss's ABC</td>
<td>Yes</td>
<td>N/A</td>
<td>N/A</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Farm Buddies</td>
<td>Yes</td>
<td>No</td>
<td>4 MB</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Let's Go Read</td>
<td>Yes</td>
<td>Yes</td>
<td>8 MB</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>How Many Bugs in a Box</td>
<td>Yes</td>
<td>Yes</td>
<td>5 MB</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Read Write and Type</td>
<td>Yes</td>
<td>Yes</td>
<td>4 MB</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Travel the World with Timmy</td>
<td>Yes</td>
<td>Yes</td>
<td>8 MB</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Kindergarten Interactive Learning Center</td>
<td>Yes</td>
<td>Yes</td>
<td>4 MB</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Although not always stated a mouse was necessary to operate all of the programs. There were also optional accessories that could be used with some of the software programs such as: printer, microphone, and TouchWindow. The requirements also included the use of a minimum of a 13” monitor. *Kindergarten Interactive Learning Center* required the installation of QuickTime 2.1, which was provided with the program.

**Student evaluation and progress report**

The next feature evaluated was student evaluation and progress report. (Table 2). All of the programs that included some sort of student progress report or file saved the information in a folder on the hard drive under the student’s name. Before beginning a program with student progress data the student must sign-in by typing their name. By signing-in the student creates a file where their progress is saved. Those that did have these features varied largely on what they presented to the instructor. In *First Phonics* the student learned letters and upon completing 80% of activity correctly they would be marked as “learned”. If the student had not reached 80% correctness for a letter it was termed “unlearned” in their file. A more detailed report by the CD-ROM *Phonics Alive* showed the name of the student, what time they logged in to begin the activity, what section they worked on, and if there were any errors, where did errors occur and how many times. A different kind of progress evaluation involved the student keeping a journal. A small percentage of the programs included certificates of accomplishment after completing individual sounds or letters and were printed out with the student’s name on it.

**Manual and supplemental material**

The manual and supplemental materials are an important facet of the software and fourteen of the fifteen CD-ROMs contained some form of user’s manual and/or a teacher’s
manual. (Table 2). The user’s guide generally stated the objective of the program, a list of system requirements and installation procedures, an orientation of navigating through the software, option commands available to the instructor to change settings, and a section designated for troubleshooting any problems that may arise with using the software.

EDMARK which produced *Millie and Bailey Preschool, Bailey’s Bookhouse, Let’s Go Read: An Island Adventure, Travel the World with Timmy, and Kindergarten Interactive Learning Center* generally had the most detailed and comprehensive user’s manual and teacher’s manual. The user’s manual was full size (8 ½ x11) contained detailed descriptions of each individual activity used in the software along with descriptions of the icons and navigation. The objectives of the CD-ROM were clearly stated and detailed instructions of use were given. An additional component of various CD-ROMs were supplemental materials. These included black-line master copies for in-class use and also cutout cards for flash cards. One of the most detailed supplemental materials was a teacher’s manual for *The Letter Factory* that contained numerous pages of activities to be used in conjunction with the software program and gave detailed descriptions of the materials needed along with procedure. *The Letter Factory* also included cutout puppets to be put on sticks so students can create a re-enactment of what occurs on the CD-ROM. One software package included a letter to the parents in both English and Spanish explaining the purpose of the software and that the child was going to use it in class. One software program also included the master for the certificates that are given to the student after learning a letter (sound).

**Interaction**

The main portion of the evaluation results centered around the actual contents and activities presented with each CD-ROM. As an overview, this section of the results will look
at examples of activities and skill areas focused on by the activities. The 15 CD-ROMs can be generally divided into two categories of presenting material to the learner.

The first category can be termed the “step-by-step” model. Most of the software began by introducing one sound or a group of sounds. For example in Phonics Alive the student would begin an activity by learning one letter and progress through a series of interactive activities. By clicking on the letter the student is able to hear the sound and recognize that the letter represents that sound. As reinforcement a game is used to test the student if they have learned the letter. In Bailey’s Reading Adventure students must be able to recognize the letter and sound and collect it off the beach and put it in the correct basket. When the student puts the letter in the basket they hear the letter’s sound being pronounced. The student proceeds through the activities and new letters are introduced.

The other approach to presenting material is as an interactive reading activity. In Dr. Seuss’s ABCs the child works their way through the book of ABC’s by experiencing each letter in order of the alphabet. They also have the option to begin at different letters and skip letters as they read the book. In order to hear words using the letter the child can click on an animal or picture on the page and a silly sentence using words containing that letter will be spoken aloud. In Farm Buddies students learn specific vocabulary pertaining to animals that are found on the farm. After building an animal by putting its head, middle, and back together they then proceed to a game, for example; one game consists of spinning a number wheel and moving a cow the correct number of spaces until it gets to the barn. After the wheel is spun the child hears the following command; “Move the cow two spaces.” In Travels with Timmy, a program to introduce children to the three foreign languages of Japanese, Spanish, and Swahili. Students can visit Argentina where they can build a village
using pictures of people, animals, and common objects. As the student chooses a number and picture the screen is filled in with the correct number of objects. The corresponding words are then seen on the screen and a voice speaks the sentence. For example; “ocho gatos” meaning “eight cats.”

Music is a very prominent component of many of CD-ROMs that were evaluated for this study. In Chicka Chicka Boom Boom children have the opportunity to play along with the music and choose their instrument. By using the space bar and return key they could hit and shake a variety of instruments. This program also uses an existing children’s book to guide the format of the CD-ROM. The use of rhymes and creating rhymes was also a popular activity in many of the programs.

Another element that is present in about 25% of the CD-ROMs evaluated is the use of digitized video. Short videos introduced numbers and letters. In Chicka Chicka Boom Boom the main characters of the program were children 7-8 years old who would join in the activities and present the directions. The use of actual children only occurred in two of the previewed CD-ROMs. The majority of software programs contained animated characters such as elves, domesticated animals, and letters. In How Many Bugs in a Box the program used unusual bugs to teach the numbers 1-30. This program was also based on an already existing children’s book.

Survey data

There were nineteen mailing surveys returned to the researcher (44% return rate). Each CD-ROM had a response from at least one instructor. Each instructor also made comments about the programs. The CD-ROMs with more than one survey returned were: Chicka Chicka Boom Boom, Letter Sounds, Dr. Seuss’s ABC, and How Many Bugs in a Box.
Although the data received is not supported by more responses it does provide a basis for evaluation to the instructor of ESL classes. The data received from the survey is summarized in Table 3. Table 3 reviews the appropriate grade level and this information was gathered from information obtained from the instructors who were actually using the software at the time of this study. The likes and dislikes of the table are opinions of the instructors and not true reflections of the programs. The data gathered from more than one CD-ROM was

**Table 3. Data from mail survey**

<table>
<thead>
<tr>
<th>CD-ROM title</th>
<th>Grade Level</th>
<th>Language ability</th>
<th>Instruction time</th>
<th>Use</th>
<th>Likes</th>
<th>Dislikes</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>The Magic Letter Factory</em> (1 response)</td>
<td>Pre K-2</td>
<td>mid-beginner</td>
<td>15 minutes</td>
<td>Individually</td>
<td>Manual, variety, graphics</td>
<td>Student evaluation</td>
</tr>
<tr>
<td><em>Millie and Bailey Preschool</em> (1 response)</td>
<td>Pre K-2</td>
<td>mid-beginner</td>
<td>30 minutes</td>
<td>Individually</td>
<td>Graphics, materials</td>
<td>evaluation</td>
</tr>
<tr>
<td><em>Chicka Chicka Boom Boom</em> (2 responses)</td>
<td>PreK-1 and K-2</td>
<td>Low-beginner</td>
<td>15 minutes</td>
<td>Groups and individually w/ instructor</td>
<td>Variety, skill areas</td>
<td>N/A</td>
</tr>
<tr>
<td><em>A to Zap</em> (1 response)</td>
<td>PreK-1</td>
<td>Low-beginner</td>
<td>15 minutes</td>
<td>Individually, and groups</td>
<td>Sound, graphics, cost</td>
<td>Worksheets, microphone, evaluation</td>
</tr>
<tr>
<td><em>First Phonics</em> (1 response)</td>
<td>Pre K-1</td>
<td>mid-beginner</td>
<td>15-30 minutes</td>
<td>Individually, groups, and individually w/ instructor</td>
<td>Variety, student report, sound, graphics</td>
<td>Teacher’s manual</td>
</tr>
<tr>
<td><em>Letter Sounds</em> (2 responses)</td>
<td>PreK-1</td>
<td>mid-beginner</td>
<td>15 minutes</td>
<td>Individually</td>
<td>Manual</td>
<td>graphics</td>
</tr>
<tr>
<td><em>Phonics Alive</em> (1 response)</td>
<td>1-2</td>
<td>mid-beginner</td>
<td>15 minutes</td>
<td>Individually</td>
<td>Variety, graphics, cost</td>
<td>Worksheets, no evaluation, microphone</td>
</tr>
<tr>
<td><em>Bailey's Bookhouse</em> (1 response)</td>
<td>K-2</td>
<td>mid-beginner</td>
<td>15 minutes</td>
<td>Individually</td>
<td>Students enjoy activities</td>
<td>evaluation</td>
</tr>
</tbody>
</table>
### Table 3. (continued)

