Beyond the ‘wow’ factor - evaluating multimedia language learning software from a pedagogical viewpoint

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Abstract

Much CALL (Computer Assisted Language Learning) software engenders a mixture of reactions upon initial exposure. For teachers, this may obscure a more objective view of the benefits to the learner. This article considers ways in which a languages teacher or a languages department might evaluate language learning software on a pedagogical basis. It emphasises that the classroom teacher is already in possession of much of the knowledge to do this successfully. It illustrates what might be considered good practice in various areas. This is done by matching a learning and teaching approach as currently practised within the U.K. secondary school environment against features of various CALL software packages.

Beyond the ‘wow’ factor - evaluating multimedia language learning software from a pedagogical viewpoint

This paper is based on research conducted during teacher continuing professional development (CPD) sessions at Warwick where one of the major themes has been how to evaluate available computer-assisted language learning (CALL) software successfully, given limited amounts of time and money at a department’s disposal. In addition, it has emerged that teacher ICT experience varies greatly. It was with these issues in mind that the CPD sessions were first devised and then developed to take account of ‘differentiation for teachers’. At the end of the CPD, staff have been in a better position to evaluate CALL materials†.

The ‘wow’ factor

In acquiring software evaluative skills, teachers will encounter the ‘wow’ factor at some stage. We would like to offer the following definition of this phenomenon.

• The ‘wow’ factor encompasses both extremely positive and extremely negative initial reactions in the user (teacher/learner) towards a software package. This immediate, instinctive evaluation can colour the user’s opinion of the program as a whole, even on a medium to long-term basis.

• The causes of such reactions can stem from the seemingly most innocuous design features such as background music, stereotypical images and the reward feedback.

• Less evident causes can originate from teacher/learner hostility (technophobia), a high learning curve (cognitive overhead, Conklin, 1987), and disillusionment after anticipation of an educational panacea.
• Positive first impressions must be controlled and extended over the longest term possible to counterbalance the negative elements which will undoubtedly arise.

• Such elements may include technical difficulties (both external and internal to the program), software updates and ‘old knowledge’. ‘Old knowledge’ is used here to describe the periodical need for users to improve and update their ICT skills.

• The result is that in acknowledging the existence of the ‘wow’ factor, teachers should be in a better position to evaluate software objectively and move towards successful integration.

How teachers can evaluate software after the ‘wow’ factor

It is crucial that any CALL software is evaluated (preferably before purchase) and subsequently integrated appropriately throughout the whole department. Some software may claim to assist with language learning. It is the teacher’s job to refute or acknowledge such claims. What follows is a possible framework for assessing materials. The principles outlined incorporate what we think will be readily accepted as good language teaching and research: language learning software should adhere to these fundamental rules just as other resources do. In aiming to discuss general principles of CALL software evaluation, titles of particular packages have not been given.

It is imperative that any language learning software embodies basic principles of language teaching and learning and does not merely position some foreign words interestingly on the screen with some background music. Whilst some software may provide opportunities for pupils to work more independently, in most contexts the teacher remains the primary director of learning. It is the teacher who must decide on the value and appropriateness of the software. The communicative language teacher should not be overawed by a piece of multimedia technology which basically brings together text, video, sound and graphics onto a single screen. Teachers already use and evaluate these resources separately on an everyday basis.

A framework for the evaluation of multimedia software

Listed below is a set of questions that could be used as a checklist by teachers to help decide if the designers of the software have implemented sound language teaching and learning approaches. The medium may have changed, but teachers should still employ their professional judgement and experience as when they are evaluating any resource. Each of the questions is expanded on in the following pages.

1. Does the software incorporate manageable and meaningful input?
2. How is new language introduced? Is sufficient (optional) practice possible before learners produce language?
3. How does the software use the writing medium?
4. Does the software attempt to create a target language context?
5. Does the software perpetuate cultural stereotypes?
6. How authentic and accurate is the target language used?
7. Does the software incorporate suitable language learning activities?
8. How practical is integration of the software into the classroom context?
9. How well does the software match pupils’ expectations and the needs of the course?
10. Does the software cater for all learners?
11. What form of assessment, learner feedback or profiling is provided?
12. Is the multimedia dimension exploited with regard to grammar and language patterns?
13. How are language items presented on screen to the learner?
14. How clear are the instructions for users?
15. What support for teachers is provided?

