IST 611/IDE 601

Collaborative Technology Project

Fall 2002

Erin Barrett, Elizabeth Ehrlich, Marie Pampinella, and Colleen Tierney

Pilot study of educational technology effectiveness and Earobics software in the achievement of students within the Syracuse City School District.

Introduction

This paper provides information on a Pilot Study using the Earobics Literacy Launch software program. It discusses the implementation of the pilot study and addresses the underlying issues and discrepancies found by the facilitators of the study. The objective of the study was to establish the effectiveness of utilizing educational technology in the classroom, particularly the Earobics software program. This will be determined testing the achievement levels in English Language Arts of 3rd grade students. It takes place at the Franklin Magnet School for the Arts in the Syracuse City School District, Syracuse, New York. The study has been completed by Syracuse University graduate students enrolled in the IST 611/IDE 601 course on Information Technologies in Educational Organizations: Erin Barrett, Elizabeth Ehrlic, Marie Pampinella, and Colleen Tierney. It was completed in collaboration with the Syracuse City School District, Reading Trainers, Barbara Manheim and Susan Winer, Reading Specialist, Paula Reynolds, and Assistant Director of Educational Technology, Nikki Slater. It was completed in the Third Grade classroom of Marie Pampinella during regular class time. It is the opinion of those completing the study that this should not be used solely in effecting change in the modes of instruction and interventions in primary classrooms. Though the facilitators feel that educational technology and software should be included in these interventions, the Earobics Literacy Launch software program may not be the best alternative to accomplish the objective and should certainly not be used exclusively.

Target audience

There are multiple beneficiaries of this pilot study. The elementary school students stand to derive the most benefit in the hope of improved learning and higher achievement scores. The use of computers in the classroom exposes them to unique experiences and opportunities. It can also be seen as a means of reward and/or special privileges to be able to play games during class time while acting as an alternative teaching tool. The classroom teacher is able to continue interacting with the rest of the class while certain students use the technology supplements. Specifically, a program such as the Earobics software program, proposes to save time for the teacher providing the evaluation materials needed to assess progress. The Syracuse City School District also benefits from the pilot study in providing valuable information on the implementation of such a program throughout the school district. This information is necessary for making expenditure decisions.

Goals and Objectives of the Project

The first project meeting with the graduate student facilitators and the representatives from the Syracuse City School District occurred in September 2002. The rationale for the study was explained in detail. Franklin Magnet is an urban school with similar problems as many urban schools. The language achievement scores of students are low and the district is looking for alternatives for increasing performance. It is the opinion of the district representatives that the Earobics software program may supplement the learning process and aid in the students' success. The Earobics software program also makes use of various evaluation tools, ongoing, during

student use of the program. The district representatives are hopeful that once a need is identified in a particular student, the software program evaluations will supplement the currently used Fox in a Box assessment material and allow teachers to better target areas where students need additional assistance.

The data from the Fox in a Box assessment given in the 4th quarter of the 2001 – 2002 school year was used as a starting point for the pilot study. Of the 19 students in the class, less than half (7) completed the target score of 11 at level 6 in the Fox in a Box assessment. Of those that did not achieve the target score, 4 were not even able to test sufficiently at levels 3, 4, or 5 and are not at a reading level consistent with their current grade. The district representatives chose to use the DIBELS (Dynamic Indicators of Basic Early Literacy Skills, http://dibels.uoregon.edu) as a measure of the students' language skills at the beginning and end of the pilot study. The district representatives chose the level of testing that each student was to receive (First Grade, Second Grade, or Third Grade) based on each of the student's capabilities. The students were divided into 2 groups alphabetically. Dividing them in this way provided a random sampling of both high and low performers in each of the two groups. It was decided that the first 9 students would serve as the test subjects, using the Earobics software program to supplement their learning throughout the remainder of the test period, while the remaining 10 students would not use the software program, acting as a control group for the purposes of this pilot study. See *Figure 1* for a chart of the Fox in a Box testing versus the DIBELS level that was chosen for each of the students in the test and control groups.

