

**DESIGNING CALL FROM A LANGUAGE LEARNING
AUTONOMY PERSPECTIVE**

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Résumé

La recherche dans le domaine de l'enseignement des langues assisté par l'ordinateur (ELAO) a suscité de nombreuses réflexions théoriques et des études expérimentales visant la recherche de l'approche qui pourrait permettre la conception de matériels pédagogiquement efficaces et technologiquement développés pour l'enseignement-apprentissage des langues assisté par ordinateur. Le développement de l'autonomie de l'apprenant est considéré comme la solution la plus efficace dans cette recherche. Cet article essaye de contribuer à ce domaine et présente une description des critères qui devraient être pris en compte dans la conception efficace des matériels d'enseignement-apprentissage de langues en vue d'une perspective autonomisante dans le processus d'apprentissage.

Abstract

Research on Computer Assisted Language Learning (CALL) has given rise to multiple theoretical reflections and experimental studies focused on the search for *the* language learning approach that could afford pedagogically effective and technologically profitable CALL materials for L2 learning and teaching. Language learning autonomy has been proposed as such an approach. The present paper attempts to shed light on the pedagogical criteria that should be taken into account in the effective design of a language learning program based upon principles of autonomy in language learning.

Introduction

Research on Computer Assisted Language Learning (CALL) has given rise to multiple theoretical reflections and experimental studies that have been focused on the search for *the* language learning approach that could afford pedagogically effective and technologically profitable CALL materials for L2 learning and teaching. Language Learning Autonomy (LLA) seems to fit in to the definition of such an approach as described by researchers in the field (F. Blin, 1999; D. Little, 2001; J. Littlemore, 2003; The European Directorate General of Education and Culture, 2003; M. Sanz, 2003; M-L. Villanueva, 2003). Nevertheless, the development experienced at the theoretical level does not correspond to products designed for language learning purposes and recently launched on the market (M-N. Ruiz, 2005).

This disagreement between the pedagogical level and the design level, that is, the design of specific products for language learning, may correspond to several factors such as lack of pedagogical criteria that should inform the design phase, or lack of pedagogical knowledge from the product designers. The present paper attempts to shed light on the pedagogical criteria that should be taken into account in the effective design of language learning materials based upon principles of language learning autonomy. It is argued that CALL materials for language learning should offer objective standards in terms of quality and functionality in order to improve the learning process with the advantages supposedly afforded by Information and Communication Technology (ICT).

The need for defining pedagogical criteria

Following previous studies (N. Rushby, 1997; J. Shin & D. Wastell, 2001; M-N. Ruiz & M-L. Villanueva 2003; M-N. Ruiz, 2005) it seems that those CALL materials that are presented as *autonomising* materials are not actually based upon solid foundations of language learning autonomy. In fact, as we will show below, designers describe these programs as autonomising because they identify self-directed learning with language learning autonomy. Rushby's (1997) study may illustrate this: he concluded that many of the software packages he had analysed contained content and software errors that did not allow the development of their full potential as learning tools. Shin and Wastell (2001) found similar results when they analysed 13 software packages designed for EFL/ESL following pedagogical criteria drawn from the literature on language learning autonomy. The results obtained showed that an overwhelming majority of the software was deficient in terms of concern for pedagogical design. This *software weakness* was also noticed by Holliday, who pointed out that:

unfortunately, a great deal of software either does not use computer for the best language pedagogy or does not exploit the potential of computers to use pedagogies that previously were not possible or at the very least were impractical in classrooms.
(L. Holliday, 1999: 186)

Taking into account this previous research, one may think that one of the possible reasons for this mismatch between the design and the pedagogical basis may be the misuse some of the designers make of the term *autonomy*, since most of them use it irrespectively of all the variables that should be taken into account when

integrating learner autonomy in CALL-based materials. It is therefore extremely important to define and establish criteria for reference when designing such proposals, since materials such as those analysed in the research cited above could lead to a *perversion* of the concept of language learning autonomy when CALL is involved. Consequently, and following Blin (1999), we should take into account one specific aspect when designing CALL-based materials aimed at the development of language learning autonomy: whether the CALL materials to be designed foster and develop learner autonomy or whether learners must already be autonomous before becoming involved in the use of these programs (F. Blin, 1999). CALL researchers and designers should have a clear approach to this question, since CALL materials might vary according to the prospective users, ie already autonomous learners or learners who are supposed to become autonomous. This premise is thus the basis for the definition of a number of pedagogical criteria that might contribute to the development of a theoretical framework informing the design of CALL-based materials aimed at either the development of learner autonomy or already autonomous learners.

