THE ICT AND APPLIED LINGUISTICS: AN INTEGRATIVE PERSPECTIVE FOR THE L2 LANGUAGE LEARNING PROCESS

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ABSTRACT. *Integrating Information and Communication Technology (ICT) in the curriculum from an active perspective favours the integration of our students in the Information and Communication Society (Bricall 2000). Yet, how can we ─ as language teachers ─ utilise the tools technology offers to enrich the L2 learning experience? This paper explores some of the issues involved in the integration of the ICT in the L2 teaching-learning field by identifying the pedagogical implications inherent in such a change. Accordingly, It outlines the implications of the role technology should play in the field of L2 teaching and learning. It also presents the theoretical grounding that has led to the definition of a learner-centred pedagogy based on the principles of socio-contructivism (Ausubel 1968; Piaget 1968; Bruner 1984; Vygotsky 1984), which affords an ICT-integrative approach that favours the development of learner autonomy. Finally, pedagogical implications are considered.*

KEYWORDS. ICT, learner autonomy, L2, learner's role, teacher's role, learning strategies

RESUMEN. *La integración de las Tecnologías de la Información y la Comunicación (TIC) en el currículum favorece la integración de nuestros estudiantes en la sociedad de la información y la comunicación (Bricall 2000). Pero ¿cómo podemos nosotros, los docentes de segundas lenguas, utilizar las herramientas que la tecnología pone a nuestro servicio para enriquecer el proceso de enseñanza-aprendizaje de segundas lenguas(L2)? Este artículo presenta algunos de los aspectos que se deberían tener en cuenta en el proceso de integración de las TIC en la enseñanza de L2. Con este fin, se describe un marco teórico centrado en el aprendiz basado en los principios del socioconstructivismo (Ausubel 1968; Piaget 1968; Bruner 1984; Vygotsky 1984), que favorece una perspectiva integradora de las TIC y el desarrollo de la autonomía del aprendiz de L2.*

PALABRAS CLAVE. TIC, autonomía del aprendiz, L2, el papel del aprendiz, el papel del profesor, estrategias de aprendizaje.

1. INTRODUCTION

The technological revolution our society has undergone cannot be ignored by educators, who are set to play an important and decisive role in today's techno-friendly generations. In fact, integrating Information and Communication Technology (ICT) in the curriculum from an active perspective favours the integration of our students in the Information and Communication Society (Bricall 2000). Yet, how can we ─ as language teachers ─ utilise the tools technology offers to enrich the language learning experience? History shows that whenever a new technology has been integrated into the L2 (FL/SL)

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learning field, it has been interpreted as a remedial tool for the existing drawbacks and difficulties. However, previous experience in the field shows that this initial hope rapidly turns into pessimism when teachers' and researchers' expectations are not fulfilled by the *new technology*. Later research has pointed out that the main reason for such failure is the lack of pedagogical reflection: instead of adapting technology to pedagogy, it is pedagogy that is adapted to the new resources available at the time**.** Bearing in mind previous experience, the answer to my question should be based upon the belief that an enriching and therefore successful integration of the ICT in the L2 teaching-learning process should be based upon pedagogical principles.

This paper explores some of the issues involved in the integration of the ICT in the L2 teaching-learning field by identifying the pedagogical implications inherent in such a change. Since space restraints do not allow for an exhaustive research review (for recent reviews see Chapelle 2003; Kern, Ware and Warschauer 2004; Kern 2006), here I focus on key issues arising from the combination of recent technology, pedagogy and applied linguistics-related literature (mostly from the past 5 years). The second section outlines the implications of the role technology should play in the field of pedagogy and more specifically in the field of L2 teaching and learning. The third section presents the theoretical grounding that has led to the definition of a learner-centred pedagogy based on the principles of socio-contructivism (Ausubel 1968; Piaget 1968; Bruner 1984; Vygotsky 1984), which affords an ICT-integrative approach that favours the development of learner autonomy. I will conclude by considering implications for teaching.

