

Software Evaluation Formats

Students of the twenty-first century are brought up surrounded by a world of multimedia and technology, but in contrast, these students attend school in environments completely devoid of technology. However, many teachers are intimidated by technology, or they are unaware of how the use of technology can assist in the classroom, while preparing students for the multimedia infused world outside of the classroom. However, often before teachers can integrate multimedia into the classroom, they must evaluate the material to be used, and teachers must submit that evaluation to school administrators.

Teachers use many different formats to evaluate software for the classroom. The templates for evaluation assist teachers in focusing on specific criteria that the school finds important to consider when considering software. I have chosen three examples of evaluation templates to compare and contrast. I will use Roblyer's (2003) "Explanation of Essential Criteria for Evaluating Instructional Courseware" (p. 108), as well as Maryland's Prince George's County's "Instructional Software Evaluation Rubric," and Maryland's Baltimore County Public School's "Instructional Software Evaluation Form."

In order to properly display the evaluation templates, I have chosen to evaluate one computer activity throughout all three evaluation templates. Edmark's Letter Machine is one of the many Bailey's Book House Products, produced through the Riverdeep Corporation. The software is listed at being geared toward levels K-2. Though the version evaluated is a free download, the software can be purchased in CD form in one of five versions: home, school, lab pack, site license, and network. The Riverdeep Corporation Web site describes the Bailey's Book House series and states, "In seven activities, Bailey and his neighborhood friends inspire emergent readers to learn letters, words, rhyming, adjectives, and storytelling. Students also build word families, change the characteristics of a friend, and make their own greeting cards and storybooks" (Early Learning p.1). However, the specific software, the Letter Machine focuses on recognition of capital and lower case letters.

Technical information about the software can be found at Riverdeep's Web site. The software contains Universal Access features, and the system requirements are Windows, 95/98/Me/XP/2000 or OS 7.0.1 - OS X (Classic) for Macintosh. The Letter Machine download is 1.7 MB for PC or 3.4 MB for Mac. (Early Learning p.1).

Using a standard example of educational software will allow for comparisons to be drawn between the evaluation templates rather than comparisons between different types of software. What follows is the evaluations of Edmark's Letter Machine using three different evaluation templates.

Roblyer's Explanation of Essential Criteria for Evaluating Instructional Courseware

I. Essential Instructional Design and Pedagogy Characteristics: Does it teach?

Appropriate Teaching Strategy

Letter Machine was listed as intended for the K-2 level. I feel that the program has appropriate subject content, as well as an appropriate “fun factor” for this age group. The character who leads the program is a friendly-looking giraffe, and the letters are demonstrated with illustrated vignettes containing alliterations with two or three words starting with the letter that has been chosen.

Presentation on Screen Does Not Mislead

The screen presentation is very basic. The main screen border, the appearance of a computer with a keyboard containing only letters, remains constant. Icons on the side of the computer can be clicked to switch between “learning mode” in which the student can click on letters to see the illustrated demo, and “quizzing mode” in which students are asked to find a given letter, and can only see the demo once the task is completed. The computer set-up can be adjusted between traditional keyboard setup (QWERTY) and ABC mode, as well as capital and lowercase letters.

Comments to Students are not Abusive or Insulting

According to Keith Polonoli’s 2005 article “What Makes Educational Software Educational?” software should provide users with some level of frustration in order to remain challenging, but the frustration should not amount to turn the user off from the software entirely (p. 48). The *Letter Machine* does not tell users that they are wrong, but the program will explain the incongruence between the desired and given answers. For instance, if the task at hand is to “find the letter ‘Y’,” and the user responds by clicking the letter “F”, the giraffe will say, “No, that’s the ‘F’; can you find the ‘Y’?”

Readability at an Appropriate Level for Student Use

Students do not need to have the ability to read to play *The Letter Machine*. However, the game can help students begin reading, because the words used in the illustrated demonstrations are written out underneath the illustration. For instance, the phrase for the letter ‘B’ reads “Bees board buses.” In “learning mode” the words remain on the screen until the user clicks on another letter. If the user clicks on the words, the giraffe will repeat whatever word was clicked.

