

CAPE BRETON UNIVERSITY

Education 531

Software Evaluation Model

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“You can’t teach today’s students with yesterday’s materials, and expect them to have success tomorrow”

(Griesbauer, 1999)

Introduction

Schools have changed dramatically in the past fifty years of teaching. No longer are teachers expected to know and teach everything, but rather be able to effectively find information and teach students to do the same. More responsibility is being placed on the student for his/her learning and students engage themselves in their own interests rather than passively listening to a teacher. (Ringstaff, C. & Yocam, K., 1994) Student use of iPods, cell phones and computers has been increasing over the years and the use of technology and software in the classroom is no longer the issue. Instead, we are now more concerned with the most efficient use of that technology to create new opportunities to promote student achievement. Educators who integrate the appropriate learning resources into the curriculum, align it with student learning goals, and use it for engaging learning projects are the effective teachers of the future.

The use of appropriate software within the classroom is the focus of this paper. From studies published in various articles it becomes obvious that critical thinking skills develop when students use software programs to effectively present, publish, and share results of projects. (Coley, Cradler, & Engel, 1997) The appropriate choice of software programs is critical to this process and is directly proportional to how well students learn. Assessment of that software can be completed through various means, but our group has decided on a mixed approach as detailed below. By allowing teachers, software experts and students the opportunity to evaluate the use of the software in the class, we can create a more realistic evaluation of the effectiveness of the program. The evaluation model that we have developed contains ten components.

Description of elements of the evaluation model

1. The Evaluator

In order to determine whether the evaluation of the software is relevant to you, it is important to know who the evaluator is. Are they experienced teachers? Do they work within the public school system or do they work for a private educational system? Do they have a similar educational background? The answers to these questions will determine how meaningful the evaluation is. Evaluation date is also very important when referring to evaluation done by others. Is the evaluation current or dated? This will increase the relevance of the software evaluation. (<http://www.american.edu/IRVINE/eval.html>)

2. Content area for which the software is designed

When choosing a program, teachers are looking for programs that match a specific curriculum area or areas. When evaluating a program, does the software match specific curriculum and grade that it claims to, for example, grade **Kk**-12 math. As well, can this software be used for cross curricular purposes? For instance, can a reading program incorporate a social studies curriculum? Another important aspect that should be present is whether the software meets provincial or state instructional outcomes. Even though it may be the specific grade and subject you are searching for will it be easily incorporated into your specific curriculum is an important factor to consider.

3. Software Description

The name, media type, developer and copyright year are essential bits of information for the future-selection of the program. This gives the evaluator and other users a quick reference when searching for software, and an indication of how up to date the software is among other things.

4. Hardware requirements of the software

The most important and basic question in this section is will this software work with my computer? The hardware requirements must be known before choosing a program. Does your computer have the necessary processor speed, storage capacity space and memory to accommodate this software? Will these upgrades be worth having the software program?

RAM = Random Access Memory, this is the additional memory installed on your computer, not part of the computer's hard drive.

Disk Capacity = This is how much room you have on your hard drive.

ROM = Read Only Memory, this is the memory on your hard drive. |
[AI] (<http://www.american.edu/IRVINE/eval.html>)

The following five sections are evaluated on a five point scale, five being excellent and one being unsatisfactory.

(5=excellent, 4=good, 3=fair, 2=poor, 1=unsatisfactory, 0=non-applicable)

5. Teaching and Learning

Along with selecting software for the appropriate grade and subject level, the model must assess how well it addresses this curriculum. Does the software address the curriculum on a basic level or does it encourage higher level thinking? Will the software motivate students to create a new knowledge base with the curriculum being used or simple memory recall?

The software should meet the needs of the target students or the software will not engage or provide a relevant learning experience for the students. This should be the goal of any educational software.

6. Functionality

The ease with which the program installs is very important. If the program takes too long, uses high technical language or does not allow for multiple installation methods it may not appeal to many users. Not all teachers are comfortable with high technical language and this may prevent them from using the software.