<table>
<thead>
<tr>
<th>Dr. Seuss's ABC (2 responses)</th>
<th>Pre K-2</th>
<th>mid-beginner</th>
<th>15-30 minutes</th>
<th>Individually and Groups</th>
<th>Manual, variety, graphics, cost</th>
<th>Worksheets, evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm Buddies (1 response)</td>
<td>K-2</td>
<td>mid-beginner</td>
<td>30 minutes</td>
<td>Individually</td>
<td>Variety, graphics</td>
<td>evaluation</td>
</tr>
<tr>
<td>Let's Go Read (1 response)</td>
<td>Pre K-1</td>
<td>mid-beginner</td>
<td>30 minutes</td>
<td>Individually</td>
<td>Graphics, cost</td>
<td>manual</td>
</tr>
<tr>
<td>How Many Bugs in a Box (2 responses)</td>
<td>Pre K-1</td>
<td>Low-beginner</td>
<td>15 minutes</td>
<td>Individually</td>
<td>Graphics, sound, cost</td>
<td>Worksheets, evaluation</td>
</tr>
<tr>
<td>Read Write and Type (1 response)</td>
<td>1-5</td>
<td>Mid-beginner</td>
<td>15 minutes</td>
<td>Individually w/ Instructor</td>
<td>Students enjoy activities</td>
<td>User's manual</td>
</tr>
<tr>
<td>Travel the World with Timmy (1 response)</td>
<td>1-2</td>
<td>mid-beginner</td>
<td>30 minutes</td>
<td>Individually</td>
<td>Manual, cost, graphics</td>
<td>Skill areas</td>
</tr>
<tr>
<td>Kinder- garten Interactive Learning Center (1 response)</td>
<td>Pre K-2</td>
<td>mid-beginner</td>
<td>15 minutes</td>
<td>Individually</td>
<td>Variety, sound, interactive activities, graphics, cost</td>
<td>N/A</td>
</tr>
</tbody>
</table>

consistent except for *Chicka Chicka Boom Boom* which had a slight discrepancy concerning the grade level. As a generalization the majority of CD-ROMs were recommended for Pre-Kindergarten to second grade. The exception to this was *Read, Write, and Type*. This program is used to teach typing and become familiar with the keyboard; thus it may be appropriate for older students. The level of student using the program is from mid-beginner to low-beginner, meaning that the students may know some letters and a few sight words. The average time of instruction for the student to become familiar with the program was from 15-30 minutes and most of the students used the computer program on an individual basis although a few such as *A to Zap, Chicka Chicka Boom Boom, Let's Go Read*, and *Dr. Seuss’s ABC* were used with groups of two or more students.
Most of the instructors liked the cost, graphics, variety of activities, and manuals of the programs. The dislikes of the teachers included lack of worksheets and supplemental materials, no evaluation of student's progress, teacher's manual, and lack of microphone.

**Recommendations**

The following section will make recommendations for beginning language learning software in elementary level ESL classrooms. The recommendations will be made based on ideas of second language acquisition, software evaluation, and aspects of computer assisted language learning. The evaluations of the software in Appendix A will also be taken into account.

It is important to keep in mind that the teacher plays a very important role in evaluating the software and introducing it to the student. Some students may not be familiar with how a computer works so teachers need to be aware of this problem also.

**System requirements**

The software should be able to be used in the current environment and should be able to run on both Macintosh and PC machines and require between 5-8mb RAM. The software should be licensed for more than one classroom so students can use it in different rooms. Since all classrooms may not have Internet access the software should not rely on Internet access to function properly. A mouse is an important navigation tool and for beginners is the essential mode of interacting with the computer. A printer is necessary for students to print out their work, for teacher progress reports, and certificates of achievement.

**Cost**

The cost for the software evaluated was $10 and seems reasonable for a teacher with restricted financial resources.
Teacher tools

A manual should accompany the software and contain the objective of the program, what the software does, technical support, navigational information, and supplemental activities and worksheets. A troubleshooting guide along with company contact information should also be provided. Some additional features included in the manual might be certificates of achievement, form letters to the parents, sight words and cards, alphabet cards, and game boards. Detailed instructions for teacher and student options should also be included in the manual with an example of the student’s record along with an explanation of how to decipher it. This record should include what time the student used the program, how long they were using the software, mistakes made and where, and what level they completed.

Content

For young ESL students, easy navigation of the program is an important aspect of software in order to create a relaxed learning environment. Instructions for activities are a crucial component of the software and to facilitate use, icons should be appropriate to what the student wants to do. Of course some orientation time will be required of the student and teacher. Krashen and Terrell’s (1983) Natural Approach, listening provides the comprehensible input, so therefore verbal instructions should also be included when the student selects an activity. A preview of what is expected of the student should precede the activity itself. This allows the student to become familiar with the software and comfortable with navigation through different parts of the program. Letting the student see how to do the activity along with verbal instructions not only adds input but also provides a visual context for the instructions.
The software should engage the student in active participation and not as a passive learner described by Opp-Beckman (1999), taking into consideration the different learning styles of each student. A software program should incorporate activities that test what the child has learned and accomplish a certain goal and maintain reinforcement activities throughout the progression of the program. The program should be consistent to what is being taught in class and should contain learning letter recognition, letter sounds, writing, reading, and arts and crafts. All of these areas can be incorporated into an ESL program. Appropriate step size should also be considered when choosing software. Does the software present new material in feasible amounts so the student doesn’t become overwhelmed with input. The software should present young learners with manageable input and reinforce it with various activities and maintaining its reinforcement throughout the program.

Activities should be easy to navigate, have a goal, test the objectives of the lesson and offer varied activities. Music, coloring, and reading are important aspects for young elementary school classrooms and should also be incorporated into the software program. What the students do with the software applies to what they are doing in the classroom, thus adding authenticity to the program. The input the child is receiving is input that can be used in their classroom environment.

**Interpretations**

While all of the software contained numerous activities and good sound quality, in this section the researcher looks at their potential to be used in an ESL classroom for K-2 grade. In order to do this Krashen and Terrell’s Natural Approach must be considered along with the framework designed by the researcher in the literature review. Information regarding use with ESL students can be found in Appendix A. The use of sound has the potential to
produce the comprehensible input defined by Krashen and Terrell and the researcher believes that the majority of the CD-ROMs evaluated possess this potential for comprehensible input. The exceptions to this are; *Read, Write, and Type* and *Travel the World with Timmy.* These programs provide input that is above the level of the K-2 grade ESL learner and the words or phrases are often said without being accompanied by a visual. ESL students hear the phrase or word and have nothing to relate it to, thus making it incomprehensible.

Learning styles also play a role in language learning for ESL students. The more styles used in the software the more students it is applicable with and thus making it a better tool in the classroom. Only one CD-ROM actually contained information of how to use it with ESL learners. This makes the other programs more difficult to use because the ESL instructor must spend time deciding if the software can actually be used in the classroom. The manual should contain information with regards to appropriate age, level, and background (migrant, immigrant, professional, etc.). The information provided to the ESL student with regards to navigation, should be spoken slowly along with easily recognizable icons. The slower speech allows the student to better comprehend the message.

Krashen and Terrell (1993) mention vocabulary is important. Vocabulary that is spoken and also represented by a visual is vital for comprehension. The vocabulary must also correspond to what the student is encountering in the classroom or will be encountering outside of class. In early elementary school much of the language focuses on numbers, animals, and colors. CD-ROMs that take this into account are better suited for ESL students because they can begin to communicate with native speakers and use the language to function in everyday life. Krashen and Terrell (1983) also note that pronunciation does have its place in ESL but as more of a peripheral role. In many of the early elementary classes
phonics have become an important means of learning how to read. If this is the case, ESL instructors may feel that phonics are important for their students due to the fact that it is what the native speakers are also doing in class.

The programs should also involve the student in the learning process. Interaction by the student promotes learning by giving responsibility to the student. Students must complete tasks and receive feedback in order to feel like a successful language learner.

Programs that contain student record keeping allow the student to work on his or her own, maintaining a low affective filter but also giving access to the teacher to monitor the student’s progress.