2. ICT AND LANGUAGE TEACHING AND LEARNING

Despite the numerous acronyms (i.e. Computer-Assisted Language Learning (CALL), Technology-Enhanced Language Learning (TELL), Computer-Mediated Communication (CMC) used to refer to the employment of technological devices and tools in pedagogical practices and the discussion existing about the use of each of them, I will employ term ICT throughout the paper to avoid neglecting any of the possibilities afforded by technology. This question, however, may also be considered a topic to be noted down on the agenda for discussion. ICT, thus, could be defined as an umbrella term that covers any communication device or application, including radio, television, cellular phones, computer and network hardware and software, satellite systems as well as the various services and applications

associated with them, such as videoconferencing and distance learning. The application of all these new devices in the field of L2 teaching and learning is already a fact as shown in Davies 2002; Sanz-Gil 2004; Godwin-Jones 2005; Ruiz-Madrid 2005; Oster et al. 2006.

2. 1. *What to expect from the ICT?*

Technology is here to stay and we, as L2 teachers and researchers, must accept that and act accordingly. Therefore, the first issue to reflect upon refers to the role technology is going to play in our pedagogical proposals. In this respect, there has been a shift (Warschauer and Kern 2000) in the approach to the introduction of technology within the language teching-learning field from the early structural proposals to more communicative ones. The former were based upon behaviouristic principles, in which the role of technology was focused on developing unlimited drill, practice and tutorial explanation and corrective feedback. The latter (i.e. communicative CALL) were influenced by cognitive research, which proposed communicative exercises performed as a way of practising English. Neither the content of the interaction nor the learners' own speech or output were seen as important. Rather, the provision of input was seen as essential for learners to develop their mental linguistic systems. In contrast and following Warschauer and Kern (2000), the current paradigm of integrative CALL is based on a socio-cognitive view of language learning in which learning a L2 involves apprenticing into new discourse communities. The purpose of interaction is seen as being an aid to help students enter these new communities and familiarise themselves with new genres (i.e. cybergenres) and discourses.

Yet, many of the current proposals (i.e. language learning software packages) (Ruiz-Madrid 2005) do not respond to the pedagogical principles described by these authors. On the contrary, most of them attempt to emulate traditional methods and formats of language instruction, which can be described as follows: the teacher/computer teaches, the student/user learns, the teacher/computer asks questions, the student/user provides an answer, and the teacher/computer provides corrective feedback (Patrikis 1997). It seems that technology has taken the floor and pedagogy has been neglected. At this point, I would say that it seems that L2 teachers can expect a lot from technology, the point is though that it is not what teachers could expect from technology what matters, but what language teachers could be able to do with technology in order to enhance their proposals. In this regard, when L2 teachers think

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about their pedagogical proposals, they think about their students. Consequently, pedagogy must lead technology, and ultimately learners' needs must be the ones leading the introduction of technology into our programmes and curricula as noted by Jonassen et al. (2003: 11), who refer to an *effective use of technologies* only when learners' needs are taken into account:

> Technologies support learning when they fulfil a learning need, when interactions with technologies are learner-initiated and learner-controlled, and when interactions with the technologies are conceptually and intellectually engaging.

To conclude this section, I ought to point out the fact that language teachers should expect from technology what they want technology to offer their students. That is, teachers' expectations about learners' outcomes are the ones that should inform the introduction of the ICT in their courses, these being linguistic, cultural, metalinguistic, cognitive and metacognitive, among a number of other possibilities. Furthermore, such applications should make the most of the dynamism offered by technology itself and therefore be aimed at transforming learners' view of learning so that they become more active and autonomous participants in their own learning process. How to achieve this is a topic for discussion addressed in the following section.

3. THEORETICAL GROUNDING FOR AN ICT-BASED-INTEGRATIVE PERSPECTIVE. LEARNER AUTONOMY (LA) INFORMING TECHNOLOGY

Research in the field of autonomy and language teaching and learning has been closely related to Socio-constructivism in the psycholinguistics field and to the Psychopragmatic Approach (Villanueva 2007) in learning, since they provide a suitable background for successful development of LA. For this reason, I will devote part of this section to discussing their principles and how they relate to LA.