Graphics Fulfill Purpose and are not Distracting

The graphics used in the game are only the illustrative demos and the clickable pictures that allow the user to navigate between “learning mode” and “quiz mode.” I think for the age group it serves, the feedback is appropriate. However, each letter only has one phrase that correlates, which can be determined as annoying after some time.

II. Essential Content Characteristics: Is Content Accurate, Current, and Appropriate?

No Grammar, Spelling, or Punctuation Errors on Screen: None

All Content Accurate and Up to Date

The keyboard setup is accurate as is the alphabet. There is no other information that could be out of date or inaccurate.

No Racial or Gender Stereotypes; Not Geared Toward Only One Sex or Races

The voice and drawing of the giraffe is gender/neutral and the illustrations are all involving animals which are also gender and race neutral.

Social Characteristics

There is no violent or socially unacceptable behavior present in this program.

Match to Instructional Needs

The strategy of letter recognition is mastered in this activity, as it is really the only skill that is drilled through the use of this program. A 2004 article from *Instructional Strategies Online* explains, “Effective use of drill and practice depends on the recognition of the type of skill being developed, and the use of appropriate strategies to develop these competencies” (1). *The Letter Machine* accomplishes both of these ideals. Additionally, Judy Potter et al (2005) point out that, “The activities included in the program should be meaningful, relevant, interesting, and achievable for the students using them, and, at the same time, be challenging for the child based on his/her strengths and needs” (p.1). *The Letter Machine* can meet or fail to meet these criteria, depending on the class at hand. A teacher must be able to assess the needs and interests of his or her students in order to determine the appropriateness of the use of the program.

III. Essential User Interface Characteristics: Is it “User Friendly” and Easy to Navigate?

User has Appropriate Control of Movement Within the Program

The user of the program dictates when to switch between modes and how long they choose to spend responding to given letters in “quiz mode.” There is a clear “Stop” button (stop sign shaped and red for non-readers) for users to exit at any time.

User can Turn off Sound, if Desired: No Interface is Intuitive

The interface is very easy to use, as there are no outside functions besides those that I have already mentioned.

IV. Essential Technical Soundness Characteristics: Does it Work Correctly?

Program Loads Consistently, Without Error: Yes Program Does Not Break, No Matter What Student Enters

The program does not break no matter what the user enters.

Program Works on Desired Platform:

The program has a MAC and Windows version available.
Program Does What the Screen Says It Should Do: Yes
Online Links Work Correctly: N/A
Videos and Animations Work Correctly: Yes

Integration

In order to integrate *The Letter Machine* into a K-2 classroom, the ideal situation would involve the use of a computer lab following the study of letter recognition by a class. However, considering that many schools do not have access to a computer lab and are “one-computer classrooms,” the use of *The Letter Machine* in such a setting is absolutely possible with a little creativity.

For instance, the class could be split into teams in order to accumulate points in a competition with *The Letter Machine*. One student from each team would approach the computer, and they could race to find the appropriate letter. Of course, caution must be exercised in order to ensure both that the computer remains unbroken and that students remain calm during such a competition, especially at a young age.

Many other routes can be taken as well, that avoid competition. Teachers could create printouts that look like a keyboard, and students could point to the letter they think is appropriate. Or, the teacher could lower the computer’s speakers, project the game onto a large enough screen for the entire class to see, and ask the students to name the letters that the giraffe points out on the screen.



Instructional Software Evaluation Rubric

Title: ___Letter Machine___(Bailey’s Book House)___

Publisher: _Riverdeep/Edmark_____ Copyright Date: _____

Synopsis of Software: _____The software is a simple program involving letter recognition and early reading. The software has two modes: instructional and “game mode.”

In the instructional mode, students click on the letters (that are laid out like a computer keyboard) and then a character in the form of a giraffe tells the student what the letter is. In game mode, the giraffe challenges students to click on the letters once the giraffe names them.