1. Does the software incorporate manageable and meaningful input?

Foreign language learning improves when the learner is exposed frequently to manageable amounts of language - this could be described as 'little and often'. Johnstone (1989) defines this process as 'distributed exposure (i.e. a lot of a little) being preferable to massed exposure (i.e. a little of a lot.)'. In the case therefore of multimedia learning, software must be sufficiently flexible for the learner to benefit from short bursts of exposure and activity. This fits in with the work of a modern day language classroom and is an important consideration for teachers when deciding how long and how often pupils should be ‘exposed’ to software. At first, the ‘wow factor’ - initial enthusiasm for the software - can be quite strong as pupils normally wish to explore every facility and aspect of the package as quickly as possible. Teachers must therefore attempt to maintain and build on this level of enthusiasm through ‘rationing’ and directing the exposure time. When practising new language, the aim should not, of course, be rote-learning of set vocabulary and phrases, but familiarisation with the language leading to confidence in using it and manipulating it. Learners should not be producing possibly meaningless units of language in a vacuum.

2. How is new language introduced? Is sufficient (optional) practice possible before learners produce language?

It is interesting to work out how much ‘weight’ any software allocates to the various stages of language learning - is too much time, for example, spent on (increasingly tedious) presentation or, conversely, is production expected too quickly without sufficient support? Even at the presentation stage the work should be interactive - active learning rather than passive viewing. Learners should do and react rather than view and stare.

3. How does the software use the writing medium?

The transition between receptive language and language production has, as in class, to be handled extremely carefully, ensuring that enough aural modelling is provided both before the written word is introduced and while it is being introduced. The introduction of the written word must not be delayed too long and certainly does not always have to be present whenever any language item is heard. Some packages appear unable to split the written version from the spoken version - the better ones have an option to do this and the best have considered when use of the written word is appropriate. Experienced teachers will be able to judge for themselves which option is best for their pupils in this context.
4. Does the software attempt to create a target language context?

Within the limited exposure time available in most secondary school language classrooms in the UK, ICT can make a huge contribution by replicating, in as lively a form as possible, the target language environment and culture. Stevick (1994) states that ‘Sensory data that come together are stored together’ when he explains how language items are not ‘learnt’ in isolation, but in context - what the picture was like, how the person was feeling when they learnt it. This context is part of the memory, the storage of the language. Consequently, if the context is meaningless or monotonous, the learning process will be disadvantaged. This recreation of context improves the language learning process by an attempt at immersion, albeit an inevitably poor substitute. Whatever the software can do to approximate a context is of benefit to the learner. Watts, (1997), in arguing for a CALL learner-based model in multimedia design, discusses the differences between formal (directed learning) and informal (incidental learning) CALL contexts. Examples of this kind of contextually situated software exist. However, business and travel themes are currently tending to dominate. This situation should change in the near future as more software houses begin to focus on curriculum-specific CALL packages, with content more appropriate to the age and experience of the learner.

5. Does the software perpetuate cultural stereotypes?

Much lower level software aimed at language learning either ignores the target language culture completely and creates almost a culture vacuum, or pays lip service to a cultural context by resorting to what are sometimes cultural stereotypes. In addition, equal opportunities must be considered here. Both multi-cultural and gender issues need to be taken into account to ensure each learner can identify with the software and that stereotypes are avoided. In the field of modern foreign languages, of course, this is essential, as learners should be broadening their cultural horizons, not having their xenophobia confirmed. Some recent advanced software provides excellent examples of real ‘foreign contexts’, making extensive use of authentic video news items and includes standard and imaginative tests and exercises. Authenticity of the materials will, of course, allow pupils to draw parallels with their own culture and help to eradicate stereotyping.

6. How authentic and accurate is the target language used?

Many texts used in software have been rather contrived; the aim should be that the texts are as near authentic as possible - much of the language, whilst making sense grammatically, would rarely be uttered by a native speaker. All the language therefore must be produced and approved by native speakers, and preferably by a range of native speakers with regional accents, rather than relying on one voice which is currently a far too frequent occurrence. A cassette accompanying a coursebook which used only one native speaker would not be deemed suitable. This is equally true for a multimedia CD-ROM. The software is acting as another language role model for the learner - therefore the language needs not only to be completely accurate (learners appear to believe everything on the screen is accurate), but also motivating regarding intonation and general liveliness. For real communication, stress and intonation play an important role too, not just pronunciation.