In conclusion, the CD-ROMs evaluated in this study contain components for use with ESL learners in K-2 grade. The programs offer sufficient comprehensible input, vocabulary, visual cues, appropriate material, and interaction to benefit the ESL student. In the following chapter the researcher will list the five most useful CD-ROMs and explain some limitations and future uses of this study.
CONCLUSION

Overall Recommendation

Based on the interpretations the researcher recommends the following five CD-ROMs for use with K-2 grade ESL classes. These programs contained quality comprehensible input, vocabulary (numbers, colors, and animals), easy navigation, student progress reports, numerous activities, informative manuals with supplemental materials and use of various learning styles.

1) Millie and Bailey Preschool
2) Let’s Go Read: An Island Adventure
3) How Many Bugs in a Box
4) Kindergarten Interactive Learning Center
5) Farm Buddies

Limitations of the Study

This study was conducted with the majority of CD-ROMs designed for native English speakers. Very little of the software had ESL and foreign language components and directions of use for non-native English speakers and the selection was limited to what was available at AEA 11.

Improvement in evaluating ESL software would be to restrict evaluation to only those CD-ROMs designed for ESL classes. It would also be interesting to note the differences between software designed for native speakers versus software designed for non-native speakers.

The main suggestion for improvement on this study would be to use the CD-ROMs in an actual elementary school ESL class situation and observes the students’ behavior and
reaction to the software. Verbal feedback from the students could be made and an observer
could take notes on the interaction of the student with activities presented by the software.
Teacher feedback is also important to the study and although a mailing survey was sent out to
over forty instructors, the response was low (44%) even after a second questionnaire was
mailed to the non-respondents. Additional reminders and surveys using e-mail could have
been sent but ideally the feedback from the teachers should have been done orally. This
could have been done via the telephone, or in a face to face interview. The oral interview
requires much more financial support and is also more time consuming although it allows for
a more detailed survey and feedback from the respondent.

The mailing survey itself should have been a little longer with more detailed
questions although the constraint of the envelope size and cost kept the survey to a maximum
of two pages. There was no pilot survey to test the effectiveness of the form. Also the first
set of questions seemed to pose a problem and should have been included with better
directions. For example; If you answered “yes” to question 1 please move on to question 4.
The first question also posed a problem because it created a bias towards ESL instructors. A
more appropriate first question should have been if the instructor actually uses the
highlighted software in the classroom. By presenting the first question of “Do you use this
CD-ROM with ESL students?” many teachers may have seen this question and felt that since
they didn’t work with ESL students the questionnaire did not pertain to them. Another
drawback of the survey was that although anonymity was implied it was not clearly stated on
the questionnaire, some would-be respondents might have been deterred from filling out the
survey because of this failure to clearly state that all responses and answers would be held
anonymous and no names would be used.
Because the software was located about 45 minutes away it was important to take clear and detailed notes regarding all aspects of the CD-ROM. Having possession of the software would have been beneficial in this study. Another possible solution to this problem of a distant location would be to videotape the actual review period. In this manner the tape could have been viewed and any notes lacking on the evaluation could have been filled in. This of course would depend on the permission of the Media Resource Center in Johnston and also copyright laws. The resolution of the software on the screen may also inhibit the clarity of the video. Many software companies also distribute free trial software for instructors and while this is economically appealing the software normally doesn’t present a detailed enough scenario of what the software is capable of and its contents. Another source of computer language learning is through the Internet. An evaluation could have been done using only web-sites oriented towards young ESL learners. Provided the researcher had readily accessible Internet access, he or she would be able to evaluate the web-site at any time. In summary this study was conducted by one researcher and using data that was collected personally or gathered by means of a mailing survey.

The software available for evaluation at AEA 11 was limited with regards to ESL students and primarily designed for native English speakers. No students were used to actually test the effectiveness of the software programs. The replies of the survey were all from non-ESL instructors so the feedback received must reflect this fact. The time of instruction does not seem very long, perhaps because the students had a fairly good command of the English language and understood what the instructor was telling them. The mailing survey did not ask how much time in class the software is used and if the teacher plans to continue using the software.
**Future Research for CALL**

The necessity for quantitative and qualitative studies in actual classroom settings is important for analyzing the usefulness of language learning software. The important question to ask is if the software actually increases the student’s ability to learn a second language. Also what tasks or activities seem to facilitate language learning. Do graphics and sound actually enhance the student’s performance or are drill and practice exercises just as beneficial. What type of activities can be designed to be integrated into the classroom and how can cultural aspects of the English speaking country be introduced to the student via software? Pronunciation was a main focus of a few of the programs evaluated in this study and as Krashen mentioned there may be a role for pronunciation for the language learner. But just how much practice does the student need and how effective can software be in teaching pronunciation would be an interesting avenue for research. Also can a computer only be used to teach a language instead of actual human instruction? The main question to ask is; Can language learning software increase or assist students in acquiring a second language?

**Future Uses of CALL**

In order to make a prediction about the future of using computers for language learning perhaps we should look at the new technology in the business and consumer sectors. The idea of downloading books into a small hand-held screen, wireless connection to the Internet, and video conferencing. The uses for these products all could have implications on the language learner and will effect the way an instructor may teach a class. Bush (1997) says “technology will not replace teachers, but teachers who use technology will replace teachers who do not.” (p. 311). Meskill (1999) presents the idea of a student learning from a digital notebook the size of a regular notebook working on a class assignment that was downloaded...
in school and contains image and sound files. The fear of the computer replacing the instructor is not a concern to researchers but the teachers must be able to recognize that the computer has the power to improve the learning environment as long as what the student is learning is applicable to what work is being done with the computer. In this respect the instructor must become more knowledgeable of software programs and also establish a role as monitor and guide for computer assisted learning.

In conclusion, the increased use of computers in language learning is evident but the programs must be appropriate in content to the level and age of the student. The CD-ROMs in this study all had components that could be used for ESL children in grades K-2. Taking into account the necessity for comprehensible input listening activities and vocabulary building lessons are factors that should be considered strongly when reviewing software. Teachers' roles will also change as more computers are used and they must become more informed and able to evaluate software with regards to the objectives of the class. Software for young language learners should contain detailed manuals, varied and meaningful activities to suit different learning styles and have input that is authentic. Students should be active participants in the learning process and be able to negotiate meaning from the software. Because there is often a lack of financing technology in the public schools the cost of the software plays an important role. Motivation and student record keeping are also important components of good ESL software. Keeping the affective filter allows students to be comfortable in their learning environment and record keeping allows the teacher to monitor the progress of the student without constant supervision. Teachers should be able to monitor their students' performance and progress and some form of recognition should be given to the students for completing set tasks which in turn makes learning more enjoyable.
Comprehensive user and teacher manuals are important in terms of informing the teacher of the objectives of the software and how to best utilize the software in the classroom along with supplemental worksheets and detailed descriptions of activities. ESL instructors in Central Iowa will hopefully have access to improved software designed specifically for ESL students. Today they must be content to use what is available to them and adapt the resources to the classroom. In the future computers may become the primary means of acquiring a language, especially as digitized video, speech recognition, and sound technologies are improved.
APPENDIX A. LIST OF CD-ROMs

Title and Manufacturer

*The Magic Letter Factory*

Educational Activities, Inc.
P.O. Box 87
Baldwin, NY 11510

Cost

The cost for the CD-ROM for Agency 11 schools is $10. Instructors have the opportunity to preview the program before buying it.

Description of CD-ROM: Contents and Activities

This program allows children to explore letters, sounds, formation of words and how to put the words together to form sentences. This adventure uses four different rooms and two elf-like characters named Perri and Winkle.

1) The Morphing Mill- Children can recite and sing along to the alphabet song and also participate in identifying letters of the alphabet. Students use a magic wand to select the correct letter and if they choose the correctly the letter pops up and becomes an animation representing that letter. For example "k"= king. If the student answers incorrectly one of the characters says, “no try again.” Skill areas: Listening and speaking

2) The Tree top Theater- Children can watch a video presentation of the song “Pocket full of B’s” sung by a clown. Skill area: listening

3) Build a Word Workshop- Students have the opportunity to make new words and upon completion of making a word there is an animated response. Skill area- Listening, reading, and writing.

4) Silly Sentence Studio- Children combine words to make sentences and watch animations illustrate the sentence they have made. The child must choose a noun and verb to complete the sentence. For example: The ant sings. The student has a choice between 8 nouns and 8 verbs. Skill areas: reading, listening, and writing.
Manual and Supplemental Material Description
The manual contains supplemental worksheets to be used in the classroom including cut-out character stick puppets. It also includes capital and lower case cut-out letters, fill-in-the-blank worksheets, and drawing letters. This program also contains 4 audio alphabet songs: Pocket Full of B’s, Marching around the alphabet, Letter sounds A to M, and Letter sounds N to Z. The lyrics are also provided in text version in the manual.