The Psychopragmatic Approach is built upon theories that derive from pragmatics and cognitivism. In fact, it is one of the approaches that take into account the notion of diversity (i.e. diverse learners' needs, learning styles and learning objectives) in the field of language learning. Working on the basis of the Vygotskian premises (1984) and their reformulation in Bruner's socio-constructivist views (1984), this new approach pivots on the concept of

effective learning, defining it as a process where the acquisition of new knowledge results from bridging old and new knowledge (i.e. scaffolding). Learning is viewed as an active, creative and socially interactive process. In turn, knowledge is considered as an entity to be constructed and not simply transmitted or transferred. It also emphasises the importance of the development of learners' metacognitive ability related to *learning how to learn* (Ausubel 1968; Holec 1979; Bruner 1984; Villanueva 1992; Holec et al. 1996). This view of effective learning is intrinsically linked to the personal involvement of learners in the whole process, participating in it in an active and conscious way. This necessarily implies approaching learning practices from a perspective in which learners' metacognitive abilities and their awareness of the learning process are central components. I am thus talking about an approach that promotes autonomous learning practices.

The consolidation of this new approach is reflected in the presence of aspects such as *cognitive diversity*, *learning to learn* or *learning styles* in the European Council Guide as well as in the Curricular Project of the Cervantes Institute (1994). Furthermore, it is becoming more usual to find terms such as *autonomous work*, *language learning autonomy* or *attention to diversity* in language learning discourse. Nevertheless, it seems that there is still a mismatch between the theoretical discourse and the practical dimension, since the aforementioned notions are rarely present in practical learning experiences and are even ignored when introducing the ICT in such practices. One reason for this mismatch may be that many teachers understand *autonomy* as an anarchic independence or utopia that could raise doubts about their own role in the classroom.

Additionally, the multifaceted nature of the concept of *autonomy* might lead to misunderstandings and controversies in the field of LLA. In fact, the complexity of the term has fostered disagreement among researchers about a single definition of the notion of autonomy. Although this issue might require a single volume, I think that it is necessary to make a brief but clear distinction between the several terms that have been associated to *autonomy*, such as *self-instruction*, *self-direction*, *self-directed learning* or *individualisation*, since these different terms have been employed in many different ways to describe the same phenomenon, causing serious terminological problems in the field. In fact, although all of them imply distinct degrees of autonomy in learning, they should not be used as synonyms of autonomy as I understand it.

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3.1. *LLA: my perspective*

In the present paper, autonomy is understood as a learning process based on language learners who not only acquire linguistic competence but who also learn how to learn. In other words, the idea of autonomy is bound to the development of learning awareness and the acquisition of an autonomising competence that allow learners to gradually control their own learning process. This involves taking into account learners in all their dimensions (e.g., cognitive development, learning awareness, learners' representations), which leads to the redefinition of a specific learner's role, and a specific teacher's role, the aim of which is to train learners to become independent. It also requires a dialogic approach to the language learning process based upon language learning in a traditional context (directed language learning) and the development of a capacity for autonomous learning in a different setting. This dialogue may favour a progressive change towards a learning-teaching culture that embraces two main aspects:

- Making learners' representations of the learning process (e.g., goals, contents, ways of learning, evaluation criteria, among others) explicit.
- Making learners' previous knowledge about the learning process (e.g., how languages are learnt, the teacher's and the learner's roles, teacher's expectations on a concrete task) explicit.

Additionally, *learning to learn* a language means developing an active process of internalising and integrating the linguistic experience as well as acquiring instrumental procedures for learning (i.e. learning strategies) (Dickinson 1987; Oxford 1990; Wenden 1991). Their acquisition allows learners to understand, transform, retain, transfer and generalise information, which not only enables them to answer the evaluation questions correctly, but also allows them to use this information effectively in future situations. The skills that constitute LLA are those implicitly involved in the capacity to learn, which proves to be inseparable from *learning to learn* or *being aware of* the procedures to transform new knowledge into meaningful knowledge.

This process involves acquiring i) methodological and metalinguistic competences (i.e. evaluating the acquired knowledge and being able to reorient the learning plan according to the results), as well as the development of ii) cognitive (i.e. inferring, deducing, generalising,

making analogies, among others) (Dickinson 1987; Oxford 1990; Wenden 1991)) and iii) metacognitive skills (i.e. developing critical thinking, organisational skills among others)

From all the reflections discussed above, it might be assumed that the Psychopragmatic Approach and LA have a common ground that transferred to the L2 teaching-learning field is based upon a socioconstructivist view on learning and discursive perspective on language. Therefore, Language Learning Autonomy (LLA) seems to be a suitable approach for an effective integration of the ICT in the language learning field (Blin 1999; Esch and Zähner 2000; Little 2001; Littlemore 2001; *The European Directorate General of Education and Culture* 2003; Villanueva 2003, 2006; Sanz 2004; Chapelle 2006), since the hypertextual nature of the ICT may respond to the demands of the pedagogical premises involve in LLA (i.e. promoting scaffolding, use of real language, a customised-learning process among others).