Computer Group	ID Number	Fox Testing Levels	DIBELS Grade Tested
A	1	6-9	2
A	2	6-11	2
A	3	6-7	2
A	4	6-11	3
A	5	6-11	3
B	1	4-5	1
B	2	6-7	2
B	3	6-11	3
B	4	5-6	1
C	1	4-6	1
C	2	6-10	3
C	3	6-11	3
C	4	6-8	2
C	5	6-7	2
D	1	6-9	2
D	2	6-9	2
D	3	6-11	3
D	4	6-11	3
D	5	3-4	1

Color Keys	
	Well Below Target
	Below Target
	Slightly Below Target
	Target Complete
	Test Group
	Control Group

This chart shows the Test Group and the Control Group. Each was divided between 2 computers for equal usage time. The Test Group used the Earobics software program while the Control Group was able to use other software/games. The chart shows the Fox in a Box testing level and what level DIBELS assessment was administered.

Figure 1

The next week of the pilot study, the DIBELS assessment was administered and the students in the test group began using the Earobics software program. For the test group, 5 students were assigned to one computer and 4 students were assigned to another. Each student was to use the computer for 20-30 minutes and rotate through the list on the computers. The facilitators would each attend at least one day per week to observe the students progress using the software program. The assumption was that consistent usage of the Earobics software program would increase the achievement score of the students of the test group at a greater rate than the scores of the control group. See *Figure 2* for the results of the Beginning/Fall DIBELS assessment.

Computer Group	ID Number	Oral Reading Fluency
A	1	33
A	2	31
A	3	81
A	4	100
A	5	80
B	1	20
B	2	65
B	3	94
B	4	30
C	1	37
C	2	73
C	3	101
C	4	52
C	5	38
D	1	36
D	2	60
D	3	124
D	4	100
D	5	24

This chart shows the scores for each of the students in both the test and control groups. For the purposes of this pilot study, only the scores for the Oral Reading Fluency are useful. The district representatives provided benchmark scores of 100 by the Fall of Grade 3 or 90 by the Spring of Grade 2. This has been highlighted. The numbers in red indicate students falling below the benchmark of 40 for the Spring of Grade 1. These students are well below their reading level.

Figure 2

The students in the test group continued to use the Earobics software program for period of approximately 8 weeks. The classroom teacher maintained a schedule of daily usage for each of the students in the test group. According to the teacher, the students seemed to understand the procedures and began to enjoy using the program. During this time, ongoing assessment was taking place using the reports generated by the software and through observation. The facilitators were directly involved with the students in the test group and were able to grasp the components necessary for the integration of any educational program. They became integral members of the classroom whom the children looked forward to coming weekly. Two of the facilitators generally came together and sat at each of the computers, interacting with the students as they maneuvered through the software program. A third facilitator would come separately and simply observe the students with very little interaction on the usage of the software program. It should be noted that these different situations might also have an effect on the outcome of this pilot study. At the conclusion of this time period the DIBELS assessment was again administered to all of the students in both the test and control groups. See *Figure 3* for the results of the Middle/Winter DIBELS assessment.

Computer Group	ID Number	Oral Reading Fluency	Difference
A	1	95	62
A	2	51	20
A	3	47	(34)
A	4	141	41
A	5	66	(14)
B	1	38	18
B	2	69	4
B	3	81	(13)
B	4	58	28
C	1	61	24
C	2	Moved	-
C	3	105	4
C	4	AB	-
C	5	41	3
D	1	70	34
D	2	62	2
D	3	148	24
D	4	104	4
D	5	59	35

This chart shows the scores for each of the students in both the test and control groups when tested at the end of the pilot study time period. Again, only the scores for the Oral Reading Fluency are used. The benchmark scores higher than 100 by the Fall of Grade 3 have been highlighted. The numbers in red indicate students falling below the benchmark score of 40 for the Spring of Grade 1, which now only one student still remains though there is a significant increase in the score. The last column shows the change between the assessments administered in the Beginning and Middle of the school year. One student was absent at the time of testing and another student had moved. Both of these students were in the control group.

Figure 3

Technologies Used – The Earobics Literacy Launch Software Program

The classroom was equipped with several Apple iMac computer systems, two of which, were used by the students in the test group. The Earobics Literacy Launch software program was installed on these two computers and the names of the 9 students were divided and entered into the software program for continuity and reports generating. The program was administered initially to the experimental group one-on-one with facilitators to instruct on the usage of the individual games and answer any question the students had about manipulating the program. The students were then allowed to use the software daily during the course of the school day. Each student was allowed to play each of the games once, which provided systematic instruction and practice in phonemic awareness and other early literacy skills.