System Requirements
Macintosh
Macintosh LCIII or better
System 7 or higher
At least 8MB of RAM
5MB of hard drive disk space
CD-ROM drive double speed or faster
14” color monitor

Windows
486/33 MHz or better system
At least 8MB of RAM
5MB of hard drive disk space
CD-ROM drive double speed or faster
QuickTime for windows (provided)
8 bit (or better) sound card

Teacher Evaluation and Student Progress Report
Not available with this CD-ROM

Observation
I would suggest this activity be used with younger learners with some English ability. There are a lot of verbal instructions and while there is a sequencing of activities there are not
enough activities to keep the student engaged for long periods of time. A lot of time is spent navigating around the activities with the characters and the program becomes impatient if something is not chosen and an icon pops up in the middle of the screen asking the user if they want to quit the program or stay and play the games. Perri and Winkle also have very high-pitched voices which may affect listening comprehension.

**ESL Applications**

This program may be difficult for some early learners to navigate and may require more instruction by the teacher. There are very few vocabulary building exercises and the spoken input provided by the characters is at a very high pitch and not representative of natural spoken English. The interaction is low and due to the impatience of the computer it may cause a higher anxiety level in the student. One nice feature is the incorporation of digitized video which offers a slightly different look at how language is used on the CD-ROM.
Title and Manufacturer

*Millie and Bailey Preschool*

Edmark Corporation
P.O. Box 97021
Redmond, WA 98073-9721

Cost

The cost for the CD-ROM for Agency 11 schools is $10. Instructors have the opportunity to preview the program before buying it.

Description of CD-ROM: Contents and Activities

With this program children learn the fundamentals of math and reading. They explore numbers, quantities, geometric shapes, sizes, problem solving, letter names and sounds, and rhyming words. The child has the option of choosing from two different modes of play for each activity. The “Explore and Discover Mode” requires divergent thinking while the “Question and Answer Mode” uses convergent thinking. The main menu of the program offers the child a choice of eight activities.

1) Make-A-Story. Children become authors and create their own story using interesting characters. Children click on a picture on the screen to fill in the blank of the story sentence and turn the page to continue their story. There are four pages and numerous combinations of characters and pictures. Skill areas-reading and listening.

2) Letter Machine. The student can use Alphabet or QWERTY keyboard setting to explore and practice the sounds and names of the alphabet using animations to illustrate letters and words. For example, by pressing the “v” key an animation of vultures vacuuming appears. Skill areas- listening, writing, and reading.

3) Kid Cards. Students can create their own greeting cards using a variety of cards and phrases, their own personal words can be added by using an alphabet chart at the bottom of the page. Skill area- writing.

4) Build-A-Bug. This activity lets students build bugs by practicing their numbers and vocabulary of body parts. Skill area- listening.
5) Number Machine. A cash register displays the numbers 1 to 30 and by clicking on one of the numbers the drawer pops open and the appropriate number of animals count off. Skill area-listening

6) Little, Middle, and Big. The student must match the correct pair shoes to the character. The student learns the words “little” and “big”. Skill area-listening

7) Read-A-Rhyme. Students choose words to complete a rhyme which is than verbalized and animated. Skill area-reading and listening

8) Mouse House. Students learn the names of shapes by building structures. Skill area-listening.

Manual
The manual is very extensive and provides very good information for the teacher. The “Program Information” presents an overview of the eight different activity locations, Explore and Discover Mode, Question and Answer Mode, Together time (activities students can do at home or in the classroom), and options for setting the controls of the program. The manual also suggests the best way to introduce Millie and Bailey to children along with reproducible worksheets and activities that can be used with the CD-ROM.

System Requirements
Macintosh
System 7.0.1 or higher
At least 8MB of RAM 2064k available
68040, 68030 (25MHz or faster recommended) or Power PC
CD-ROM drive double speed or faster
640x 480 resolution, 256 or more colors

Windows
Windows 3.1, Windows 95 or later
486/33 MHz or better system
At least 8MB of RAM
10MB of hard drive disk space
CD-ROM drive double speed or faster
Windows-compatible sound card
Super VGA graphics 640x480 resolution, 256 or more colors

**Teacher Evaluation and Student Progress Report**

Not available with this CD-ROM

**Observation**

This program contains a lot of activities and variety which will engage the student for longer periods of time. It is also very interactive and allows the student to participate in every activity, involving them in the learning process. There are a lot of listening activities and the animations and graphics are very clear. The manual is also very detailed with good worksheets and instructions for the teacher on how to use them. This is designed for K-2 graders and would require minimal time to familiarize them with the program layout and menu.

**ESL Applications**

Children can learn numbers, body parts, letters, and shapes. A wide variety of activities that incorporate listening skills make this program one of the most beneficial for ESL students. Students must be involved in each activity and must actively participate in order to complete the tasks. The speech is very clear and is always associated with a visual cue. Icons are consistent and easily recognizable.
Title and Manufacturer

*Chicka Chicka Boom Boom*

Davidson and Associates- Simon and Schuster, Inc.
P.O. Box 2961
Torrance, CA 90509

Cost

The cost for the CD-ROM for Agency 11 schools is $10. Instructors have the opportunity to preview the program before buying it.

Description of CD-ROM: Contents and Activities

The objective for this program is to learn letters and build early letter skills and is centered around the book with the same title. The main characters of the activities are called the “Multimedia Players” who are actual children approximately 8 years old. There are six activities that students can participate in and each one is very musically oriented.

1) Sing-Along lets children choose from three different songs introducing the alphabet.
   Skill areas- listening.

2) Bang and Clang is an interesting activity in which the student can perform as one-person band by choosing two instruments and playing along with the alphabet song. The instruments can be played by using the space key and the return key.

3) Jump and Jingle allows the student to click on a letter and one of the Multimedia players comes on the screen and sings a short jingle using that letter. The student can also sing their own jingle using the microphone. The option to switch from upper or lower case letters is also available.

4) Read-Along uses the voice of Ray Charles to read the ABC book while children listen and follow along. The student can choose what letter they would like to start with and buy clicking on a letter they can hear the sound of that letter.

5) Explore S’More is an interactive activity where students can click on a letter and one of the multimedia players will recite a simple or alliterative sentence. For example, “v is for volcano”.

6) Letter Line-up is a game in which the student must arrange letters in the correct order.

**Manual**

A teacher’s guide is included with the manual and provides supplemental materials such as letter cards, picture cards, Bingo, and a letter scramble game. It also includes a parental letter in English and Spanish to introduce what the child will be doing in the classroom.

**System Requirements**

**Macintosh**

Motorola 68040 or Power PC computer
8 MB of RAM
256 color graphics
14” monitor
Double speed CD-ROM drive
System 7.1 or higher
Microphone recommended

**Windows**

66 MHz 486 with mouse
8 MB RAM
256 color SVGA graphics
Windows 3.1 or Windows 95
Windows compatible sound card
Double-speed CD-ROM drive
Microphone recommended

**Teacher Evaluation and Student Progress Report**

Not available for this CD-ROM program.
Observation
This program was designed to be used with K-2 graders and would be beneficial for children who really enjoy music and making music. The directions are verbal and would require a substantial time commitment to orientate the beginning English learner with the program. The activities are always the same with no variation.

ESL applications
ESL students who are musically inclined may find this program very useful. Icons and verbal instructions might be difficult for early language learners. Very little vocabulary is introduced. The book is a nice addition and could be used as a peer tutoring resource. It is a nice way to introduce the child to the alphabet because it is very music oriented.
Title and Manufacturer

A to Zap
Sunburst Communications Inc.
101 Castleton Street
Pleasantville, NY 10570

Cost
The cost for the CD-ROM for Agency 11 schools is $10. Instructors have the opportunity to preview the program before buying it.

Description of CD-ROM: Contents and Activities
The objectives of this program are to recognize the letters of the alphabet using picture references, understand that by combining letters words are formed, identify words, and become comfortable with using a computer. The program uses and activity for each letter of the alphabet. For example by pressing the letter “g” a black hole appears and the letters disappear illustrating the word “gone”. “H” is hammer and the student spells words one letter at a time by using a hammer to select a letter. On the main menu page is a screen of the letters of the alphabet and as the mouse is scrolled across each letter the student is able to hear the letter being said. The skill areas covered in this program are listening, and writing.

Manual
The contents of the manual include the following: Introduction, Getting started, Using A to Zap, Using the software, Classroom tips, Integrating Software in the curriculum, Activities, Blackline masters, Take home certificate, Letter to Parents, Trouble shooting.