7. Does the software incorporate suitable language learning activities?

Hawkins (1987) draws our attention to four levels of activity in language learning as he sees it.
• Level 1 (concentrating on the medium) would involve activities where the learner focuses on manipulating sounds and grammar patterns, as in a drill, or, more receptively, picking out certain features or matching up discrete items.

• Level 2 (message-relaying as rehearsal for eventual performance) activities would involve mimicking and producing phrases.

• Level 3 (conveying a personal message but still with an element of rehearsal), activities where the learner conveys his or her own meanings, but some element of suspended disbelief is needed, role plays etc.

• Level 4 (the level of true ‘speech acts’: real performance.) These are genuine acts of communication - with native speakers or in the foreign country.

If we accept the plausibility of this schema (and in the context of U.K. foreign language teaching this is generally regarded as “accepted practice”), we must recognise at which level or levels the package’s activities are pitched in practice and not accept the levels that the software blurb claims to cover.

Hawkins stresses that activities at Levels 1 and 2 must be rewarding and effective, and lead to rapid processing of incoming messages in order to progress to higher levels. Software must therefore strive to provide suitable experiences for learners, whilst at the same time ensuring that users of different abilities at these levels are set appropriate objectives. For lower ability learners especially (Hawkins, op cit.), reward is probably the key - there needs to be a feeling of achievement at each step for all learners. Experienced teachers will instinctively know if a piece of software provides sufficient and appropriate rewards.

If activities are repetitive, boredom and disillusion quickly set in. Variety of activity is the key. Activities should be by definition active and interactive - the learner must be doing something and responding. CALL software should allow learners to apply what they have learnt in a different context - and not, for example, rely on a single conversation throughout. Activities should not overload the memory, for example, with long lists of instructions. They should lead up to including a degree of unpredictability and unfamiliarity, whilst starting at an achievable, straightforward level.

8. How practical is integration of the software into the classroom context?

A variety of teaching and learning styles is employed in most classrooms - group, pair, whole class, individual, carousels - CALL software needs to be useful in most if not all of these circumstances. ICT should be integrated into language teaching, not bolted on, which implies that any software has to complement other activity in the classroom and in other learning situations, for example in homework and in using the Web (Murray, 1997). The software should allow the learners to work in this variety of situations, including completely independently and in carousel lessons, where pupils may be working in small groups, thus enabling the teacher to work with other learners in a different way. Networkable software will, of course, allow the teacher to work with large groups. However, multimedia materials do cause problems in scaleability and maintenance (‘housekeeping’) as well as necessitating the use of headsets with learners. Again, the medium may have developed, but the principles of good group and carousel work still apply.
Some pupils may find a whole class approach problematic when they encounter unfamiliar language. With suitable software, they could have the option of repeating this presentation stage as often as desired or necessary. Some learners will respond better to the opportunity that the software offers to practise the language ‘in private’ whereas others may benefit from using general ‘presentational software’ (often bundled free with word-processing packages) for formal class presentations.

9. How well does the software match pupils’ expectations and the needs of the course?

Pupils are generally very sophisticated in their demands on technology - so video clips and/or good graphics may be essential. There is in most schemes of work and syllabuses a large amount of material to be covered and absorbed. Despite the apparently high levels of ICT skills amongst many pupils, learners must be learning the language when they are using the software, not struggling with how to use the software. Every opportunity to use the language should be exploited. For example, a package should not spend valuable time playing an introductory (and usually self-publicising) tune with nothing actually ‘happening’.

10. Does the software cater for all learners?

Differentiation is a perennial challenge for language teachers. Pupils should be able to access the software at an appropriate level for them, through the use, for example, of help/clues/support if desired. There may be, for example, a choice of activity after seeing/hearing/reading a stimulus and the learner slots in to the activity with which she or he feels most comfortable. Activities must be demanding but at the same time achievable. Both those learners who are already successful and those who have experienced failure must feel that their needs are met. A particular package must be challenging enough for the pupils it is aimed at and the software should make it straightforward for the teacher to point learners to appropriate activities i.e. following a type of grammar-based software model, where the topics are usually listed in full on the main start-up screen.