The software program included a Classroom Software Teacher's Guide, which gave the facilitators an introduction to the software program, an explanation of the individual games, professional management features of the software program, and classroom management suggestions. There were several suggestions in this guide that were not implemented and perhaps should be in the future if this software program is to be used district wide. An overview of this program can be viewed at http://www.earobics.com/teachers/readingfirst/overview.cfm#. A software evaluation of the Earobics Literacy Launch software program has also been added to the appendix of this paper.

There are 5 games comprised in the Earobics software program: ***Calling All Engines***, ***Paint by Penguin***, ***Pesky Parrots***, ***Hippo Hoops***, and ***Duck Luck***. Each of the games reinforces various language concepts. ***Calling All Engines*** works to improve listening and reading comprehension by strengthening student's auditory memory and language processing. The primary skills targeted are auditory sequential memory, attention and short-term memory, following oral directions, comprehension of linguistic concepts, auditory performance with competing signals

and related skills such as auditory and phoneme discrimination and sound-symbol correspondence. ***Paint by Penguin*** helps the student increase reading speed and accuracy, and improve spelling by developing his/her ability to count, sequence and manipulate sounds. The primary skills targeted are phonological segmentation and manipulation phonological sequencing, auditory temporal resolution, auditory temporal ordering and pattern recognition, auditory short-term, sequential memory and the related skills of auditory attention, auditory and phoneme discrimination, following oral directions, comprehension of linguistic concepts. ***Pesky Parrots*** teaches blending and word closure to give the student foundational skills for successful decoding. The primary skills targeted are phonological blending, word closure, auditory and phoneme discrimination, auditory short-term memory, auditory performance with degraded signal and the related skills of, auditory sequential memory, auditory, attention, auditory temporal ordering, following oral directions and comprehension of linguistic concepts. ***Hippo Hoops*** works to strengthen reading fluency and spelling as the student learns to identify and discriminate sounds, identify the position of sounds within words and recognize spelling patterns. The primary skills targeted are auditory and phoneme discrimination, auditory vigilance, phoneme identification, phonological sequencing and the related skills of auditory attention, auditory short-term memory, sound-symbol correspondence, following oral directions and comprehension of linguistic concepts. ***Duck Luck*** strengthens decoding and spelling skills as the student learns to recognize, blend and manipulate onsets (word beginnings), rimes (word endings) and phonemes. The primary skills targeted are rhyming, auditory, phoneme identification & discrimination, phonological blending, segmentation & manipulation, word closure, auditory sequential and short-term memory, sound-symbol correspondence and the related skills of auditory attention, sound-symbol correspondence, auditory short-term memory, phonological sequencing, following oral directions, comprehension of linguistic concepts and sight recognition

Results and Challenges Faced

The Earobics software program had several inconsistencies that made progress for the students difficult. Each game addresses different tasks and within the games the tasks require a different number of levels to complete in order to advance to the next task. The only tracking that the students have for what they have completed is dependent on this inconsistency, which makes it difficult for the children to develop a pattern of success. The facilitators observed the students to be discouraged and easily bored as a result of this. Also the tasks seem to be parallel in difficulty, they do not appear to be cumulative in nature and children do not ever get a chance to know this if they don't advance to the next task.

The facilitators also found the Earobics program to be over simplified and its graphics redundant. When students complete a particular level within a task, it is always the same reward. For instance, the firefly always dances; the pirate always does the dance with the parrot; the same toys dance no matter which prize shelf you pick, etc. There is no real incentive to finish a task. Children do not feel gratified with the reward; it becomes annoying and slows down their progress and the momentum of the game.

The facilitators did make use of the performance data provided by the Earobics software program. On the following charts it shows the total number of tasks completed within each of

the games, the percentage complete, and the levels completed within each task. It is evident from these charts where there are perceived inconsistencies in the levels and tasks.