System Requirements
Macintosh
System 7.0 or higher
68040 CPU
13” color monitor
640x 480 resolution, 256 or more colors

Windows
Windows 3.1 or higher
486 CPU
At least 8MB of RAM
CD-ROM drive and sound card
VGA graphics (256)color, SVGA graphics and double-speed CD-ROM drive recommended

Teacher Evaluation and Student Progress Report
Not available with this CD-ROM

Observation
The manual offers a tip for ESL students saying this program “helps relate the English alphabet to a series of words and ideas. The activities are fun but require no real practice of letter recognition and they rarely require any active participation or practice. Moving the mouse to change the activities functions is all that the students needs to do. This program may be useful for young beginning English learners for sound and letter recognition and would require minimal instruction by the teacher in order to get the student started.

ESL applications
This program does mention that it can be used with ESL learners but does not go into further details by explaining how best to use the program and at what level it is appropriate for. Very little interaction is required and very little input is present. This program is not strongly recommended for ESL students although it may help a student become familiar with a computer keyboard.
Title and Manufacturer

First Phonics
Sunburst Communications Inc.
101 Castleton Street
Pleasantville, NY 10570

Cost
The cost for the CD-ROM for Agency 11 schools is $10. Instructors have the opportunity to preview the program before buying it.

Description of CD-ROM: Contents and Activities
The goal of this program is to teach letter-sound correspondence, build vocabulary, and develop phonemic awareness. It uses four activities to familiarize students with sounds and words. The letters are introduced in the following order; t, s, r, p, m, c, l, f, b, e, v, j, w, a, d, g, o, h, n, l, u, and z.

1) Game 1 is a matching exercise in which the student must match a letter (sound) to the appropriate word, for example, injured-I. Once the activity is completed a picture is revealed. Skill area-listening and reading.

2) Mailman Game. The student must deliver mail that is a word to the correct house with the corresponding sound. For example the mailman may have to deliver the words snake and sun to the house with the “S”. If the mail is delivered to the wrong house a dog will bark and the mail cannot be delivered. The student can repeat the word by clicking on the repeat icon. Skill area-listening and reading.

3) Circus game. The student must place the correct labeled trampoline under a falling animal that beginning letter corresponds to the letter on the trampoline. If the wrong trampoline is used the animal will break it, or if no trampoline is chosen the animal falls to the ground in a cloud of dust. Skill area- reading and listening.

4) The Jungle game- Animals are hiding in the jungle and the objective is for the student to listen to the animals name and click on it in the picture. “Can you find the elephant?” “What is the first letter of the word elephant?” Skill areas-listening and reading.
Manual

The manual is somewhat short but includes supplemental worksheets and activities which the student can do. A board game is also included with the manual and can be used for extra practice of the sounds. There are also certificates that can be printed for each letter and given to the child.

System Requirements

Macintosh

8 MB RAM
1 MB free hard drive
System 7.x with 040 processor
CD-ROM drive (double speed or faster)
640x480 monitor
Mouse

Windows

PC with 8 MB of RAM
1 MB free on hard drive
486
66 MHz
Windows 3.1 or Windows 95
Sound card
CD-ROM drive double speed or faster
640x480 SVGA color monitor
Mouse

Teacher Evaluation and Student Progress Report

Once accuracy of a letter has reached 80% it is considered "learned". The teacher can view usage of each student which will show the dates and amount of time spent on the computer.
By viewing the progress of the student the teacher can see if a letter has been learned or unlearned by that student.

Observation
This program progresses rather slowly and has a lot of interactive activities the student can participate in. The teacher is able to view the progress of each student that is saved on the hard drive and labeled in a folder with that student's name. A letter is termed either "learned" or "unlearned". The program is very thorough in presenting the letters and sounds and although the graphics are not as clear as some programs the sound quality was good. This program would be suitable for students up to 3rd grade and would require a few hours to familiarize the student with icons and game pages. The certificates of accomplishment are also a nice touch and may help to motivate the student.

ESL applications
This program contains very little vocabulary learning activities but there is a large quantity of activities may engage the student for a longer period of time. A beginning student may have trouble with navigation because icons are not representative of activities. There is student progress report so the teacher can check progress without constant supervision. A lot of oral input along with the activities make this program more viable in the ESL classroom.
Title and Manufacturer

Letter Sounds
Sunburst Communications Inc.
101 Castleton Street
Pleasantville, NY 10570

Cost
The cost for the CD-ROM for Agency 11 schools is $10. Instructors have the opportunity to preview the program before buying it.

Description of CD-ROM: Contents and Activities
The objectives of this program are for children to learn sounds and the letters that represent them. The letters can be used together to form words which in turn form sentences. The focus is on the structure of the language; sounds>letters>words>sentence. The student has his or her own Journal, Word Bank, Word Building Tool, and Word Study Notebook. There are five activities in which the student can learn the objectives of this program. There is a short movie that introduces each activity and can be viewed at any time. By clicking the mouse the movie will terminate and the student can begin the selected activity.

1) Sound sorting. The student sorts words based on consonant sounds they have in common. The student can repeat the sound by clicking on the letter or word. Skill areas- reading and listening.

2) Word families. The student blends various beginning sounds with common endings to create words. (it, uck, ock, en, et, op, ip, ack, ed, in, ut, ill, ob, ag, ell, id, un, ick, ad, ug, ap, ot, an, at, ig). Once the student has made a word they can transfer it to their word bank. Skill areas- reading and listening.

3) Word Scramble. The student builds words by sequencing sets of letters to match selected pictures. Once the student has built a word it can be transferred into their word bank. Skill areas- listening and reading.
4) Tongue Twisters. The student composes alliterative tongue twisters using palettes of pictures or words. The student can save the tongue twisters in their journal. Skill areas- reading and listening.

5) Jump Rope Jingles- The student creates jingles based on matching initial letter sounds. After making a unique jingle the student can listen to their jingle and sing along. Skill areas- reading, listening, and speaking.

Manual
The manual is fairly thorough and contains supplemental activities such as picture cards, letter cards, and phonogram cards.

System Requirements
Macintosh
Macintosh LCIII or higher (25 MHz 68030 processor or better)
8 MB installed RAM
System 7.1 or higher
13” color monitor 256 colors
CD-ROM drive double speed
10 MB free hard disk space
Microphone (built-in or external)

Windows
100% IBM PC-Compatible computer with 486/DX2-66 MHz processor or better
8 MB installed RAM
Windows 3.1 or Windows 95
256-color SVGA compatible video card and monitor
CD-ROM drive double speed
10 MB free hard disk space
Microphone (built in or external)
Sound Blaster card or equivalent
Mouse

**Teacher Evaluation and Student Progress Report**

The instructor can create a class list. For each student signed in, a work file is created and their work and progress is saved into that file. The teacher can view the student’s journal, word banks, and word study notebooks. The instructor can also customize the activities to focus on specific sounds.

**Observation**

This program has a lot of activities and the student can listen to many sounds and words and keep their own language journal. Some of the activities would be a little difficult for a student with no knowledge of English, especially Word Families. A 1st or 2nd grader with the knowledge of the ABC’s would be best suited for this program and it would also require quite a bit of assistance to familiarize the student with the program. The use of a microphone and recording the student’s voice would be very beneficial for the student and the teacher. In the Jump Rope Jingles activity the created jingles are spoken in a very computer driven voice and sound very unnatural.

**ESL applications**

This program contains large quantities of spoken English along with the possibility of actually having the student use the microphone. This would be better suited for more advanced students who are more confident to speak and practice using the language they know.
Title and Manufacturer
Phonics Alive
Forest Technologies
514 Market Loop Suite 103
West Dundee, Illinois 60118

Cost
The cost for the CD-ROM for Agency 11 schools is $10. Instructors have the opportunity to preview the program before buying it.

Description of CD-ROM: Contents and Activities
There are five modules and each module introduces a sound cluster. Module 1 introduces e, f, g, b, m, and t. Module 2 introduces a, r, c, p, n, and s. Module 3 introduces o, d, k, l, h, and w. Module 4 introduces i, z, qu, y, and v. Module 5 introduces the sound “u”. The activities require that the student match the sound with a picture by using the mouse. The entire exercise must be completed in order to continue to the next module. The modules focus on listening and writing.

Manual
The manual is three pages and contains no supplemental material.

System Requirements
Does not include system requirements but does mention it will run on both Macintosh and Windows (3.1 and Windows 95)

Teacher Evaluation and Student Progress Report
The results of the student’s progress are recorded in a folder with the student’s name and saved onto the desktop. A sample of what a teacher may see in a folder is as follows:
Phonics Alive!
Jim 2/4/00 10:15 AM (finished)
Module 1a 12 minutes taken to complete
Press F on keyboard from sound – 2 mistakes
1A. Match tie to t – 2 mistakes

**Observation**
The student must start at the beginning and complete the entire activity to advance to the next level. The modules are very methodical and time intensive. The sound can only be said once and cannot be repeated for verification. If the instructions are being said and the mouse is clicked another voice will overlap the instructions and it is similar to two people talking at the same time. The student progress report is the most thorough of any that I viewed gives detailed information. The target student would be in 1st-3rd grade and would require about 1-2 hours of assistance to become familiar with the program.

