DEFINING THE CRITERIA FOR THE EVALUATION OF SELF-STUDY MULTIMEDIA LANGUAGE LEARNING MATERIALS: DO THEY FACILITATE OR INHIBIT LEARNER AUTONOMY?

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RESUM

Durant els darrers anys, s'han publicat un gran nombre de materials multimèdia destinats a l'aprenentatge de llengües, la major part dels quals son CD-ROM dissenyats com a cursos per l'autoaprenentatge. Amb aquests materials, els alumnes poden treballar independentment sense l'assessorament d'un professor, i per aquest motiu s'ha afirmat que promouen i faciliten l'aprenentatge autònom. Aquesta relació, però, no es certa, com Phil Benson i Peter Voller (1997:10) han manifestat encertadament:

> (…) Such claims are often dubious, however, because of the limited range of options and roles offered to the learner. Nevertheless, technologies of education in the broadest sense can be considered to be either more or less supportive of autonomy. The question is what kind of criteria do we apply in evaluating them?

En aquest article presentem una investigació conjunta on es defineixen els criteris que poden ser utilitzats per avaluar materials multimèdia en relació a la seva facilitat per permetre l'aprenentatge autònom. Aquests criteris son la base d'un qüestionari que s'ha emprat per avaluar una selecció de CD-ROM destinats a l'autoaprenentatge de llengües.

La estructura d'aquest article és la següent:

- Una introducció de l'estudi
- Els criteris que s'han utilitzar per la creació del qüestionari
- Els resultats generals de l'avaluació
- Les conclusions que s'han extret i la seva importància pel disseny instructiu multimèdia

ABSTRACT

Over recent years, a wide range of language learning multimedia materials have been published, most of which have taken the form of CD-ROM packages designed as complete language courses for self-study. Due to the fact that learners can work with these materials independently without teacher supervision, claims have been made as to the attributes of such packages in regard to promoting and facilitating autonomous learning. This relationship, whilst claimed, is not certain as Phil Benson and Peter Voller (1997:10) have succinctly pointed out:

> (…) Such claims are often dubious, however, because of the limited range of options and roles offered to the learner. Nevertheless, technologies of education in the broadest sense can be considered to be either more or less supportive of autonomy. *The question is what kind of criteria do we apply in evaluating them?* (our italics)

In this paper we aim to present a joint investigation which defines the criteria which can be used to evaluate multimedia language learning application in terms of their propensity to allow users to exercise autonomy in their learning endeavours. These criteria formed the basis of a questionnaire which has been used to evaluate a selection of language learning CD-ROMs which claim to be suitable for a self-study context.

The structure of the paper will be as follows:

- An introduction to the study
- The criteria which have been used for the creation of the questionnaire.
- The general results of the evaluation
- The conclusions which have been drawn and their importance for multimedia instructional design

RESUMEN

Durante los últimos años, se han publicado un gran número de materiales multimedia destinados al aprendizaje de idiomas, la mayor parte de los cuales son CD-ROM diseñados como cursos para el autoaprendizaje. Con estos materiales, los alumnos pueden trabajar independientemente sin el asesoramiento de un profesor, y por este motivo se ha afirmado que promueven y facilitan el aprendizaje autónomo. Pero esta relación no es cierta, como Phil Benson y Peter Voller (1997:10) han manifestado acertadamente:

> (…) Such claims are often dubious, however, because of the limited range of options and roles offered to the learner. Nevertheless, technologies of education in the broadest sense can be considered to be either more or less supportive of autonomy. The question is what kind of criteria do we apply in evaluating them?

En este artículo presentamos una investigación conjunta donde se definen los criterios que pueden ser utilizados para evaluar materiales multimedia con relación a su facilidad de permitir el aprendizaje autónomo. Estos criterios son la base de un cuestionario que se ha usado para evaluar una selección de CD-ROM destinados al autoaprendizaje de idiomas.