Since students have various needs and learning styles, differing methods for output of work should be available. Will they be able to save the information to a file or print it for future reference or is it reading the screen only?

7. Graphics/Audio/Video

The quality of the sights and sounds of the software will help to engage students while it may distract other students. Will students have audio control? Can they turn audio on or off? Is the animation age appropriate? Can students navigate the screen easily? This section must address student's age, level and learning needs in order to engage all students.

8. Accessibility

Inclusive classes need curriculum material and software that meet the educational requirements of special needs students, English second language learners and gifted learners. Does this software use different languages? Will hearing impaired students be able to use the software? Will the software provide enrichment for students seeking a higher level of learning?

9. Support.

Often the support that the software provides is as important as the utility of the software itself. The types of support that any software could provide could come in the forms of printed documentation, electronic documentation and telephone support.

Are the printed and electronic documentation free of grammatical errors, easy to use, logically and logically organized? Are there online tutorials available and e-mail information available? With regards to telephone support, is there a toll free number that can be used throughout the day that provides the assistance of a support person free of charge? If an extra charge is added for telephone support then the end price of the software will be higher.

10. Licensing.

When considering purchasing software, demonstration versions that are fully functional provide all potential users with a realistic experience. The realistic experience will provide the potential user with the best possible situation to evaluate the software.

The purchasing options are very important since all districts, schools and teachers work with budgets and budget constraints. The ability to purchase single licenses instead of [a site license](#) might be better for one teacher and purchasing group licenses might be more accommodating to another user.

In addition to the teacher/administrators evaluation checklist, the end user (the student) should also be provided with an opportunity to give their opinion of the software that they may eventually be using. This checklist should be clear and easier to use with a comments section that enables the students elaborate on any information they would like to provide. (<http://www.superkids.com/aweb/pages/reviews/kids.html>)

Software Evaluation Form

Evaluator							
Name:							
Organization:							
Educational Background:							
Experience in Years:				Evaluation Date:			
Software Description							
Program Title:							
Developer:							
Copyright Year:				Version #:			
Media Type:	CD	DVD	Download	Web-Based	Other:		
Minimum Hardware Requirements							
Processor Speed:				Video Card:			
Memory:				Online Requirements:			
Hard Disk Space:				Sound Card:			
Other System Requirements:							
Grade Level	Curriculum Area						
	Language	Science	Core French	Mathematics	Health	Religion	Art
	Physical Education	Technology Education	Home Economics	Social Studies	Music	Drama	Other:
Intended Learner Outcomes (as per provincial, state or federal documents)							
Province/State:				Specific Course:			
1.							
2.							
3.							
4.							
5.							

Please rate the following items with a score (**5=excellent, 4=good, 3=fair, 2=poor, 1=unsatisfactory, 0=non-applicable**). Please provide any necessary comments.

TEACHING AND LEARNING						
Curriculum	5	4	3	2	1	n/a
Correlates with the stated intended learning outcomes						
The content is accurate						
Information comes from reliable sources						
The content is unbiased						

The content is cross-curricular						
Is designed for users with varying ability levels						
Total						

Critical Thinking	5	4	3	2	1	n/a
Provides an opportunity for higher order thinking skills						
Actively engages the learner						
Encourages creativity and imagination						
Provides opportunities for problem solving activities						
Allows for consolidation of skills and knowledge						
Allows for synthesis of new knowledge						
Total						

Comments:

FUNCTIONALITY

Functionality	5	4	3	2	1	n/a
The vendor provides multiple formats for the software (download, DVD)						
Program installs easily						
Multiple installation methods are available						
The final installation ran smoothly						
Software load times are fast						
File load/save times are fast						
Menus/Tool bars/Shortcuts are logical and intuitive						
Various output methods for work is available (file, print, screen)						
Total						

Graphics/Audio/Video	5	4	3	2	1	n/a
Graphic and color schemes are designed to enhance learning						
Animation is high quality						
Video works properly - Incorporates the appropriate use of sounds						
Uses sound as cues for the user						
User has the ability to adjust audio levels						
Written word is supplemented with speech files						
Menus/Tool bars are easily accessible						
Window layout follows design principles to maximize user comfort						
Total						