**ESL application**
This CD-ROM is very methodical and offers very little flexibility. Would be a beneficial program for an instructor who uses phonics to teach letters. The progress report is thorough although constant guidance may be necessary for beginning students. Very little vocabulary present although there is a sufficient spoken input along with each activity.
Title and Manufacturer

*Bailey's Bookhouse*

Edmark Corporation
P.O. Box 97021
Redmond, WA 98073-9721

Cost

The cost for the CD-ROM for Agency 11 schools is $10. Instructors have the opportunity to preview the program before buying it.

Description of CD-ROM: Contents and Activities

There are seven activities for students to explore and use language. Most of the activities offer the choice of an “Explore” or “Question” mode.

1) Edmo and Houdini are a magician and dog who teach students the prepositions of in, out of, over, under, on, off, and behind. Skill areas—listening, and reading.

2) The Letter Machine introduces students to upper and lower case letters. They can see the letters and hear the sounds. Skill area—listening.

3) Make a Story lets students create stories using the characters of the program. Students can see the sentences they create and also listen to the sentences being read while illustrated by animation. Skill areas—reading and listening.

4) My Friend lets students use and learn adjectives to customize one of the program’s characters. Skill areas—reading and listening.

5) Three Letter Carnival allows students to spell and sound out three letter words and group objects by names that rhyme or begin with the same letter. Skill areas—writing, reading, and listening.

6) Read-A-Rhyme creates a variety of rhymes that are animated. Skill areas—reading and listening.

7) Kid Cards uses pictures and phrases to make greeting cards for different occasions.
Manual
The manual includes a detailed description of the contents and activities. It also includes supplemental materials such as cutout finger puppets, matching exercise worksheets, alphabet cards and pictures, story making originals, and many more activities.

System Requirements
Macintosh
Color Macintosh (256 colors)
4 MB RAM (8MB recommended)
CD-ROM drive (double speed or faster)
System 7.0.1 or higher
13” or larger monitor
Optional equipment- printer and Touch Window

Windows
Windows 3.1 (enhanced mode), Windows 95 or later
4 MB RAM required (8MB recommended)
CD-ROM drive (double speed or faster)
386 DX/33 MHz required (486/33 MHz or better recommended)
Super VGA, 640x480 (256 colors)
Hard disk with 2 MB free
Mouse
Windows-compatible sound output device
Optional- Windows compatible printer and Touch Window

Teacher Evaluation and Student Progress Report
Not available for this CD-ROM program.

Observation
This CD-ROM is very similar to Millie and Bailey’s Preschool with some of the same activities. It provides numerous interactive lessons and is a little more advanced because it
introduces adjectives and prepositions. It contains activities for various English abilities and would require some assistance by the teacher in order to familiarize the student with the icons and menu. I would recommend this program for K-2 grade although some of the activities may be better suited for an older child.

**ESL applications**

Refer to *Millie and Bailey's Preschool*
Title and Manufacturer

*Dr. Seuss's ABC*
Broderbund
P.O. Box 6125
Novato, California 94948-6125

Cost

The cost for the CD-ROM for Agency 11 schools is $10. Instructors have the opportunity to preview the program before buying it.

Description of CD-ROM: Contents and Activities

The main activity of this program is to read the book titled *The Adventurous Zed*. The student can begin on any letter and listen and read along as Zed goes through each letter of the alphabet. By clicking on objects on the page a word or phrase using the target letter appears and provides a silly animation. The objectives of the program are to build mouse-handling skills and oral language and storytelling skills. The teacher has the option of letting the student read the animated book by him or herself or reading it to the student. The program also includes a demo of a variety of popular children's books. Each demo is one page and the student can click on objects in that page to see interesting animations. The ABC song is also included and students can click on an individual letter to hear the letter's name.

Manual

The manual is fairly detailed and offers a scope of activities, materials for each lesson, classroom setup, and online access. A curriculum matrix suggests the grade level and curriculum area covered for each activity. There are also supplemental worksheets to accompany the activity.

System Requirements

Not included in manual. I viewed the program on a Macintosh.
Teacher Evaluation and Student Progress Report
Not available for this CD-ROM program.

Observation
This CD-ROM is very short with the main activity being the book, the majority of the lesson is centered around the supplemental material and worksheets. It would be a great tool to introduce the student to Dr. Seuss and other popular children’s books. The directions are all verbal and written so some students may need more assistance in using the program. This program would be suited for K-1st graders and perhaps 2nd grade students.

ESL applications
A lot of listening is present in the reading of the book but some of the phrases spoken are difficult and may not be understood by a beginning ESL student. One important factor of this program is that it introduces the student to Dr. Seuss and the cultural icon of children’s literature. Another program in which a peer tutor may be implemented.
Title and Manufacturer

*Farm Buddies*

P.O. Box 1355
Concord, MA 01742

Cost

The cost for the CD-ROM for Agency 11 schools is $10. Instructors have the opportunity to preview the program before buying it.

Description of CD-ROM: Contents and Activities

This program can be used in English or Spanish language mode and it states that the cognitive skills addressed are critical thinking, planning, problem solving, visual and auditory learning, left-right orientation, ordination, differentiation, and sequencing. There are five activities and five Toybox games.

1) Select-o-matic. The student must match the head, body, and tail to build an animal. Skill area- listening.

2) Puzzle. There are 18 jigsaw puzzles, when completed a song or rhyme is played. Skill area- listening.

3) Which is different? The student has to pick one picture out of the four that does not belong in the group.

4) Alphasounds. The student must choose the initial letter to go along with the picture.

5) Rebus a story. Make stories by choosing words to fill in the blank. Skill area-listening and reading.

Manual

The manual is quite detailed with follow-up activities for the students pertaining to what was learned. It also includes reference materials and worksheets.
System Requirements
Macintosh
Double-speed CD-ROM drive
4 MB free RAM
System 6.07 or later
QuickTime 2.0
256 color and a 13" or larger monitor

Teacher Evaluation and Student Progress Report
Not available for this CD-ROM program.

Observations
An interesting package to learn vocabulary of animals and can also be switched to Spanish. There are a lot of verbal instructions that may confuse beginning students and the stop icon will automatically take the user to manufacturer information and quits the game. There are a lot of activities for students and also good graphics and sounds.

ESL applications
Very good for learning vocabulary, would be ideal for Spanish speaking students learning English or in a bi-lingual classroom. A few problems with navigation may require some additional assistance. Large quantities of oral input and numerous activities make this an attractive program for ESL students.
**Title and Manufacturer**

*Let's Go Read: An Island Adventure*

Edmark

P.O. Box 97021

Redmond, WA 98073-9721

**Cost**

The cost for the CD-ROM for Agency 11 schools is $10. Instructors have the opportunity to preview the program before buying it.

**Description of CD-ROM: Contents and Activities**

The program explores the following areas of language building: letter names, upper and lower case letters, letter sounds, phonics, letter sounds in words, word families, sight words, word building, spelling vocabulary, sentence building, and stories to read. The main menu looks like the cockpit of an airplane and students can also use the microphone for input. They must speak slowly and clearly and the computer can respond. The main skill areas are listening, reading, and speaking. There are four main locations in which the student can explore the letters or sounds; the beach, Vowel Village, the jungle, and the farm. There are several activities for each letter of the alphabet. The format of the program focuses on letter sounds, sight words, word building, sentence building, and finally reading books. As the student completes a letter or book it is added to their letter chart or bookshelf to mark their progress.

**Manual**

The manual is very detailed and contains program information, classroom activities and worksheets, and also a section on troubleshooting.

**System Requirements**

**Macintosh**

System 7.0.1 or higher
68040, 68030 (25 MHz or faster recommended), or Power PC

Hard disk

6 MB memory (RAM) unused, 7 MB Power PC

13" or larger monitor, 256 or more colors

Double-speed (2X) or faster CD-ROM drive

For speech recognition (optional) you will also need

Power PC

Hard disk with 11 MB free

12 MB memory (RAM) unused

High Quality Microphone

Optional equipment

Macintosh-compatible printer

Edmark Touch Window

Windows

Windows 3.1 Windows 95 or later

486/66 MHz, Pentium or better

Hard disk with 6 MB free

8 MB memory (RAM) 16 MB recommended

Super VGA graphics 640x480, 256 or more colors

Double-speed (2X) or faster CD-ROM drive

Windows-compatible sound card

For speech recognition (optional) you will also need

Windows 95 or later

90 MHz Pentium or faster

Hard disk with 21 MB free

16 MB memory (RAM)

16 bit sound card with high quality microphone input

high quality microphone

Optional
Teacher Evaluation and Student Progress Report

As a student finished a letter or book it is added to his letter chart or bookshelf.

