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Evaluating CD ROMS for Language Learning

Abstract

Many CD ROMs intended to promote language learning are commercially available, and there is a need to evaluate them for learning purposes. Because a CD ROM library is a relatively fixed collection of materials, there are challenges and opportunities for teachers in recommending activities, making suggestions on how to use the materials, and complementing any feedback on learning achievement that the disc might offer.

Criteria suggested by Levy (1997) Chappelle (2001) and Laurillard (2002) are explored to focus on how far CALL materials on CD ROM support learning, as contrasted with evaluations that deal principally with issues of the user interface and general attractiveness of the material. The purpose of evaluating CALL materials in this way is to know who they may help, who they may harm, how much and under what circumstances, so that users can have the most productive learning experience possible. The methodology for evaluating CD ROMs for language learning presented here assumes that the potential of the material can be enhanced by teachers as a result of effective evaluation.

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1. Introduction

Many CD ROMs intended to promote language learning are commercially available, and there is a need to evaluate them for learning purposes. Because a CD ROM library is a relatively fixed collection of materials, there are challenges and opportunities for teachers in recommending activities, making suggestions on how to use the materials, and complementing any feedback on learning achievement that the disc might offer. The methodology for evaluating CD ROMs for language learning presented here assumes that the potential of the material can be enhanced by teachers as a result of effective evaluation.

2. What kind of learning material is a CD ROM?

Laurillard (2002: 90) presents a useful table relating traditional and electronic media to the learning experiences they offer.

Table 1: Five principal media forms with the learning experiences they support and the methods used to deliver them.

Learning experience	Methods/technologies	Media forms
Attending, apprehending	Print, TV, video, DVD	Narrative
Investigating , exploring	Library, CD, DVD, Web resources	Interactive
Discussing, debating	Seminar, online conference	Communicative
Experimenting, practising	Laboratory, field trip, simulation	Adaptive
Articulating, expressing	Essay, product, animation, model	Productive

According to Laurillard, a CD ROM is an interactive media form supporting investigating and exploring learning experiences, like a library or a web browser. This immediately limits what we should expect a CD ROM to be able to do. It is not a universal learning medium, and has much in common with conventional resources such as libraries. However, it is different from web resources in important ways. A CD ROM usually is directed at a user with certain needs and resources, as a book may be, and like a book has cover information and a title to help users choose a suitable CD. It is also knowable in the way that a book or a library is knowable. The pages may be in a sequence of the users choosing, but the number and content of the pages is finite, unlike following hyperlinks on the web.

This analysis suggests that the kind of support users may need from others might be broadly similar to the support library users may need from an academic mentor. CD ROMs, then, are perhaps rather like a textbook with an answer key, such as Murphy (1994) *English Grammar in Use*, for example, where a set of discrete and largely unconnected units are gathered together in one volume like a small library. Users have an interface menu, or index, to find their way around, get explanations, do exercises and receive feedback. Like a library, too, a CD ROM is not deficient if it does not do everything we might wish it did. What is important is to be aware of limitations as well as possibilities so that the material can be complemented appropriately by human and other resources.

3. Evaluating a CD ROM

CD ROMs offer certain kinds of learning experiences, and any evaluation needs to respect the limitations of the form. Many schemes of evaluation have been proposed for electronic materials, often with a strong functional rather than a theoretical bias, and generally directed at the design of the interface. For example Thorn (1995) lists:

1. Ease of navigation- a simple interface is recommended.
2. Cognitive load- users need to be able to concentrate on content rather than how to use the materials.
3. Knowledge space and information presentation- respect existing successful methodologies.
4. Media integration- to produce an effective whole.
5. Aesthetics- effective learning is enhanced by beauty.
6. Overall functionality- provide learning in a way the users expect.

Thorn's recipe for effective learning using multimedia seems to be to offer exactly what students expect to find elsewhere in other materials. This seems a rather limited ambition for using new technologies.

In this study, we will be going back to first principles and interpreting these in the light of what learning experiences a CD ROM might offer.

Levy (1997: 197 ff) points out important differences between the computer as a tutor, where feedback to the learner must be completely reliable, and computers as a tool, where feedback will come from other, normally human, sources. It may be helpful, then, to evaluate Computer Aided Language Learning (CALL) materials according to how far they behave like a tutor or a tool.

Chapelle (2001:55) distinguishes between language learning, which she equates with focus on form, and language practice. She offers a checklist for evaluation of CALL material, which reflects her positive attitude to this kind of material and will be useful in identifying the strengths of CD ROM materials.

Laurillard (2002), also an enthusiast for electronic resources in learning, offers checklists and comments on possible negative aspects of electronic materials. These too will be useful for evaluating a CD ROM.

Finally, we will need to compare electronic materials with other resources which may perform the same function. As an academic mentor to a CD ROM user, a tutor may have to decide who they may help, who they may harm, how much and under what circumstances, so that users can have the most productive learning experience possible.

3.1 The Tutor- Tool framework.

Levy (1997: 182) suggests that the 'teacher in the machine' concept of the tutor role of CALL materials is derived from a behaviourist model of learning., and goes on to suggest (ibid: 184) that advances in intelligent tutoring systems have not really changed the behaviourist model. In tutor materials, both instructional and revelatory learning are supported, which are broadly correlated to deductive and inductive teaching methodologies. In both cases the machine as tutor controls what is presented. Nearly all CALL material on CD ROM is therefore conceived as a tutor.