La estructura de este artículo es la siguiente:

- Una introducción al estudio
- Los criterios que se han utilizado para la creación del cuestionario
- Los resultados generales de la evaluación
- Las conclusiones que se han extraído y su importancia para el diseño instructivo multimedia

1. INTRODUCTION

This article is the culmination of a study which was undertaken into the attributes that a self-study dedicated material should have if it is said to be truly facilitative of learner autonomy. The study was based on the conviction that all self-study materials whether print or digital should bear certain attributes, which can be summarized[1] briefly as:

- being explicit in their aims, methods and contents
- being adaptable for self-study and reflect the attributes of a learning material
- accounting for the absence of an external facilitator in their design
- being flexible to allow for different learning styles
- offering genuine choice in terms of content, approach, methods and evaluation

Also as Holec (1981) stated and Little (1991) reiterated the environment should allow for learners to determine their objectives, define the content and process of the learning, allow them to select methods and techniques and facilitate the monitoring and evaluation of the learner's progress and achievements.

Based on this theoretical underpinning a questionnaire was developed to evaluate multimedia self-study materials for language learning. The context for this evaluation was specifically in terms of self-study, learners working on their own in the context as defined by Little (1996:212) as 'interacting with information systems' and cannot be related to a specific learning context because of the difficulty of applying these criteria to an environment where other factors, such as learner support systems and training are variable, dependent on the situation within which learning is taking place.

Taking this into account this study questioned how facilitative multi-media applications are, in terms of learners exercising autonomy within the parameters as set out in the material. Not what they can do by manipulating the material to their own ends, but how amenable the program is to learners, working independently, to exercise control over the material and exercise choice in terms of access and use.

In this article a brief outline will be given of the development of the questionnaire and the results of the application of this questionnaire to a set of multimedia language learning packages will be discussed.

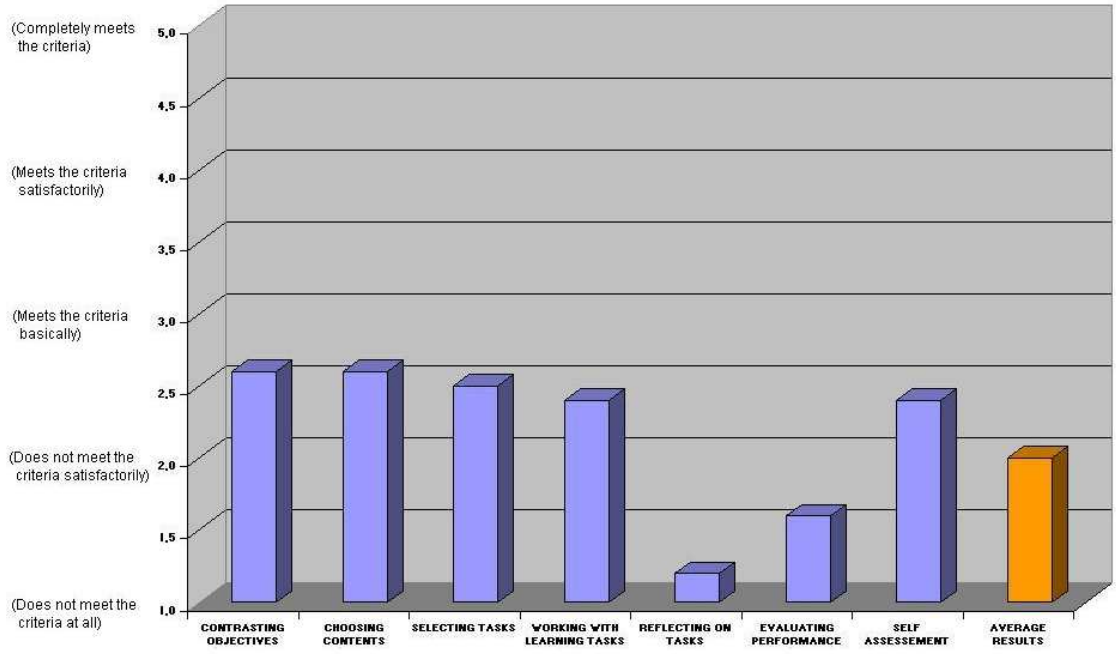
2. CREATION AND APPLICATION OF THE QUESTIONNAIRE[2]

In order to create the questionnaire a model of learner processes and learner-material interactions was devised. This model was drawn on Holec's (1981:3) definition of learner processes when exercising autonomy and Esch's (1996:37) definition of what the promotion of learner autonomy implies. This was then adapted specifically to the context of self-study multimedia materials, as can be seen in appendix 1.