11. What form of assessment, learner feedback or profiling is provided?

Learners obviously vary in their aptitude, their motivation, their personality and their learning style. Some learners will be able to abstract, some to learn parrot fashion, some to cope only with the basics. They should therefore have something very clear to work towards and feel they are aware of both their goals and their achievements. It is helpful in the MFL secondary classroom if the software incorporates a learner profile. This profile should ideally be stored and available for both learner and teacher and can provide additional evidence for judgements at relevant points in the learner’s programme. Assessment should be seen as something positive, motivating and achievable for the learner. Profiling and assessment can obviously be determined by tests, but in order to make the tests flexible, optional support should be offered - clues, glossary, different activities based on the same stimulus, for example. The level of support chosen must therefore be recorded in the profile so the teacher is aware of the differing achievements of the pupils. This would help in the process of differentiation. Some software already offers student profiling to a certain degree, but this facility generally needs to be developed in helping the teacher to recommend a tailored learning path for each student user.

Feedback should be provided as to how the learner has progressed, with pointers given as to whether they should try again, or move on, setting specific targets for the learner if appropriate. Enabling pupils to plot their own paths and teachers to monitor them, results in practical
differentiation, rather than the ‘lockstep’ approach of whole class activities and assessments. Such self-planning is a step again towards more autonomous and therefore more motivated learners. For example, some software colour codes vocabulary and phrases, to indicate how well the learner has absorbed them. This is pedagogically sound as learners see where they need to focus their attention. This feature is all too rare in current CALL software.

12. Is the multimedia dimension exploited with regard to grammar and language patterns?

One area where learners differ greatly is in their appreciation of how the language functions. The language learning process itself and the way language ‘works’ should be highlighted in the software to aid the learner in his or her analysis of language patterns. The software should provide learners with an aid towards internalising and using structures accurately, not just recognising and producing unanalysed ‘chunks’ of language. To do this, the main rule is for the linguistic reference to be completely accurate, presenting the grammar in context at all times, with the use of English and/or the target language here depending on the level of the learners’ language. Ideally, the option should be available for the teacher to choose which language is used to explain and present grammar but packages presently opt for one or the other.

In more specific areas, if a package offers grammar and vocabulary sections, teachers must ask if these sections of the package exploit what can be done in this medium. Some design approaches merely represent a grammar book transferred onto a screen, in the form of a standard Windows help file. This is not necessarily ‘a bad thing’, as sometimes the motivating factor of working with the computer counteracts the tedium of some exercises - but the best packages will do more than this.

Johnstone (1989) outlines what a computer program can do to raise learners’ awareness of language ‘rules’. Despite the fact that this was written some years ago, many of the questions Johnstone asks are still relevant (and unanswered in software design) today. The following questions are adapted from Johnstone’s work and can help evaluate software from the grammatical perspective. Does the software:

• supply additional examples of a grammatical point?
• supply alternative explanations?
• jump ahead to a related point if the point in question has been understood?
• highlight important aspects of a point, e.g. in the use of colour, font and size, with the limited use of ‘blinks’?
• present the point in a variety of relevant, formal and informal contexts?
• allow for self-selection of the number of seconds allowed in which to respond?
• allow the movement of elements on the screen so as to illustrate and test structural or syntactical transformations?
• offer examples of a rule and then challenge pupils to type in what the rule is and give examples of their own?
Ideally, the learner could be referred to various sections in the grammar when producing language while completing activities elsewhere in the program - a reminder perhaps to look something up before attempting an answer, or when an attempt has been made without success. Learning ‘grammar’ means learning how the language works, and most importantly, then going on to use these structures and rules. Any grammatical explanation should not only have a description of the structure and examples in context, but also ample opportunity to practise what is being taught.

13. How are language items presented on screen to the learner?

The use of appropriate and non-excessive colour coding makes a significant difference to both grammar and vocabulary sections and has been adopted by some packages with different colours for genders, verb endings highlighted etc. Thus the visual memory, so much relied on at the beginning of the language learning process, is also used here.