Observation

This is probably the most extensive program in terms of activities and content. The student must follow a certain progression in order to move to the next level although the teacher can set the options so the student can advance by clicking on an arrow before finishing the section. The instructions are very verbal so some additional assistance would be required by the instructor. Since there are sections from letter sounds and story building I would suggest this program could be adapted to use with K-3rd grade. ESL instructors may find the sequence and phonics component very helpful in introducing students to the English language. It is a very interactive program.

ESL applications

With so many activities this program should be adaptable to the K-2 grade classroom. A lot of listening comprehension and the characters even say the student’s name. Numerous vocabulary building skills and progressing all the way to sentence building. A good variety of activities keep interaction high and monitors the student’s progress.
Title and Manufacturer

How Many Bugs in a Box

Modem Curriculum Press
An Imprint of Modem Curriculum
A Division of Simon and Schuster
299 Jefferson Road
P.O. Box 480
Parsippany, New Jersey 07054-0480

Cost

The cost for the CD-ROM for Agency 11 schools is $10. Instructors have the opportunity to preview the program before buying it.

Description of CD-ROM: Contents and Activities

This program is based on the book with the same title. There are 8 interactive games involving bugs and numbers and is very visually and aurally oriented. There are three skill levels the student can choose from; easy, hard, and harder.

1) Numbers 123 focuses on number recognition, counting skills, and number matching. By clicking on a number at the bottom of the screen a box opens and the bugs in the box count off that number. By selecting a harder level the student must count the bugs in the box and select the corresponding number.

2) Ferris Wheel focuses on number recognition, counting skills, and number matching. The student must fill up the Ferris wheel seat with the correct number of bugs. If too many bugs are put in the seat they will be kicked out, if there are not enough bugs the operator will tell the student that more bugs are needed.

3) How Many focuses on counting skills and visual discrimination. Using the keyboard the student must type in the corresponding number to match how many bugs are in the picture.

4) Color by Number focuses on number recognition, number matching, listening skills, and hand-eye coordination. Each section of the picture has a number and by clicking on the
color that corresponds to the number the student can fill in the picture. There is a variety of bugs to color and students can hear the numbers and colors being spoken as they color in the picture.

5) Count the Bugs focuses on number recognition, counting skills, sequencing, greater and less than, and listening skills. The student must drop the correct number of bugs into the box. When the student is correct they will hear applause, when there are not enough bugs in the box they will hear a voice saying, “put seven bugs in the box”.

6) Catch-a-Bug focuses on number recognition, counting skills, visual discrimination, charting, listening skills, hand-eye coordination. Bugs have escaped the glass aquarium and students must capture the correct bug and the correct number of bugs using the mouse and dragging. If a bug does not belong in the aquarium once it is put in it will fly out.

7) Bugs on a Table focuses on counting skills, visual discrimination, charting, chart reading, and sorting. The student must enter the number of bug parts corresponding to the bug on the screen. They must use the keyboard to enter in the number, if correct they hear “cool counting” if incorrect they hear “try again”.

8) Go Buggy focuses on number recognition, sequencing, and number matching. As the student hears a number they must highlight the number on a game board-like screen which eventually leads the bug home.

The Juice Bar is a place where all the bugs gather and the student can scroll around the room and click on bugs to see them perform interesting animations. By clicking on the jukebox the student can listen to eight different songs with lyrics provided so the student can follow along.

The program also includes the interactive book where children can listen and read along with the book.

**Manual**

The manual is not very detailed but includes a teacher’s guide with suggestions of use, activities for the classroom and supplemental worksheets.
System Requirements

Macintosh
Macintosh LC-III, Performa or better
5 MB of RAM or more
2.5 MB free hard disk space
13" color monitor w 256 colors
Double-speed CD-ROM drive
System 7.0 or later

Windows
486/25 MHz processor
4 MB free hard disk space
Color monitor with 256 colors and 640x480 resolution
Double-speed CD-ROM drive
Sound Blaster or compatible sound card
Microsoft Windows 3.1 or later

Teacher Evaluation and Student Progress Report
Not available for this CD-ROM program

Observation
This program is very thorough with numbers and is very interactive with different skill levels. Children can work on their numbers from 1-30. The bugs are colorful and unusual and the graphics and sound are of good quality. This program is very verbal so may require quite a bit of assistance for beginning ESL students and should be considered for K-2"nd and possibly 3"rd grade students.

ESL applications
Very good program for teaching number vocabulary. Also uses art to promote learning. A lot of verbal instructions may cause problems for beginning learners. This is also a very
good program to use with a peer tutor since it includes an interactive book. Interaction is high with each activity and sound quality is good.
Title and Manufacturer

*Read Write and Type*

The Learning Company
One Athenaeum St.
Cambridge, MA 02142

Cost

The cost for the CD-ROM for Agency 11 schools is $10. Instructors have the opportunity to preview the program before buying it.

Description of CD-ROM: Contents and Activities

The objectives of this program are to use phonics, sound out words, sequence of finger strokes, putting sounds together to form words, and touch-type fluently. There are 10 steps in learning this program and 4 new sounds or letters are introduced for each level. In step one called Downtown Sounds the student begins to learn the sounds of the letters. They then progress to typing the corresponding letter on the keyboard in order to become familiar with key location. There are activities focusing on writing by typing. E-mail Tower is a simple word processor for children to create their own writing. E-mail Exchange is an e-mail simulation in which the child sends an e-mail to a country and in turn a child from that country replies with an e-mail. There are 84 stories at 3 levels of difficulty. The letters are authentic letters written by children from all over the world. Power Fountain is an activity that offers practice with phonics and keyboarding to develop speed and accuracy with words, phrases, and sentences. Each letter on the keyboard is represented with a picture. For example “j” is Jack. This program focuses on listening, reading, and writing skills.

Manual

The manual contains a user guide explaining each section of the program along with technical tips. The teacher’s guide includes student activities and blackline masters.
System Requirements

Macintosh
68030/25 MHz or better
4 MB (RAM)
Hard disk with 2 MB free disk space
Double-speed or higher CD-ROM
13" or larger 256 color monitor and 8 bit display card
System 7.0.1 or higher
Mouse

Windows
IBM PC and compatibles- 486 or better
4 MB RAM
4 MB of virtual memory
Hard disk with 1.4 MB free disk space
Double-speed or higher CD-ROM drive
256 color SVGA
DOS 5.0 or higher
Windows 3.1 or higher
Windows-compatible sound card
Mouse

Teacher Evaluation and Student Progress Report
Students must log in and can returned to their saved game. The Bonus Blimp keeps track of student’s progress and lets them return to earlier lessons for extra practice. After completing each level the child receives a certificate of achievement.

Observation
This program is very thorough and covers a variety of skill areas and lets students become familiar with the computer keyboard and sounds used in the English language. There are a
lot of verbal cues that may interfere with learning but uses authentic language. For example: "spooking the storytellers", "I can't stand stories", "this guy is crashing the whole storyteller's stories", "it's time to boot up our brain cells", "gotcha partner", "way cool". This program would be useful for a little older student who has some knowledge of English and familiarity with the computer program.

**ESL applications**

This program is a bit complicated and contains language which would difficult to understand for a beginning language learner. A second or third grader with some English ability may find this program useful because it introduces him/her to typing on a keyboard. The language used during the activities is very natural and authentic. Not a lot of vocabulary building activities but a simulation e-mail activity is a nice addition. Students can pretend to interact with students from all over the world and receive reply e-mails. This program contains numerous listening, writing, and reading activities.
Title and Manufacturer

*Travel the World with Timmy*

Edmark

P.O. Box 97021

Redmond, WA 98073-9721

Cost

The cost for the CD-ROM for Agency 11 schools is $10. Instructors have the opportunity to preview the program before buying it.

Description of CD-ROM: Contents and Activities

This program concentrates on introducing the student to the languages of Japanese, Swahili, and Spanish. As the student travels to each country represented they have the opportunity to participate in a variety of activities.

1) **Build-a-village** introduces numbers and vocabulary to the students as they use the mouse to add objects to the village. As they click on an object and number they hear the corresponding language.

2) **Make a Story** lets the students create their own story and then hear their story being read. The student also has the option to hear their story read in English.

3) **Games** - the student can participate in a children’s game common to the country. In Argentina they can play “Lotto” in which they have to match pictures and compete against one of the characters of the program.

4) **Sing a Song** introduces the students to a song in which they can read and sing along with Timmy and his friends.

5) **Arts and Crafts** lets students create art that is unique to the country.

There is also Timmy’s Dictionary in which students can access and see and hear the word in Swahili, Japanese, Spanish, and English.
Manual
This program comes with a very detailed user’s manual but there is no teacher’s guide or supplementary materials.