Defining the criteria might be relevant for the effective design of any CALL material for the classroom, since their functionality might depend on the characteristics of the contents, their adequacy in the intended pedagogical context, and the way teachers plan to use them. In line with this, several authors (D. Hoven, 1999; G. Murray, 1999; L. Murray & A. Barnes, 1998; F. Blin, 1999; L. Holliday, 1999; J. Shin & D. Wastell, 2001; P. Marqués, 2000) have proposed different criteria for the design of CALL-based materials from an autonomising perspective. Such criteria can be grouped into three different categories regarding: 1) their learner-centredness, 2) their incorporation of strategies and diversity, and 3) their user-friendly design.

1. Designing effective CALL materials to foster language learning autonomy

1.1. Learner-centredness

Fostering language learning autonomy involves placing the learners at the centre of the learning / teaching process by paying attention to aspects such as their learning styles, learning goals and learning needs—in other words, it entails adopting a learner-centred approach. In line with this, Hoven (1999) proposed a number of characteristics that may be considered as a starting point for a model taking into account learner-centredness:

- Consideration of the critical features of learner-centeredness includes the recognition of features that are less amenable to change, the raising of awareness among learners of features somewhat amenable to change, and an accommodation of the features more amenable to change.
- Allocation of control to learners needs to be accompanied by awareness-raising in how to manage this control.

In Hoven's study, explicit reference is made to the features internal to the learner. Two different types of internal features are distinguished, namely, features less amenable to change (like age, sex, and previous language learning experience), and features somewhat amenable to change (like personality, socio-psychological

factors, learning and cognitive style, and sensorial preference). Following Hoven (1999), we will focus our attention on two of the features amenable to change, namely, learning and cognitive style, since they are two aspects intimately related to LLA:

- Learners can be assisted in compensating for characteristics less appropriate to successful language learning through help in developing stronger characteristics in other areas.
- Learners need to move out of their individual “comfort zones” in order to participate productively and effectively in the learning process, and carrying the learning beyond the immediate task to novel situations.
- Learners need information support, and the infrastructure to negotiate this development; they need not only to be given control, but also to be provided with the means by which to take control on their own terms.

But the most important point in Hoven’s (1999) proposal is her mention of the allocation of learners’ control: an essential issue in the design of a learner-centred CALL model is the allocation of control of both the navigation through the software, and the learning engendered in the software. In order to make the most of control in a CALL context, learners need to understand their own learning processes, to be able to make informed choices about the paths their learning takes, and to be proactive in managing and directing their own learning.

In line with Hoven, we also consider the allocation of learner centredness of vital importance to make learners aware of their own learning process. As far as we are concerned, this issue might be another aspect to be taken into account when designing CALL materials with a view to autonomisation. Murray and Barnes (1998) also referred to learner-centredness as one of the main aspects to bear in mind when designing CALL materials. We have summarised their proposal as follows:

- Technology in CALL programs should enable learners to access the information and resources upon which the community depends.
- Designers should develop a structure that enables learners to calibrate the balance between structural control and personal freedom.
- Future CALL programs should be “metacognitively smart”, with the potential to adapt the learners’ goals to the materials.

Other authors such as Shin and Wastell (2001) and Marqués (2000) also refer explicitly to such characteristics. Shin and Wastell drew up criteria for evaluation based on work by Boyle (1997) and Rushby (1997), suggesting that CALL programs should provide a learner-centred problem-solving environment. Marqués referred to the learner as central in the design of CALL, proposing that CALL programs should take into account the following aspects:

- They should motivate learners (ie they must be attractive and interesting).
- They should be adequate for potential learners (in terms of contents and activities).
- They should integrate varied resources in order to enable learners to search and process information.
- They should have a holistic approach to the learning process (ie they

should integrate everything the learners may need).