The evaluation questionnaire (see appendix 2) was created based on this model and was used to determine whether self-study multimedia materials allow for the practice of learner autonomy. The materials that were analysed for this study were multimedia language learning courses: these ranged from dedicated language learning software that offers practice of specific language skills, to complete courses that provide a language learning curriculum. The study was based on ten multimedia applications[3], widely available for learning English as a second/foreign language from a number of different publishing companies.

3. ANALYSIS OF THE RESULTS

The questionnaire was applied and the results per section were tallied to give an overall result per program. These results were then averaged to produce graphic 1, which is an overview of average results by categories.[4]



Graphic 1 – Average results by categories

In this overview of the average results per section, it can be seen that no category reaches a basic level of agreement with the criteria set. In most of the categories there are some features which are included that facilitate the practise of learner autonomy, but not to a *satisfactory* extent. Moreover, in two categories the average results are very low. This has been interpreted as a failure on the part of the programs to facilitate and promote learner autonomy. A brief discussion of the results for each section follows.

3.1 CONTRASTING OBJECTIVES

Overall, the programs evaluated do not inform the learner of the applications objectives sufficiently for the learner to contrast their objectives with those of the material. There is insufficient information about the material's purpose, target audience and input sources. Basic information such as age, level and specific target group is not given by the majority of the programs within the immediate environment[5].

Such a fundamental piece of information as the programs purpose has not been included in some applications and in those where it is included the amount of information is deemed as unsatisfactory. Information such as this is essential for the learner. The first choice they will make is whether the material fits their learning purpose. If this information is omitted or not satisfactorily stated the learner will not be able to judge immediately whether the material fits their original criteria for its selection.

Another factor which seems to be neglected is information regarding the input sources included in the material. This means that information regarding types of texts, audio-visual input, and the nature of the input is not clearly stated. Learners cannot therefore see the nature of input in the

material and so cannot decide whether to use the material based on the types of input the learner would like to use.

For a learner to truly contrast their objectives and assess whether a material is suitable in relation to their needs, material should provide all of the above, otherwise their choice is compromised by lack of information.

3.2 CHOOSING CONTENTS

The programs evaluated tend to inform the learner of its contents but limit the possibilities of entry the learner has, in other words, they do not give the opportunity to access the contents from different points. Multimedia applications, like self-access centres need to have appropriate retrieval systems available to the learner when they are choosing what they would like to cover in their learning as Sheerin (1997:62) states, in relation to self-access centres:

> The organization and retrieval systems of self-access centres can be key factors in inhibiting or promoting independence in learners. (…) inappropriate categorization and inadequate indexing can have the effect of hiding material from learners.

If we want learners to have complete access to the learning content the categorization of the materials should be complete, reflecting the nature of the material and also must be within the "paradigm which is relevant to the learner" to borrow Esch's expression (1996:41). Also these multiple entry points are a must because of the benefit these systems have for the quality of learning the user enjoys as Barnett (1993:298) states, "A system with alternative entry points (rather than simply level or course book) guides the students to significant choices rather than controls him by imposing traditional classification categories".

3.3 SELECTING TASKS

Critically analysing the data, we can see a contrast between the information given about the tasks and the possibility of choosing the task the learner wishes to attempt. On the one hand, information such as rationale, skills practised, language content, types and number of activities, strategies and nature of input is relatively poor. On the other hand, programs do give learners control over the selection of the tasks. However, the fact that the learner can choose but is not given enough information about the task means that they cannot make an *informed* choice of the task they would like to attempt.

As a consequence, it may be more difficult for the learner to reflect on their learning and make informed choices in terms of their future learning needs and wants. If the learner completes the task without being aware of its nature he will not be in a position to reflect on the task in terms of usefulness, enjoyability and performance.

3.4 WORKING WITH LEARNING TASKS

In terms of the activities that constitute the task we can see that although the majority of applications evaluated give the learner basic information about the activities and choice over access to activities, they do not satisfactorily provide learners with a rationale for the activities and the overall relationship of the activity to the task selected. As a consequence, even though the learner is given instructions about the activities and the possibility of choosing the activity they prefer, a learner is not given enough information to be aware of the purpose of the activity and may not be able to relate it sufficiently well to their learning. It also affects their capacity to make an informed choice of the activity and therefore their ability to reflect on it.