Calling All Engines

Engines	Tasks		1	2	3	4							
B1	9/168	5%	9/10										
B2	38/168	23%	10/10	20/20	6/6	2/8							
B3	32/168	19%	10/10	20/20	2/6								
B4	3/168	2%	3/10										
A1	8/168	5%	8/10										
A2	41/168	24%	10/10	18/20	6/6	5/8							
A3	4/168	2%	4/10										
A4	36/168	21%	10/10	20/20	6/6								
A5	4/168	2%	4/10										

Hippo Hoops

Hoops	Tasks		1	2	3								
B1	14/155	9%	14/30										
B2	47/155	30%	30/30	17/30									
B3	24/155	15%	24/30										
B4	18/155	12%	18/30										
A1	28/155	18%	28/30										
A2	32/155	21%	22/30										
A3	15/155	10%	15/30										
A4	18/155	12%	18/30										
A5	24/155	15%	24/30										

Paint by Penguin

Penguin	Tasks		1	2	3	4							
B1	16/68	24%	12/12	4/6									
B2	18/68	26%	12/12	6/6									
B3	28/68	41%	12/12	6/6	4/4	6/12							
B4	15/68	22%	12/12	3/6									
A1	18/68	26%	12/12	6/6									
A2	23/68	34%	12/12	5/6	4/4	1/12							
A3	13/68	19%	12/12	3/6									
A4	15/68	22%	12/12	3/6									
A5	15/68	22%	12/12	3/6									

Pesky Parrots

Parrots	Tasks	1	2	3	4	5	6	7	8	9	10	11	12	13
B1	35/60	58%	9/9	3/3	3/3	3/3	9/9	3/3	2/3					
B2	33/60	55%	9/9	3/3	3/3	3/3	9/9	3/3						
B3	39/60	65%	9/9	3/3	3/3	3/3	9/9	3/3	3/3	6/9				
B4	41/60	68%	9/9	3/3	3/3	3/3	9/9	3/3	3/3	8/9				
A1	39/60	65%	9/9	3/3	3/3	3/3	9/9	3/3	3/3	6/9				
A2	53/60	88%	9/9	3/3	3/3	3/3	9/9	3/3	3/3	9/9	3/3	3/3	3/3	
A3	35/60	58%	9/9	3/3	3/3	3/3	9/9	3/3	3/3	2/9				
A4	23/60	38%	9/9	3/3	3/3	3/3	5/9							
A5	27/60	45%	9/9	3/3	3/3	3/3	9/9							

Duck Luck

Ducks	Tasks		1	2	3								
B1	13/142	9%	8/8	5/55									
B2	9/142	6%	8/8	1/55									
B3	13/142	9%	8/8	5/55									
B4	17/142	12%	8/8	9/55									
A1	20/142	14%	8/8	12/55									
A2	45/142	32%	8/8	37/55									
A3	21/142	15%	8/8	13/55									
A4	13/142	9%	8/8	5/55									
A5	16/142	11%	8/8	8/55									

Conclusion

In conclusion, the facilitators felt that the Earobics software program may be beneficial over a longer period of time. However, it should not be the only intervention tool in use. The students in this school need much intervention to improve on the reading scores as tested using the DIBELS assessments. It should be noted, in Figure 3 of this paper, that the students in the test group actually had decreases in the DIBELS scores after using the Earobics software program. However, the average scores of the students in the test group versus the control group (not including the 2 students in the control group that were absent for the second testing) were 59 vs. 65 before (respectively) and 72 vs. 81 after, for an average difference of 13 vs. 16. Again, this does not show a satisfactory difference to suggest whether or not to implement the Earobics software program.

The objective of the study was to establish the effectiveness of utilizing educational technology in the classroom. It is suggested that the Earobics software program actually be implemented on a greater scale, making use of all the software recommendations in the Classroom Software

Teacher's Guide. The students should be put on a more consistent schedule with a chart in the classroom showing what days they used the program and what games they played. The district should actually write up an educational technology implementation plan with follow-up dates and benchmarks. The teacher should analyze the software reports at least each quarter, if not monthly, and target those areas that a student is showing trouble. These recommendations might improve the success of using a program such as the Earobics Literacy Launch.