Appropriate Grade Level(s): ___K-2_____

Maryland Content Standards correlation:

For information about the software review process see: <http://www.pgcps.org/~support/software.html>

Rank

Score

Comments

<i>Curriculum Content</i>	<ol style="list-style-type: none"> 4. The product correlates with the curriculum content of PGCPS, MSDE, and/or Maryland Content Standards. 3. The product generally covers the content recommended by PGCPS/MSDE curriculum standards and/or Maryland Content Standards. 2. Correlation with curriculum content is limited. 1. There is no correlation with curriculum content. 	4	According to the Maryland Voluntary Curriculum for kindergarten, students are supposed to be able to “identify in isolation all upper and lower case letters of the alphabet” and to identify letters matched to sounds” (Using the VSC:Reading, Grade K).
<i>Teaching and Learning Approaches</i>	<ol style="list-style-type: none"> 4. Software employs a significant number of teaching and learning approaches, i.e., constructivist experiences, cooperative learning, multiple intelligences, independent investigations, and/or opportunities for student creativity. 3. The program uses some teaching and learning approaches listed above. 2. The program uses minimal teaching and learning approaches listed above. 1. The program lacks creative teaching and learning approaches. 	3	This program allows for both independent investigations and cooperative learning, however, it does not employ many activities for student creativity.
<i>Critical Thinking</i>	<ol style="list-style-type: none"> 4. Extensive critical thinking, decision-making and other higher-level thinking skill activities are included in this program. 3. Program allows for some practice of higher-level thinking skills. 2. Program allows for limited practice of higher-level thinking skills. 1. Program does not allow students to apply higher level thinking skills. 	2	The task at hand is fairly simple, and therefore does not require much high-level thinking.
<i>Perspective</i>	<ol style="list-style-type: none"> 4. Concepts, people and cultures are portrayed without stereotypes. If appropriate, positive examples promote multicultural appreciation and understanding. Gender-neutral or non-traditional career roles are presented. 3. The program portrays some concepts or roles listed above, but not all, when appropriate. 2. The program is free of stereotypes but does not promote diversity when appropriate. 1. The program includes one or more aspects that may be considered stereotypical. 	4	All of the characters represented in the game are gender and race neutral, almost all of which are animals.
<i>Pedagogy</i>	<ol style="list-style-type: none"> 4. Objectives are clearly stated and specific. Instructional design applies current research on technology-based instruction and readily fits within the PGCPS Technology Framework/ISTE NETS standards for students. 3. Objectives and other design factors listed above are relevant to teacher and learner needs. 2. Objectives or other design factors listed above are outdated or irrelevant. 1. Little or no attention is given to pedagogy. 	4	The objectives are very clearly stated and specific.

Rank	Score	Comments	
<i>Effectiveness</i>	4. The program makes exceptional use of technology to present concepts and ideas so that students can achieve a broader understanding than is possible with a non-digital approach. 3. The program adequately uses technology to extend content and offers positive benefit to the instructional process. 2. The program makes limited use of technology to present ideas and concepts. 1. No benefit of technology used; print resources provide similar learning experiences.	3	Though other resources could be used to teach letter recognition, this program offers a fun way for students to learn letters quickly and to practice what they have learned.
<i>Content Customizing Features</i>	4. Teacher and/or student can easily customize both content and difficulty level. 3. Content and difficulty level can both be customized, but not easily. 2. Either content or difficulty level can be customized, but not both. 1. Content and difficulty level may not be customized.	1	No where in the game is there a chance to customize the difficulty level.
<i>Assessment Component</i>	4. Program provides pre/post testing, clear feedback, questions based on previous student response (branching), and student progress reports. 3. Program offers pre/post testing, clear feedback, and student progress reports, but does not provide branching. 2. Program provides pre/post testing but limited reporting features and feedback. 1. Program offers only pre or post testing or has no assessment component.	1	There is no assessment report provided by this program.
<i>Support Materials</i>	4. Exemplary instructional support materials are available in both print and online format; e.g., management strategies, URLs, or additional resources. 3. Adequate instructional support materials are provided. 2. Support materials are limited or not useful. 1. No support materials are included with the program.	2	Using the Riverdeep Web site, teachers can find more information about further programs that could be used in the future in the classroom.
<i>Program Accessibility Features</i>	4. The resource automatically incorporates workstation user preferences, complies with COMAR accessibility standards, and offers customization choices at each step. 3. The resource automatically incorporates workstation user preferences, complies with most COMAR accessibility standards, and offers customization choices for key features. 2. The resource automatically incorporates workstation user preferences, complies with only a few COMAR accessibility standards, and offers limited customization choices. 1. Workstation user preferences are overwritten or there are no customization options.	3	COMAR states, "A public agency shall ensure that technology-based instructional products provide students with disabilities equivalent access," (Hendricks p. 4). The only accessibility concerns with this program would be if students have visual or audio impairments, in which case variations of teaching the lesson could be used.