A tool on the other hand, as defined by Levy (ibid: 192-193) supports conjectural and emancipatory learning, where the learner has the locus of control and uses the tool to check their own hypotheses. An example would be the use of the spellcheck facility in a word processor, not to automatically correct all misspellings but to test out different possibilities. Such uses assume a strong teacher role in preparing for activities (ibid 182) in line with the assumptions behind this paper.

Levy seems to propose that CALL materials are either a tutor or a tool, but perhaps a case can be made for proposing a continuum between these two extremes. Material that is conceived as a tutor could nevertheless be used as a tool by suitable teacher interventions.

3.2 Chapelle's criteria for CALL task appropriateness

Chapelle (2001:55) looks at the criteria that might indicate whether or not a CALL task is likely to lead to language learning. Her criteria are:

- Language learning potential, the degree of opportunity present for beneficial focus on form. This may include tasks involving interactional modification, modification of output, time pressure, modality, support, surprise, control and stakes.
- Learner fit, the amount of opportunity for engagement with language under appropriate conditions given learner characteristics. Learner characteristics include language level and willingness to communicate as well as non- linguistic characteristics such as age and learning style.
- Meaning focus, the extent to which the learner's attention is directed toward the meaning of the language. This could be in oral or written communication tasks where the learner is engaged in purposefully constructing and interpreting meaning.
- Authenticity, the degree of correspondence between the CALL activity and target language activities of interest to learners outside the classroom. This is in line with generally accepted communicative learning principles.
- Positive Impact, the positive effects of the CALL activity on those who participate in it. These effects may be in developing metacognitive strategies, or an interest in the target

culture, or pragmatic communication abilities that may have a range of applications outside the classroom.

- Practicality, the adequacy of resources to support the use of the CALL activity. This includes the availability of hardware and software, technical support and tutor support.

Chapelle's list again identifies strong roles for tutor support in many areas, suggesting that no technology can support learning adequately without appropriate tutor support. The purpose of applying the criteria, it is suggested, is not to eliminate material which does not meet all the requirements, but rather to see how to complement the material with human resources.

3.3 Laurillard's checklist of negative impact factors

Laurillard is concerned with educational technology in general, and not with language learning specifically. Nevertheless her comments on instructional materials are valuable in a CALL context. Laurillard (2002:193) warns of possible negative effects of poorly designed instructional material and lists the following:

- Looking for how to get started
- Wondering why nothing is happening
- Discovering you are unable to get back to the page you just left
- Being told you are wrong when you know you are right
- Wondering how long this is going on
- Trying to guess the word the programme is waiting for
- Wondering what to do next
- Coming upon the same joke for the 15th time

These are self explanatory, and perhaps less common now in instructional material than they may have been in the past. Nevertheless, some interfaces are extraordinarily and unnecessarily difficult to navigate. Not all of Laurillard's criticisms are aimed at interfaces, however. For instance, being told you are wrong when you know you are right is a fundamental problem in the machine as tutor. Feedback is sure to be imperfect: either the task is so uncreative that only one answer is possible, or the range of possible acceptable answers are limited by the task

writer's imagination and the machine's capabilities. This is essentially the problem when the programme is waiting for the 'right' word. Although Laurillard is committed to technology in learning, she remains convinced of the central role of the teacher: '... beneath the rhetoric of 'giving students control over their learning' is a dereliction of duty.' (ibid: 196). Apart from the tutor roles identified in Chapelle's work, Laurillard highlights a strong tutor role in mediating the feedback offered in multimedia materials.

3.4 Comparing technologies

It will be evident by now that material on CD ROM is no more 'stand alone' than any other educational material and needs to be effectively mediated by a tutor or teacher figure. It is suggested that mediation takes place in the selection of material for purpose, for learner characteristics, and for the interface, and in complementing the feedback offered by the machine. We may reasonably ask how the CD ROM compares with print materials using the criteria already discussed above. Perhaps an underrated aspect of the discussion of multimedia material is that it has thrown new light on the strengths and weaknesses of more traditional learning materials. A book, for instance, may be faster to flip through than any multimedia material, easier to browse, easier to navigate using indexes and contents tables, and contain a wider range of tasks and feedback. But it may lack surprise and visual stimulation, and need more user training to engage with actively.

Feedback to users is a key issue for learning. It has been pointed out that one of the great advantages of CD ROM multimedia material is that it gives instant feedback (Brett, 1997). However, it is not clear that instant feedback supports learning. Might there not be a lack of reflection time or opportunities for self evaluation? When learners have to look up an answer key, they are in control of these matters.

4. Conclusions

The purpose of evaluating CALL materials is to know who they may help, who they may harm, how much and under what circumstances, so that users can have the most productive learning experience possible.

Much of the responsibility for the effective use of CD ROM materials lies with the mediator, the human teacher or tutor working with the material and the learner. Mediation takes place in the selection of material for purpose, for learner characteristics, and for the interface, and in complementing the feedback offered by the machine.

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Biodata

Frank Farmer has been a Profesor Investigador at the Universidad de Quintana Roo since 1996. He holds the COTE qualification in language teaching, is a certified oral examiner for Cambridge ESOL and examiner for IELTS, and has a Master of Education degree in Educational Technology and ELT from the University of Manchester.

His research interests include Self Access, the use of technology in language education, and professionalism in ELT and he has presented papers on these topics at national and international conferences, as well as publishing articles on professionalism.