As can be observed, most of the characteristics concerning learner-centeredness are also central when applying LLA to the design of CALL materials. Consequently, these characteristics should be considered the starting point for CALL design. Yet there are two more central aspects as important as learner-centredness: a) the incorporation of strategies and diversity, and b) user-friendly design.

1.2. Incorporation of strategies and diversity

Strategies and *diversity* are also present in the above-mentioned studies as characteristics to take into account in order to develop CALL materials based upon LLA premises. Murray (1999: 186) referred to an urgent necessity: “these programs should also provide learner training.” The importance of learner training has been underlined by some of the most respected researchers in the field of LLA (H. Holec, 1991; L. Dickinson, 1993; A. Wenden, 1991). However, what Murray pointed out is not only the importance of including learning strategies in CALL materials, but also the importance of training learners to use and apply them in their learning process. Hoven (1999) focused on both aspects, ie strategies and diversity. She suggested that in order to integrate these into CALL materials, the following aspects should be taken into account:

- Sociocultural methodology provides an appropriate paradigm.
- Task-based pedagogy provides a useful framework for the instructional design of the lesson material.
- Models of good practice from both mainstream second language pedagogy and CALL need to be incorporated.

With regard to the first characteristic (sociocultural methodology), Hoven suggests that adopting such an approach allows the inclusion of learning strategies in the instructional design and anticipated implementation of the model. This could be achieved by taking into consideration the four major concepts of sociocultural theory. These are *mediation*, *goal-orientation*, the *zone of proximal development* and the *community of practice* (R. Donato & D. McCormick, 1994). Among these features, we will focus our attention on mediation and goal-orientation since they are closely related to issues of autonomy in language learning. Hoven (1999) defines mediation as something either physical or symbolic that involves the employment of some catalyst that could help people to establish connections with their own (internal) mental world, or the (external) physical world. What is important in this definition is that it is formulated in Vygotskian terms, implying that she considers language as the most important tool for the mediation process. In this way, language could be used to organise, plan and maintain the environment both internal and external to the individual. If we refer to language as the most important tool for the mediation process, the use of a *metalanguage* becomes vital, since it might help and facilitate the learning process. Consequently, metalanguage will be another criterion in designing CALL materials designed to promote LLA.

Regarding goal-orientation, Hoven (1999) points out that strategies in the classroom should address language learning goals. She notes the importance of

focusing on constructing strategic tasks, which could provide context for a use of higher level mental processes (ie metacognitive and cognitive processes). CALL materials should thus provide an environment based upon a wide range of strategic tasks in order to develop learners' cognitive and metacognitive processes. Furthermore, they should provide information about these strategic tasks in order to encourage learners' self-reflection and new strategic orientations in their decisions. In order to develop LLA, all the above-mentioned aspects should be made explicit to learners. Accordingly, learners could be made aware of which strategies they are using and why, thereby acquiring the necessary tools to learn how to learn.

The presence of metacognitive and cognitive strategies should be one of the central aspects in the effective design of CALL, since both types of strategies contribute to the development of learner autonomy.

Various types of diversity need to be considered, including diversity in materials, in learners, in resources and in the pedagogical offer. As Murray (1999) points out:

- *these programs should provide learners with direct contact with the target language through a sufficiently **wide range of authentic materials** so as to enable them to choose those which correspond to both their personal interests and level of language proficiency;*
- *these materials must be delivered by media which makes it possible for the learners to proceed **at their own pace while accommodating their learning styles**.* (G. Murray, 1999: 296)

Marqués (2000) also refers to the necessity of placing the concept of diversity at the centre of the design process. In fact, he notes that CALL materials should:

- integrate varied resources in order to enable learners to search and process information;
- integrate a wide variety of pedagogical resources (eg self-evaluation activities, organizers, graphics, images, schemes, examples, questions, introductions).

In a similar vein, Shin and Wastell (2001) and Holliday (1999) also stress the need for diversity in CALL materials. The former refer to the importance of considering cultural differences and the importance of the exposure to a wide range of native speaker voices by the introduction of a considerable variety of authentic materials. Holliday (1999) suggests that CALL materials should provide a rich context in which the second language might facilitate comprehensible input. This rich context is based on the one hand upon a wide range of *situations* that prompt different and multiple communicative tasks and, on the other hand, upon numerous situational frameworks that prompt multimodality (ie different tasks based on listening, speaking, and reading).