Accessibility	5	4	3	2	1	n/a
Accommodates hearing-impaired individuals with clear visual queues						
Allows user customizations at startup						
Mouse overs/Roll overs are used to assist sight-impaired users						
Clear and clean fonts that are easy for sight-impaired individuals to read						
Has "read text aloud" feature						
Has features for users with varying levels of manual dexterity						
Easy input from various devices (mouse, keyboard, touch screen etc.)						
Is available in multiple languages (English, French, Spanish, etc.)						
Total						
SUPPORT						
Printed Documentation	5	4	3	2	1	n/a
Is free of grammatical errors						
Is laid out in a logical and organized manner						
Is printed in a clear and easy to read font						
Utilizes diagrams to aid with explanations						
Has an index and table of contents						
Total						
Electronic Documentation	5	4	3	2	1	n/a
Has an extensive index list						
Categorizes topics under appropriate major headings						
Utilizes diagrams to aid with explanations						
Has forum(s) in which the user can participate to resolve problems						
Provides a list of frequently asked questions from other users						
Provides e-mail contact for technical support						
Provides on-line tutorials						
Total						
Telephone Support	5	4	3	2	1	n/a
Is available at appropriate times throughout the day						
Is available to provide competent solutions to problems						
Is accessible via a toll free number						
Is provided at no additional cost to the user						
Total						
Comments:						
LICENSING						
Demo Versions	5	4	3	2	1	n/a

Trial version is available via multiple media (download/CD/DVD/etc.)						
Trail version is fully functional						
Trial version demonstrates the full potential of the software						
Total						
Purchase Versions						
	5	4	3	2	1	n/a
Can be purchased as a single user license						
Can be purchased as a site license						
Company has established a discounted educational price						
Full user version can be paid for and downloaded via the Internet						
Full user version can be copied for the purpose of backup						
Total						
Comments:						

Student Software Evaluation



Software:

Grade:

Age:

Date:

Please check yes or no to the following questions.

Yes	No	Question
		Is the software easy to use?
		Is the software fun?
		Did you learn something new from this software?
		Did you like the sound?
		Did you like the pictures?
		Was the help file useful?
		Would this software help you learn?
		Would you use this software outside of school?
		Was it easy to do things with this program?

Comments: _____

References

Dick, Walter, & Robert A. Reiser (1990). *Evaluating Instructional Software. The Model of Reiser and Dick.*

<http://www.american.edu/IRVINE/eval.html>

<http://inkido.indiana.edu/w310/homepage/software/index.htm>

<http://www.paec.org/courses/SoftwareEvaluation/index.htm>

<http://www.superkids.com/aweb/pages/reviews/kids.html>

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Ringstaff, C. Yocam, K. & Marsh, J. (1996). "Integrating technology into classroom instruction: an assessment of the impact of the ACOT teacher development center project" *Apple Classrooms of Tomorrow (ACOT) Research Report 22*

Griesbauer, P (1999), Search Engines. *Teacher Librarian*, March/April, 1999, pg.34. Retrieved electronically from http://www.teacherlibrarian.com/tlmag/v_26/v_26_4.html

<http://www.american.edu/IRVINE/eval.html>

<http://www.superkids.com/aweb/pages/reviews/kids.html>

Other Stuff

...ending is weak but I need to know where we're going with this...

Other stuff...

As noted in [Stirling's article](#), ". . . there is no one way to do evaluation . . . there is no generic logical structure which will assure a unique *right* method of choice . . . evaluation ultimately becomes judgment" Different curriculum areas might require a different evaluation model, even when the underlying philosophy is the same.

The most important component of evaluation is the evaluation of outcomes (Castellan, 1993). Knowing what students learned from the program and how well they learned it provides convincing evidence about the software's effectiveness. Although it seems clear that conducting an evaluation measuring learner's achievement seems appropriate and necessary, the time and cost to conduct field tests are prohibitive factors.