In terms of the access and control given to the learner over the input, media and learning tools we can see that the applications evaluated provide the learner with basic access and control over these features of the material. This infers that, in general, these concepts are taken into account at present by application designers. However, they could be more flexible to allow the learner to take complete control. As an example, there is a step regarding control that is often neglected in multimedia programs which is offering the possibility of extracting the activity's input and using it according to the learner's needs and wants.

Finally, most applications offer basic information to the learner in terms of feedback, concentrating mainly on giving correct answers, and not exploring other possibilities such as commentaries, reflective questions or self-correcting tools that would help the learner in their process of discovering meaning using self-study materials. Therefore, within the learning task, feedback is seen as one of the main deficits of the evaluated programs, and one of the main causes that prevents the learner from exercising autonomy using the self-study materials.

3.5 REFLECTING ON TASKS

The results for this section are the weakest of the study. They show the poverty of the evaluated materials in providing opportunities for the learner to reflect on the tasks and their learning. Without a doubt, if the learner is not given the means to reflect on their learning and the learning tasks, it seems pointless to offer the learner a choice in the first place, specifically in relation to learners exercising autonomy and developing as more effective learners.

There is a serious failure on the part of the materials evaluated not to take into account reflection as an essential part of the learning process, especially if this learning is done in self-study mode. As Fenner (2000) has pointed out, reflection will be based on the learner's initial choice of topics, texts, levels, tasks and strategies. However, this choice should be accompanied by stimuli for reflection, a feature that should be included in any self-study material that claims to develop or promote autonomous learning.

3.6 EVALUATING PERFORMANCE

Offering opportunities for evaluating performance, like reflecting on tasks, seems to be insufficiently catered for by the majority of the materials evaluated. By offering opportunities, what is meant is the provision of a tool whereby learners can efficiently evaluate their performance. For evaluation to be effective, the program should allow the learner to choose *what part* of their performance they would like to evaluate and offer a detailed breakdown of the results of the selected evaluation.

Only two programs provided such an evaluation tool. It is curious to see how both of this programs not only provided opportunities to select the type and nature of the evaluation, but also provided the learner with detailed results from which they could assess their performance and plan the next steps in their learning.

Taking into account the results from the last two categories, it can be concluded that the programs evaluated do not offer the learner enough opportunities to evaluate their performance and therefore impinges on the learner's ability to reflect on their performance, their learning, learning approach and, as a consequence, affects their ability to decide on their next step of their learning.

3.7 SELF-ASSESSMENT

The pattern which is evident from the programs that offer a monitoring system is that although they allow the learners to see at any time what they have covered and their performance on these parts they do not allow the learner to log any response to the monitoring system.

It is surprising that multimedia applications which are destined for self-study do not allow or encourage the learner to log their responses to the material content in relation to their learning, especially taking into account that many print-based self-study materials do include such features. The possibilities inherent in multimedia technology means that they are more than sophisticated enough to allow and encourage this type of interaction, surpassing the possibilities that can be made available in print-based materials.

The development of monitoring systems that allow the learner to log their responses and make it their own is fundamental for the development of learner autonomy in self-study multimedia materials. Offering the learner a monitoring system by which they can select what parts they are going to view (according to their objectives), how are they are going to view it (parts covered,

performance of the tests, attempts) and log their responses according to their reflection on the learning tasks, activities and evaluations would definitely be a desired fundamental feature for any material which wants to promote learner autonomy.

4. CONCLUSION

> One of the important lessons of the spread of self-access over the past decade, is that there is no necessary relationship between self-instruction and the development of autonomy and that, under certain conditions, self-instruction modes of learning may even inhibit autonomy. (Benson, 2001:6-7)

After analysing the different categories which make up the questionnaire, the main conclusion of this study would be that multimedia language learning courses for self-study do not promote and/or facilitate learner autonomy to a satisfactorily extent

There is a clear pattern that can be taken from this evaluation and that has interesting implications for the design of multimedia materials. This pattern shows that while the programs almost meet the basic criteria suggested in allowing the learner to contrast their objectives, to make informed choices of contents and tasks and to have a level of control over the learning tasks, they fail to offer opportunities to reflect on learning. More specifically, learners are not encouraged to reflect on the learning tasks, to satisfactorily assess their performance and to monitor their learning.