Appendix

Software Evaluation
Marie Pampinella
IST 611/IDE 601 - Fall 2002

I have evaluated the EAROBICS Literacy Launch Software. District Reading Trainers and a teacher have also evaluated. After searching a while for a software program that would help to introduce Phonemic Awareness and reinforce Phonics that would supplement Process Phonics also know as the Orton Gillingham approach and the Syracuse City School District Fox in the Box assessment piece Earobics was selected. A few classes in the district are utilizing it. Within my classroom we are conducting an empirical study piloting the software to measure it's efficacy for district adoption. Cognitive Concepts Earobics Software description is that it " provides efficient, systematic instruction and practice in phonemic awareness and other early literacy skills. The software automatically adjusts to the skill level and pace of each student, to maximize learning and minimize frustration. Teachers can customize the software to the unique needs of each student, and instructions can be delivered in one of ten different languages. The software also provides detailed, printable data reports of students' progress."

The total scores on the three evaluations came out in a high level as did each of the individual sections including: Descriptive Information, Software Ratings, A. Content and Educational value B. Instructional Aspects, and C. Software Design and Technical Aspects. This suggests that it is a highly promising educational software package. Strong ratings were reflected in Individual sections and subcategories by all raters. The lowest rating I think was attributed to the fact that the NA's were not assigned a number by the raters, thus keeping the score lower.

The installation was quite basic and the instructors guide was very helpful in the explanations and possible outcomes. Once the teacher reads the existing Teacher's Manual and models for students it can be utilized with ease by students. The software has the implications to work effectively to introduce and reinforce curriculum. Earobics also provides increasing motivation for learners.

One area that has raised concern is that within the Games there are different increments in which reinforcement is provided. After 10 correct answers students achieve a mastery bubble in some games while in others they must get 30 correct answers. Not only does this serve to discourage students from working with that particular game but they tend to want to play the one that gives reward after 10. In addition, within each game are varied skills. Within the game that has thirty, once the student has correctly answered 30 questions of increasing difficulty, they move on to next skill which is then very easy in the beginning. Hence, even though the student may be able to master those easier questions on the next skill they can't get to it automatically until they achieve the 30 of the previous skill. However, within software preferences there is the ability for adjustment by the teacher to skip certain skills that students haven't mastered the thirty to move on to the next.

Overall I feel very good about the use of the Earobics software program and feel that students will make gains by its utilization. The results of the pilot study we are conducting will hopefully provide evidence in support of that.

Part I: Descriptive Information
1. Name of Rater/Date of Evaluation: Marie Pampinella
2. Name/Version of Product: ___Earobic____
3. Manufacturer/Publisher: _____Cognitive Concepts
4. Ordering information: ______Cognitive Concepts
5. License requirements/restrictions: _Classroom Version
6. Number of users per license/price: _____35
7. Computer requirements: _Mac or PC
8. Interoperability with other software: _____none___
9. Subject area/grade level: ____K-3
10. Type of educational software: ____Phonemic Awareness Development and_Phonics Practice (e.g., drill and practice, exploration, exposition, game, simulation, test, etc.; indicateif there is a mixture of approaches; include appropriate comments in ratings.)
11. Availability of trial version: ___None
12. Availability of existing reviews: _____2_____
Part II: Software Ratings
(0 - strongly disagree 1 - disagree 2 - agree 3 - strongly agree NA - not applicable)
A. Content & Educational Value
1. The content is accurate. 3
2. The content is presented clearly. 3
3. The material is free from offensive biases and prejudices . 3
4. Content can be easily modified or customized. 3
5. The content has obvious educational value. 3
6. Students will find the content meaningful and relevant. 3
7. Teachers will easily integrate software materials into their teaching. 3
8. Use of this software is likely to improve student understanding. 3
9. Terminology is consistent and new terms are defined. NA 0
10. A broad range of topics is covered. NA 2
11. Activities and approaches are appropriate for specific topics. 3
Additional comments about content and educational value: 29

The software has the implications to work very nicely to introduce and reinforce curriculum at the same time increasing motivation for learners.
(0 - strongly disagree 1 - disagree 2 - agree 3 - strongly agree NA - not applicable)
B. Instructional Aspects
12. Objectives are clearly stated. 3
13. The level of difficulty is appropriate for the targeted users. 3
14. Content is appropriately sequenced. 3
15. Learner control is available when appropriate. NA 2
16. Feedback to learners is informative and timely. 3
17. A variety of representational modalities is used. NA 2
18. Summaries and reviews are included at appropriate places. 3
19. Learning activities are sufficiently supported. 3
20. Motivation is sufficient to keep learners interested. 3
21. The type of software is well matched with learning objectives. 3
22. The software uses media effectively (audio, graphics, video, etc.). 3
Additional comments about instructional aspects of the software: 31

Reinforcement and introduction to Phonemic awareness and Phonics is very appropriate with this grade level. Students interact with software easily and are eager to utilize.