Vocabulary must be presented extremely carefully and accurately, as learners’ implicit faith in what is on screen cannot be abused. Dictionary skills, of course, are playing a greater part in syllabuses, so vocabulary presented in the most authentic way (i.e. based on a dictionary) will be better than solely in vocabulary groups. In the ‘dictionary’, each word should be defined and also presented in a context if desired by a learner. A glossary of instructions for activities should also be included as a reference. This aids in the use of the target language for activity instructions and other ‘incidental’ language such as praise and clues.

14. How clear are the instructions for users?

All activities need to have clear instructions, and may also need to be previewed or demonstrated before the learner starts, so that they fully understand what is expected. Some better programs have an option for seeing demonstrations or examples.

Directions and help on how to use the software and navigate through the exercises and content must be kept to a minimum. This can be done with the use of appropriate on screen buttons, icons and menus. The screen real estate must avoid causing cognitive overhead in the learner by being clear, uncluttered and relevant to each section of the package. This is an important aspect of the ‘wow’ factor in that the screen layout is the learner’s/teacher’s first real encounter with the software.

15. What support for teachers is provided?

Comprehensive teacher’s notes should be provided with a package, which could include the following where appropriate:

- curriculum grid or guidelines;
- photocopiable worksheets/preparatory handouts;
- all vocabulary and language structures covered, transcripts of conversations etc., as this would facilitate the planning and integration of software into lessons, and help in organising schemes of work;
Future possibilities

A very promising area in CALL relates to the development and use of voice recognition software (VRS). IBM initially produced this software whereby a user is able to ‘dictate’ text onto the screen via a microphone. The potential is clear for CALL, in that speaking skills can be practised and monitored. However, current applications of VRS in CALL environments where a learner’s enunciation is compared to that of a native speaker, leave no room for flexibility and approximation, i.e. they do not adopt the concept of a ‘sympathetic native speaker’ understanding an attempt at communication. This can result in a very demotivating experience for the learner. Although presently unacceptable as a learning activity, teachers should anticipate impressive improvements in the application of VRS technology within the next few years.

Conclusion

Multimedia language learning materials comprise, as with all learning resources, some gems amongst a lot of mediocrity. Choosing suitable software for the needs of the department is crucial and involves teachers learning some new evaluative skills as well as incorporating their own teaching skills and experience. Assessment and integration of the various pedagogical software tools are more likely to be carried out successfully if teachers work co-operatively on a departmental basis. However, every teacher should be aware of the ‘wow’ factor; how to use it and go beyond it. The goal is the promotion of language learning through ICT and the avoidance of staff disillusionment and the waste of valuable departmental resources. The initial learning curve may be steep, with first impressions varying, yet the results can be rewarding and satisfying for both teachers and learners.

†Endnotes: additional context

Staff of the University of Warwick Language Centre have, over the last few years, provided departmental CALL INSET sessions for groups of teachers from a variety of schools and colleges in the Midlands. The aims of the sessions have been determined according to the specific needs of the individual department and this ‘tailor-made’ element is one of the most appealing aspects to the departments involved. In most cases all staff in the department have attended, in what has been described as a ‘non-threatening’ atmosphere. Even the most reluctant or technophobic teacher has been able to learn about a range of currently available software and how to evaluate their uses with a view to integrating them into their classroom teaching. This article incorporates many of the issues and comments that were most pertinent to the participating teachers. Several of these comments reflect the situation which Gray (1997) points out in her survey of IT use in MFL departments in the West Midlands. She describes the current situation in schools regarding provision of both software and hardware as being extremely variable. In addition, where adequate provision exists, access for the MFL department is often limited. It is no surprise that in these situations, staff confidence and competence range widely. However, on-going initiatives such as MFLIT (Modern Foreign Languages and IT), NCET (National Council for Educational Technology) publications and the improving ICT (Information and Communications Technology) skills and knowledge of new entrants to the profession, are steps in the right direction.
‡ The authors have examined in the past several years over fifty examples of CALL software packages and each one without fail contains inherent good points as well as bad. If named, each package mentioned would require a full (increasingly repetitive) description for which there would be insufficient space and we would also not wish to endorse any particular product or products as being superior. In addition, there is new software appearing regularly to which the general principles outlined below would still apply.

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