As has been remarked in the analysis of these specific items, the fact that the learner is not given opportunities for reflection in their learning, may affect other aspects of their learning process, such as defining and redefining their objectives, making informed choices of contents and tasks, and their organisation and approach to learning. Choices only become substantive when the learner is able or encouraged to reflect on the choices they have made. As Fenner (2000:89) states choice only serves a purpose in the learning process if it is made the focal point of reflection.

Throughout this evaluation, we have highlighted areas of interest to multimedia designers in terms of the components that materials should have if learners are expected to exercise autonomy while using them. It is hoped that this evaluation may be useful for the professionals that are involved in the development of self-study multimedia materials concerned with the promotion of learner autonomy. The reason for this study has been to prove that there is not a direct link between learning a language using a multimedia based material in self-study mode and the promotion of learning autonomy, and that there is the danger of undervaluing the possibilities that multimedia can bring to the development of learner autonomy.

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APPENDIX 1 – MODEL USED TO CREATE THE QUESTIONNAIRE

PROCESSES IN LEARNER AUTONOMY	FEATURES OF THE MATERIAL
Contrasting objectives The learner can check whether the material's goals fit their learning goals & linguistic level.	The program gives detailed information about its goals: - Learning objectives - Appropriate Linguistic level - Ages - Previous knowledge required
Choosing contents The learner gets detailed information about the contents of the material. The learner chooses the area of work that best fits their learning objectives.	The program gives detailed information about its contents: - Functional contents - Skills used - Linguistic contents - Types of learning tasks involved The program offers choice of area to work on.
Selecting learning tasks The learner gets detailed information about the learning tasks. The learner chooses amongst a number of different learning tasks.	The program gives detailed information about the learning tasks: - Skills that are going to be used - Strategies - Rationale - Instructions The program offers choice of type of task to work on
Working with learning tasks The learner has control over the input. The learner has access to tools to discover meaning. Activities give feedback about where and how the learner was wrong and right. For open exercises, the learner gets model answers or reflective questions for self-evaluation. The learner can use different strategies to approach the learning task. The learner can take control over the activity and proceed according to learning styles and preferences.	The program gives complete control over the media (text, audio, video). The program includes tools to discover meaning: - Transcripts - Translations - Glossaries - Links to databases The program gives feedback on closed exercises: - Correct & incorrect answers - Commentaries on answers - Links to explanations on linguistic items - Links to points in the input The program offers feedback on open exercises: - Model answers - Reflective questions
Reflecting on learning tasks The learner reflects on the learning task. The learner evaluates whether the task has been useful. The learner can select other tasks based on the same strategies, or try new strategies with the same or different content.	The program prompts the learner to think about task performance and usefulness. The program informs the learner about other tasks: - Further practise of the same type of task - Practice of other tasks with similar or different content
Evaluating performance The learner decides when and how to evaluate linguistic outcomes.	The program allows the learner to evaluate at any time and to choose the type of evaluation: - Unit covered - Whole program - Skills - Linguistic items
Self-assessment The learner assesses learning processes and checks whether learning objectives are fulfilled. The learner makes necessary changes to the learning plan according to newly defined objectives.	The learner is given tools to see the parts that he has covered so far. The learner is given the option of selecting different learning contents at anytime.

APPENDIX 2 – EVALUATION QUESTIONNAIRE

NAME OF THE PROGRAM: _____

GRADING:
5: Completely meets the criteria
4: Meets the criteria satisfactorily
3: Meets the criteria basically
2: Does not meet the criteria satisfactorily
1: Does not meet the criteria at all

1. PROGRAM INFORMATION:

- Does the program inform the user about….?
  - its purpose (what the program is for)

    1 2 3 4 5
  - the target audience (age, level, specific target group)

    1 2 3 4 5
  - the language contents (grammar, function, skills, topics and themes)

    1 2 3 4 5
  - the input sources (types of texts, audio-visual input, authenticity of input)