System Requirements
Macintosh
System 7.0.1 or higher
68040 or PC
8 MB memory (RAM) 16 MB for Power PC
13” monitor or larger
640x480, 256 or more colors
Double-speed (2x) or faster CD-ROM drive

Windows
Windows 3.1, Windows 95/98
486, Pentium or better
66 MHz or faster
Hard disk with 10 MB free
8 MB memory (RAM)
Super VGA graphics, 640x480, 256 or more colors
Double-speed (2x) or faster CD-ROM drive
Windows-compatible sound card

Teacher Evaluation and Student Progress Report
Students must login but their progress is not saved. Teachers can only view user’s name.

Observation
This CD-ROM would be a good introduction to the three languages for a student. Each language introduces the students to general vocabulary such as boy, girl, dog, cat, etc. The activities in each country are limited and in the games there are no verbal cues. The story
building activity lets students switch to English and listen to the story be told in English. This may be helpful for students who speak one of the three languages. The graphics are very good and aural component is very clear.

**ESL applications**

Not highly recommended for use with ESL students due to the fact that very little of program is in English. May have potential use in bi-lingual classrooms.
Title and Manufacturer

Kindergarten Interactive Learning Center
Edmark
P.O. Box 97021
Redmond, WA 98073-9721

Cost
The cost for the CD-ROM for Agency 11 public schools is $10. Instructors have the opportunity to preview the program before buying it.

Description of CD-ROM: contents and activities
The features of the CD-ROM
1) Dot-to-dot puzzles, connect ABCD or numbers.
2) Drawing and painting programs-a student can save up to 15 drawings.
3) Riddles (knock knock jokes)
4) Wacky frog
5) Movies-"Capers in Color" introduces color words and colors
   -"Shapes Magic" uses a magician who produces different shapes.
   -"Counting Zoo Animals" counts different animals at the zoo.

Manual
The program includes five workbooks that supplement the CD-ROM:
1) Alphabet K-1 contains illustrations and extra space for practice of uppercase and lowercase letters
2) Reading Readiness K-1 Book 1 deals with size relationships, shapes, rhyming words, and time sequence.
3) Reading Readiness K-1 Book 2 focuses on beginning and ending sounds, classifying objects, position words, and alphabetical order.
4) Numbers 1-12
5) Transition Math K-1 review of the numbers from 1-20 and includes shapes, time, and
counting money.

Also included with the workbooks are card sets of the numbers 1-100, sight word flash cards, and animal cards.

The introduction page is very animated with animals popping out of doors, windows, pockets, and zippers. There is a "quit" button at the bottom of the page and further instructions are available from a string which hangs on the left of the page and when it is clicked it gives audio instructions.

1) The dot-to-dot activities: students connect either numbers 1-18 or letters and as the student progresses and chooses the correct sequence a voice will say each letter or number, but only once. There are 10 pictures that have eight versions of number and letter sequence and upon completion of the exercise the picture fills in with color and uses sounds to complement the picture. Skill areas- listening

2) Drawing and Painting: For this activity the student can click on the graphic depicting drawing or painting. The drawing page is easy to navigate by controlling the mouse and has sound effects in relation to what tool the child decides to draw with. The student can choose between a pencil, crayon, or paint and in order to erase the palette, the student need only to click on the icon of the Window cleaning bottle and rag.

The painting activity has existing pictures of animals and numbers. For example, the number 2 has two clowns that the student can color in. The student moves the paint brush to select a color from the side of the page and then clicks on the area of the picture they would like to paint, the area fills in with that color and the student can continue using that color or choose a different color. Skill area- number recognition

3) Riddles: By clicking on the riddle icon on the main page the student will hear a knock knock joke. Skill area- listening

4) Wacky Frog: By clicking on the icon on the main page it makes a frog jump across the screen and land in various locations.

5) Movies - "Capers in Color" presents the colors in spoken and visual context, very interesting graphics and music to go along with the video. The colors represented are; white, black, blue, red, orange, brown, yellow, purple, and green.

"Counting Zoo" uses children to count real video footage of animals at the zoo. There is also
added dialogue besides just presenting the numbers and animals. For example, "eating hay", "playing", and "two lions sitting down to rest".

"Shapes Magic" is a video of a magician who produces shapes using a magic wand and says the name of each shape as it appears. In order to repeat the name of the shape the student must start the video from the beginning. Skill area- listening

**System Requirements**

**Windows**

Operating System- Windows 3.1 or Windows 95
CPU Type and speed-486
Hard drive space-10mb
Memory-8mb
Graphics-640x480x256
CD-ROM speed- 2x
Audio-8 bit
Other req.-QuickTime 2.1.1 included

**Macintosh**

Operating System-System 7
CPU Type and speed-680 40
Hard drive space-4 MB
Memory-8mb
Graphics-640x480x256
CD-ROM speed-2x
Audio- 8 bit
Other req.-QuickTime 2.1 included

**Teacher Evaluation and Student Progress Report**

Not available with this CD-ROM.
Observation

A very detailed package with good instructions and user manual. Edmark seems to be the most complete of all software observed. The activities address many learning styles and would be oriented towards a beginning younger second language learner. There is also a second CD-ROM that is similar to this one but a little more advanced. It uses the same characters and the same format. A very good program for learning the letters and sounds. Has a lot of activities to keep children engaged and interested.

ESL applications

A program full of listening activities and interactive games. Many learning styles are addressed and may make this program suitable for more students. This software also contains digitized short movies where students learn colors, animals, and shops. Very good at introducing vocabulary. Also contains a dot-to-dot activity so students can learn numbers. All activities are accompanied by sound.
APPENDIX B. MAIL SURVEY

The following questionnaire is about the CD-ROM titled

I am doing a research project for my thesis at Iowa State University in order to find out the optimal qualities of a computer program for students studying the English language. Your knowledge and input is very important to this study and I would appreciate it immensely if you would answer the following questions and please feel free to add any additional comments at the end of the questionnaire. I have provided a self-addressed stamped envelope for the return of the finished questionnaire. Thank you.

1) Do you use this CD-ROM with ESL students? YES NO

2) If you answered YES to question 1, what grade level are the ESL students? (circle all that apply)

K 1 2 3 4 5 6 7 8 9

3) If you answered NO to question 1 what grade level are the students who use the CD-ROM?

(Circle all that apply) K 1 2 3 4 5 6 7 8 9

4) What level do you think this CD-ROM should be used in? (circle all that apply)

Pre-K K 1 2 3 4 5 6 7 8 9

5) What is the estimated language ability of your students who use this CD-ROM?
(circle all that apply)

Low Beginner—has very little knowledge of English
Mid Beginner—knows ABCs and some sight words
High Beginner—can write alphabet and some words
Intermediate—knows words and reads easy phrases or sentences
High—almost same ability as native English speaking classmates.

6) How much teacher instruction was necessary for the student to become self-sufficient with the CD-ROM?
Estimated time—(Please circle one)

15 minutes 30 minutes 45 minutes 1 hour 1 hour 30 minutes 2 hours More than 2 hours

7) How do the students use this program?

Individually In groups of two or more individually with instructors assistance
8) What do you like **best** about this CD-ROM (circle all that apply)

- Students enjoy activities
- Teacher’s Manual
- Variety of activities
- Supplemental activities/worksheets
- Student progress can be saved and viewed
- Interactive activities (students must participate in activities)
- Sound quality
- Other

9) What do you like **least** about this CD-ROM? Circle all that apply

- Activities
- Teacher’s Manual
- Variety of activities
- Lack of supplemental activities/worksheets
- Poor or no student evaluation by teacher
- Lack of interactive activities (students do not participate in activities)
- Other

9) Please feel free to write any additional comments you have about this CD-ROM.
APPENDIX C. FIVE PRINCIPLES

1) Acquisition-Learning Hypothesis: “classroom time is spent on activities which foster acquisition; learning exercises are important in certain cases, but always play a more peripheral role.”

2) The Natural Order Hypothesis: allows students’ errors to occur without undue emphasis on error correction.

3) The Monitor Hypothesis: “The Natural Approach encourages appropriate and optimal monitor use. Students are expected to use the conscious grammar when they have time, when the focus is on form, and when they know the rule.”

4) The Input Hypothesis. “The classroom is the source of input for the language students, a place where they can obtain the comprehensible input necessary for language acquisition.”

5) The Affective Filter Hypothesis: “There is no demand for early speech production which can lower the anxiety of the language learner. Secondly students are allowed to make the decision, individually, when they wish to speak, production in the form of single words or short phrases as responses is accepted in a positive manner. Thus, any sort of attempt at speaking is rewarded positively. Finally, errors of any form are not corrected directly, although in many cases the ‘correct’ version of what the student has said will be included in the teachers’ response to the student.” (p.59)
REFERENCES


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