C. Software Design & Technical Aspects
23. The software was easily installed. 3
24. Online help is readily available. 0
25. The screen displays are easily understood and attractive. 3
26. The navigation mechanisms are obvious and functional. 2
27. The program operates smoothly without crashing or stalling. 3
28. Extraneous/repetitive information is kept to an appropriate minimum. NA 2
29. Exiting the program is easy. 3
30. Saving one's work or results is easily accomplished. 3
31. The system keeps adequate records. 3
Additional comments about the design of the software and other technical aspects:22

I feel that once the teacher reads the existing Teacher's Manual and models for students it can be handled with ease by students.
D. Documentation & Supporting Materials
32. There is an installation manual/guide. 3
33. There is an instructor's manual/guide. 3
34. There is a learner's manual/guide. 3 (Teacher's Manual)
35. References to additional materials are sufficient. NA 0
36. Extra materials are not required in order to make effective use of the system. 3
Additional comments about documentation and supporting materials:12

The installation was quite basic and the instructors guide was very helpful in the explanations and possible outcomes.

Content & Educational Value:29
Strong - above 22
Weak - below 12
Instructional Aspects:31
Strong - above 22
Weak - below 12
Software Design & Technical Aspects:20
Strong - above 18
Weak - below 10
Documentation & Supporting Materials:12
Strong - above 10
Weak - below 5
Total: 94

Part I: Descriptive Information

1. Name of Rater/Date of Evaluation: Reading Trainers

2. Name/Version of Product: Earobics

3. Manufacturer/Publisher: Cognitive Concepts

4. Ordering information: Cognitive Concepts

5. License requirements/restrictions: classroom version

6. Number of users per license/price: 35

7. Computer requirements: mac or ibm with fast processor

8. Interoperability with other software: none

9. Subject area/grade level: K-3

10. Type of educational software: developing phonemic awareness and phonics
(e.g., drill and practice, exploration, exposition, game, simulation, test, etc.; indicate if there is a mixture of approaches; include appropriate comments in ratings.)

11. Availability of trial version: None

12. Availability of existing reviews: 2

Part II: Software Ratings

(0 - strongly disagree 1 - disagree 2 - agree 3 - strongly agree NA - not applicable)

A. Content & Educational Value

1. The content is accurate. 3
2. The content is presented clearly. 3
3. The material is free from offensive biases and prejudices . 3
4. Content can be easily modified or customized. 3
5. The content has obvious educational value. 3
6. Students will find the content meaningful and relevant. 3
7. Teachers will easily integrate software materials into their teaching. 3
8. Use of this software is likely to improve student understanding. 3
9. Terminology is consistent and new terms are defined. na
10. A broad range of topics is covered. na
11. Activities and approaches are appropriate for specific topics. 3

Additional comments about content and educational value: 27

(0 - strongly disagree 1 - disagree 2 - agree 3 - strongly agree NA - not applicable)

B. Instructional Aspects

12. Objectives are clearly stated. 3
13. The level of difficulty is appropriate for the targeted users. 3
14. Content is appropriately sequenced. 3

15. Learner control is available when appropriate. na
16. Feedback to learners is informative and timely. 3
17. A variety of representational modalities is used. na
18. Summaries and reviews are included at appropriate places. na
19. Learning activities are sufficiently supported. 3
20. Motivation is sufficient to keep learners interested. 3
21. The type of software is well matched with learning objectives. 3
22. The software uses media effectively (audio, graphics, video, etc.). 3

Additional comments about instructional aspects of the software: 24

C. Software Design & Technical Aspects

23. The software was easily installed. 3
24. Online help is readily available. 0
25. The screen displays are easily understood and attractive. 3
26. The navigation mechanisms are obvious and functional. 2
27. The program operates smoothly without crashing or stalling. 3
28. Extraneous/repetitive information is kept to an appropriate minimum. na
29. Exiting the program is easy.
30. Having one's work or results is easily accomplished.
31. The system keeps adequate records.