Overall Score: 27

Signature, Date: _____

Signature, Date: _____

Print Name, Title: _____

Print Name, Title: _____

Additional Comments:

Title of program: Letter Machine (Bailey's Book House)

School requesting evaluation: _____

Name of evaluator (please print): _____

Position/job title: _____

Signature of Principal (required for Local School Evaluation Procedure-LSEP): _____

Date: _____

Criteria: 3=high 1=low na=missing/not applicable	3	2	1	na	Criteria: 3=high 1=low na=missing/not applicable	3	2	1	na
INSTRUCTIONAL QUALITY					CONTENT				
Effective use of instructional time	x				Accurate information	x			
Supports different learning modalities and intelligences		x			Free of bias and stereotypes	x			
Supports different learning styles		x			Aligns with sequence of objectives and skills in BCPS curriculum				
Adaptable for students with special needs			x		Aligns with MSDE content standards, Core Learning Goals and Skills for Success	x			
Accurate spelling and grammar	x				Appropriate to intended grade and ability level	x			
Appropriate vocabulary	x				SUPPORT MATERIALS				
Management capabilities			x		Explicit and clear instructions				x
Appropriate motivation					Clear statement of objectives/outcomes				x
Appropriate reinforcement for student responses	x				Statement of prerequisite skills				x
Assessment capabilities				x	Troubleshooting information				x
Clear and adequate instructions for use	x				Useful teacher materials				x
Clear and logical presentation	x				Useful student materials				x
Ease of use (navigation, Help features, etc.)		x			TECHNICAL QUALITY				
BRIEF DESCRIPTION OF CONTENT: This is a simple instructional game used to teach and practice letter recognition.					Reliable and error-free operation	x			
					Clear sound, color, graphics and text	x			
					Useful documentation and/or online help				x
COMMENTS/CAUTIONS: 									

Signature of evaluator: _____ Date: _____

Signature of Curriculum Coordinator: _____ Date: _____

Please indicate: Highly recommended Recommended with reservations (see comments)
 Not recommended (see comments)

Conclusions

Each evaluation template had its own format in order to determine the appropriateness of the software. Roblyer's template involved a more open-ended question form, allowing for more descriptive answers, as opposed to the other two templates which used numeric scores to evaluate. However, the Prince George's County evaluation form did allow for comments on each aspect of the evaluation, where the Baltimore County evaluation only allowed for a brief description of the software.

Besides the specific format, all three of the rubric's stressed the same qualities in the evaluations. Clearly, all of the evaluations made specific reference to the correlation to the school's curriculum and ease of use. More surprisingly, however, was the inclusion by each template of the concern about stereotypical material. In every aspect of education, including the use of technology, a sensitivity to diversity is expected.

However, each evaluation is slightly different in the angle that was used. For instance, in the Roblyer template, more emphasis was placed on how to actually integrate the software into the classroom rather than in the Prince George's County evaluation template in which much more emphasis was placed on meeting a variety of standards. Each evaluation clearly displays the values held by the organization or creator of the evaluation. Therefore, such values will vary by school district.

In order for teachers to effectively integrate technology in their classrooms, they must be aware of the standards held by the school in which he or she teaches. By familiarizing themselves with a variety of forms of evaluation templates, teachers will not be intimidated by the software approval process. More teachers will be likely to use the process to integrate technology into their classrooms to greater affect their students.

Works Cited

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