1.3. A user-friendly design

Applying technology to language teaching / learning proposals involves taking into account not only pedagogical criteria but also technological aspects closely

related to the interface design of the material proposed. Murray (1999), for example, makes explicit reference to this, arguing that hypermedia technology could help CALL designers to create materials with user-friendly interfaces that facilitate the development of learner autonomy. He goes on to list a number of criteria that can be summarised as follows:

- Designers should develop a structure that could enable learners to calibrate the balance between structural control of the program and their own personal freedom.
- CALL programs should be “metacognitively smart”, ie they should be flexible enough for learners to be able to adapt them to their goals.

Holliday (1999) also refers to the concept of flexibility by pointing out that CALL materials should provide learners with opportunities for interaction to negotiate meaning and with possibilities for optimal feedback either in the form of self-access windows, buttons, or other forms of interaction. Similarly, Shin and Wastell (2001) set their own criteria for developing user-friendly design in CALL materials. This optimisation of the technological tool (ie hypermedia technology) should be reflected in a wide offer of multimodality, multioptionality and different types of feedback which might motivate learners (P. Marqués, 2000). CALL materials should thus have a creative and effective approach to activities in order to foster learners’ cognitive processes.

2. Our proposal: Criteria for the design of CALL materials based on autonomous premises

Although we have referred to 1) learner-centeredness, 2) incorporation of strategies and diversity and 3) user-friendly design as three different criteria, they should be considered as the three corners of a triangle, as shown in Figure 1.

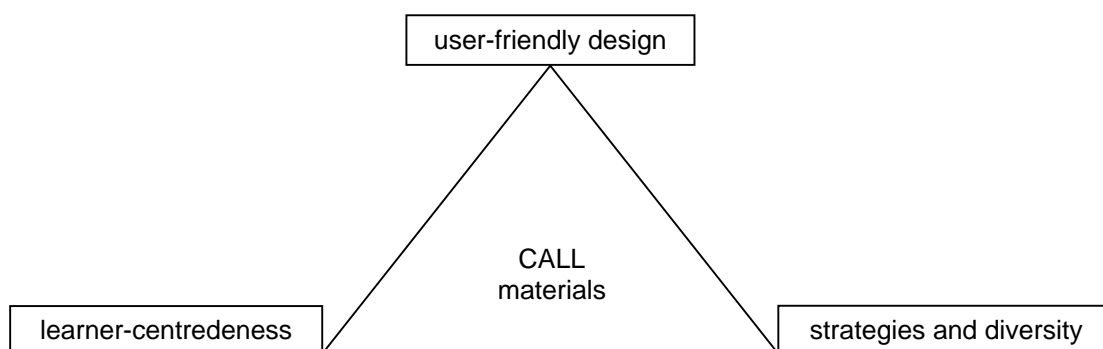


Figure 1: Components for an effective design of CALL materials for the development of LLA.

From this model it is clear that a user-friendly interface can facilitate navigation through the system, among other things, and can make materials look like more attractive to learners. At the same time, allowing for diversity means paying special attention to individual learning and cognitive styles, hence a learner-centred approach is also required. This approach should lead to the integration of learner training and consequently the implementation of learning strategies in CALL systems. In sum, CALL materials should be designed from an integrative and coherent holistic

approach that encompasses all the above-mentioned aspects. Nonetheless, our experience of CALL-based materials has led us to consider that such criteria are too general when it comes to applying them to the actual design of CALL materials. For this reason, we considered it necessary to further develop and dissect these criteria in order to obtain a more detailed and specific set of criteria that could inform the CALL materials design process. With this in mind, we will focus on the description of our criteria, which are schematised below:

1. language and language learning approach;
2. teacher's role;
3. learner's role;
4. learner training;
5. materials and activities.

In the language and language learning approach, language learning autonomy involves a specific view of language and language learning, namely, a discursive approach and a psychopragmatic view built upon social, strategic and discursive (ie linguistic) mainstays. Accordingly, CALL materials expected to foster learner autonomy might be designed and developed based upon these two approaches in terms of language and language learning.