Additional comments about the design of the software and other technical aspects: 14

D. Documentation & Supporting Materials

32. There is an installation manual/guide. 3
33. There is an instructor's manual/guide. 3
34. There is a learner's manual/guide. na
35. References to additional materials are sufficient. na
36. Extra materials are not required in order to make effective use of the system. 3

Additional comments about documentation and supporting materials: 9

Content & Educational Value:27

Strong - above 22

Weak - below 12

Instructional Aspects:24

Strong - above 22

Weak - below 12

Software Design & Technical Aspects: 14 (NA's not given a rating)

Strong - above 18

Weak - below 10

Documentation & Supporting Materials: 9 (NA's not given a rating)

Strong - above 10

Weak - below 5

Total Score 74

Part I: Descriptive Information

1. Name of Rater/Date of Evaluation: Classroom Teacher
2. Name/Version of Product:
3. Manufacturer/Publisher:
4. Ordering information:
5. License requirements/restrictions:
6. Number of users per license/price:
7. Computer requirements:
8. Interoperability with other software:
9. Subject area/grade level: k-2
10.Type of educational software: drill and practice
(e.g., drill and practice, exploration, exposition, game, simulation, test, etc.; indicate if there is a mixture of approaches; include appropriate comments in ratings.)
11. Availability of trial version:
12. Availability of existing reviews:

Part II: Software Ratings

(0 - strongly disagree 1 - disagree 2 - agree 3 - strongly agree NA - not applicable)

A. Content & Educational Value

1. The content is accurate. 3
2. The content is presented clearly.2
3. The material is free from offensive biases and prejudices .3
4. Content can be easily modified or customized. 2
5. The content has obvious educational value. 2
6. Students will find the content meaningful and relevant. 3
7. Teachers will easily integrate software materials into their teaching. 3
8. Use of this software is likely to improve student understanding. 2
9. Terminology is consistent and new terms are defined. 2
10.A broad range of topics is covered. 2
11.Activities and approaches are appropriate for specific topics Additional comments about content and educational value:25
(0 - strongly disagree 1 - disagree 2 - agree 3 – strongly agree NA - not applicable)
B. Instructional Aspects
12. Objectives are clearly stated. 2
13. The level of difficulty is appropriate for the targeted users. 14. Content is appropriately sequenced. 2
15. Learner control is available when appropriate.2
16. Feedback to learners is informative and timely. 3
17. A variety of representational modalities is used. 2
18. Summaries and reviews are included at appropriate places. 3
19. Learning activities are sufficiently supported. 2
20. Motivation is sufficient to keep learners interested. 3
21. The type of software is well matched with learning objectives.2
22. The software uses media effectively (audio, graphics, video,)3 Additional comments about instructional aspects of the software:26

C. Software Design & Technical Aspects
23. The software was easily installed. 3
24. Online help is readily available. 3
25. The screen displays are easily understood and attractive. 3

26. The navigation mechanisms are obvious and functional. 3
27. The program operates smoothly without crashing or stalling. 3
28. Extraneous/repetitive information is kept to an appropriate minimum. 3
29. Exiting the program is easy. 2
30. Saving one's work or results is easily accomplished. 3
31. The system keeps adequate records. 3
Additional comments about the design of the software and other technical aspects:26

D. Documentation & Supporting Materials

32. There is an installation manual/guide. 3
33. There is an instructor's manual/guide. 3
34. There is a learner's manual/guide. 2
35. References to additional materials are sufficient. 2
36. Extra materials are not required in order to make effective use
of the system. 3

Additional comments about documentation and supporting materials:13

Content & Educational Value:25
Strong - above 22
Weak - below 12

Instructional Aspects:26
Strong - above 22
Weak - below 12

Software Design & Technical Aspects:26
Strong - above 18
Weak - below 10

Documentation & Supporting Materials:13
Strong - above 10
Weak - below 5