    1 2 3 4 5
  - how learning is organised? (distribution of contents, input resources, activities, learning tools, evaluation systems)

    1 2 3 4 5

2. INDEX OF CONTENTS:

- Does the program inform the user about its different content components (functional contents, skills, grammar points, vocabulary, themes)

  1 2 3 4 5
- Are there multiple entry points to the contents? (learners get the means to work with the content component they want to)

  1 2 3 4 5

3. INFORMATION ABOUT THE TASKS:

- Does the program inform the user about its different types of tasks?
  - Rationale (what the task is for & expected outcomes)

    1 2 3 4 5
  - Instructions (how to approach and complete the task)

    1 2 3 4 5
  - Skills practised

    1 2 3 4 5
  - Strategies employed

    1 2 3 4 5
  - Language content (grammar points, lexis, theme…)

    1 2 3 4 5
  - Nature of input (source, type of media, authenticity)

    1 2 3 4 5
  - Activities included (number and type of activities)

    1 2 3 4 5
- Can the user choose the task they wish to attempt? (the user has control over the selection of tasks)

  1 2 3 4 5

4. LEARNING TASKS

- Can the learners exercise complete choice in selecting order and number of activities to be attempted?

  1 2 3 4 5
- Has the user access over the input at all times?

  1 2 3 4 5
- Has the user control over the media (manipulation of media, scripts and translations)

  1 2 3 4 5

- Has the user access and control over the learning tools (translations, glossaries, dictionaries, grammar explanations, etc.) at all times?

  1 2 3 4 5

- Is there a rationale given for all activities? (what the purpose of the exercise is and its relation to the overall aims of the task)

  1 2 3 4 5

- Is there clear information for the all activities? (how to start the exercise, how to use the learning tools, how to get feedback)

  1 2 3 4 5

- What feedback does the user get for closed activities?
  - Seeing what answers where correct & incorrect

    1 2 3 4 5

  - Commentaries on incorrect answers

    1 2 3 4 5

  - Commentaries on correct answers

    1 2 3 4 5

  - Give the means to find the information to correct the exercise by themselves

    1 2 3 4 5

- What feedback does the user get for open answers?
  - Model answers

    1 2 3 4 5

  - Reflective questions

    1 2 3 4 5

  - Give the means to find the information to correct the exercise by themselves

    1 2 3 4 5

- Ideas for task extension, transcending the task (..), going beyond the program

  1 2 3 4 5

- Suggestions to make your own tasks (authoring)

1 2 3 4 5

- Does the program prompt the student to reflect on their level of satisfaction with the tasks? (usefulness, enjoyability, performance)

1 2 3 4 5

- Does the program give the learner further suggestions to work with other tasks? (tasks to practice same/other skills, tasks where same/different strategies are employed, tasks with same/other language content, etc.)

1 2 3 4 5

5. EVALUATING SYSTEM:

- Can the users choose what part of their performance they want to evaluate at any time? (units, language content, skills)

1 2 3 4 5

- Do the learners get detailed results of their evaluation? (breakdown of skills, areas of knowledge)

1 2 3 4 5

[1] Authors whose work has contributed to this summary include; Esch (1996), Little (1996), (Sinclair, 1996), Lee (1996), Sheerin (1997), Dickinson (1987)

[2] A complete breakdown of the criteria underpinning the questionnaire sections is available on request.

[3] *Telephoning In English* (Cambridge University Press); *Business Challenges Interactive* (Longman); *Tell Me More Pro* (Auralog); *Vector Business Connections* (Vektor); *English Discoveries* (Edusoft), *Window On Britain* (Oxford University Press); *Advanced English – Inspector Morse* (Eurotalk); *Tense Buster 2001* (Clarity); *LangMaster Interactive English* (LangMaster); *New Dynamic English* (Dyned).

[4] Other permutations, such as individual program results for each section and overall results for each program have been produced and are available.

[5] It was decided that an application must make it clear to the learner its contents, purpose and methodology within the immediate interactional environment. Therefore, only the information that was included within the digital interface was taken into account for the evaluation, and not that which is included in user guides or in the packaging. This does not mean, however, that this information may not *also* be included in secondary sources.