The teacher's role should be approached from three different perspectives:

- as the system itself;
- as a human tutor available by mail or phone;
- as a virtual tutor (represented by an icon or an image).

Irrespectively of the *appearance* of this teacher, it might be expected that the roles could be based upon the following models:

- an assessor, whether as a counsellor or a guide;
- a facilitator, whether of learning or learning resources.

In both models, the teacher's role is to advise and guide learners in their learning as well as to facilitate this process, making learners aware of how they learn in an autonomising environment. This teacher might also be expected to become a facilitator of learning resources, that is, he/she/it (ie the system) should provide learners with resources that respond to their expectations and needs and that match their learning styles. Finally, one might think of the opportunities that learners have to contact the teacher in order to solve their problems. Indeed, it is important that CALL materials provide learners with easy access to the teacher (in any of the three dimensions discussed), since developing learner autonomy does not mean learning in isolation but learning as a dialogic process in which the communication among equals (learner-learner or learner-teacher) is a fundamental premise.

The concept of the learner's role may also need some redefinition—certainly learners might be encouraged to adopt a more active role during the learning process. This means that they should become strategic learners, that is, learners who know how to learn a language, how to set goals, how to acquire the means to achieve these goals, and how to evaluate, reorganise and orient their own learning

process according to the results obtained. Of course, it is impossible to consider the learner's role without paying special attention to learner training, and CALL-based materials are expected to include this within the linguistic tasks themselves or in an independent section devoted to learning to learn (ie strategies). Therefore, CALL materials designed for the development of language learning autonomy should:

- Take into account cognitive strategies such as observing, comparing, rearranging, classifying, inferring, storing, retrieving, representing, interpreting, and evaluating information.
- Consider metacognitive strategies by means of implementing activities that make learners learn whether to use metalanguage or think about their learning process.
- Implement learning-to-learn strategies. Accordingly, CALL materials should teach learners how to set acquisition goals, how to acquire the means to achieve these goals, and how to evaluate, reorganise and orient their own learning process.

We also consider it extremely important that CALL materials incorporate tasks to teach learners those skills that have emerged from the new medium (ie new technological / pedagogical strategies). These new strategies are not directly related to autonomous learning practices, but we consider them of great benefit for learners, since they can help them to reduce technological anxiety in a CALL situation. They also might help learners to make the most of the program and consequently become more efficient in their learning, feeling more self-confident as they navigate through the system and avoid any kind of barrier that technology could set (ie technophobia, or fear of computers and other technology). Finally, self-evaluation is one of the key aspects for the effective development of learner autonomy, and integrating it into CALL materials would give learners the chance to become aware of how their learning is evolving.

CALL materials and activities might be expected:

- to be varied in format (ie pictures, videos, listening, written texts) to make the most of hypermedia technology. This would allow pedagogical proposals to respect the characteristics of authentic materials and cater for the diversity of learning styles, since multimodality is one of the characteristics in materials and activities that can help to foster language-learning autonomy;
- to be presented flexibly, allowing different learning routes according to different learning styles, needs and goals;
- to be interrelated and indexed according to various criteria so that learners can obtain a list of materials and activities that respond to their particular needs and interests;
- to be related to learning goals, so that learners can type in, or choose from an index, a specific goal so the system can offer them a list of appropriate materials;
- to be flexible in length and duration, allowing learners to choose how long, how often and also how fast or slow, when working with activities;
- to promote the use of different resources (eg the internet) in order to widen the scope of materials and thus improve the learning possibilities available.

Furthermore, it would help learners to reflect on the function and effectiveness of these resources when integrated into their own learning plan;

- to foster collaborative work, since this helps to develop other dimensions of learner autonomy;
- to be contextualised in a specific framework that should take into account situational, discursive and learning contexts.

Conclusion

The criteria described in the previous section summarise how learner autonomy can be promoted in the development of CALL-based materials. They result from the reflections and conclusions derived from previous studies mentioned throughout the article, as well as from our own experience as CALL designers. These criteria should also be considered as a step forward that might inform the new field which has emerged from the symbiosis between language learning autonomy and CALL, and might open up a new field of research and practice for the design of language learning materials that could actually develop learner autonomy more effectively.

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