Although this perception of learning to learn as a process in which learners acquire instrumental procedures is not usually present in ICT contexts, Felix (1999: 88) referred to it some years ago in the following way:

> Caution is still needed. The conclusion should not be simply to adopt a student-centred approach which hands over all responsibility to the learner, in the hope that autonomous learning will turn out to be a natural skill and that knowledge will be acquired by osmosis. Students may have the technical skills and the inclination to negotiate hypertext and images, but the acquisition of how-to-learn skills, however individually based, still requires help. A more desirable and more effective approach, therefore, may be to hand over control to the students in an environment where some guidance is provided.

Her words reflect the lack of deliberation on the training needed in order to make learners use the ICT for their own language learning process (i.e. acquisition and use of learning to learn skills).

Although I agree with Felix's words, I think that lack of training is not the only aspect that should be taken into account when integrating the ICT for L2 learning purposes. In fact, an integrative approach should be based upon a serious reflection on all the dimensions involved in the process of language teaching and learning. In this sense, the learning (i.e. learning strategies), teacher and learner dimensions must be explored in depth and reformulated following the pedagogical premises discussed above.

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Bearing in mind these assumptions, I will now focus my attention on the necessary reassessment of the teachers', learners' and learning strategies roles so that ICT could become an effective tool for L2 teachers.

3.2 *ICT and LLA: Enriching the teacher's role.*

As previously mentioned, the advent of educational technology – CALL first and ICT later – has helped to create an environment suitable to giving learners more autonomy (Salaberry 1996; Blin 1999; Beatty 2003; Sanz 2004), due to the hypermedia nature of technology as mentioned before. Therefore, teachers are no longer considered to be the only source of information and knowledge, and their role has changed from being the "sage of the stage" to "the guide on the side" (Eastment 1998). Nevertheless, as noted by Little (1990: 11-12), this change is not easy for many teachers:

> It is not easy for teachers to stop talking: after all, if they stop talking they stop teaching, and if they stop teaching, their learners may stop learning. And it is not easy for teachers to let learners solve problems for themselves, for that takes time, and there is always so much ground to cover. Committing oneself to learner autonomy requires a lot of nerve.

In fact, it must be difficult for a teacher rooted in traditional classroom practices to relinquish some of his/her authority in learning management and assume a new role, which in this case involves not only a pedagogical dimension (i.e. learner autonomy premises) but also a technological one, mostly based on what has been called *computer expertise* (CE). This last concept is something that I will come back to later in this section.

In this new setting, the teacher becomes a facilitator of the learning process by playing the role of an assessor and an expert guide through the language learning-teaching process (Villanueva 1992). The new role involves a teacher who:

- is aware of the individual differences among learners and accordingly takes into account the diversity of learning styles, learning paces and goals (Altman and Vaughan 1980; Tumposky 1982).
- tries to make learners understand that the teacher's task is not to "judge and grade" their learning, but to assess and counsel them about how to carry out their learning

process in the most effective way. In other words, he or she helps them to learn how to learn and does not limit the learning process to the simple memorisation of the contents of a book.

- relies on learners' capacity to be responsible for their own learning process (Dam 1990).

However, one may think that the functions mentioned above that are assigned to the teacher's new role do not lead to learner-centredness but rather to teacher-centredness in the learning process (Strevens 1980; Holec 1990). Language learner autonomy is far from minimising the teacher's role, since, as shown above; it makes the teacher's tasks more difficult and relevant to achieving a successful language learning-teaching process. Yet, as the teacher's role is described as being completely different, I may assume that the concept of teacher-centredness should also be revised. In this sense, teachers are not the ones who decide upon contents and transmit information, but rather those who pay more attention to learners' needs. As a result, more sensitivity and understanding are required, together with more developed pedagogical and technical capacities. In conclusion, what is required is a more experienced teacher (Strevens 1980).

Consequently, addressing learner autonomy in language teaching-learning involves a new definition of the teacher's role. As far as this new role is concerned, there is agreement on the new functions it embraces and therefore a common definition can be easily outlined:

- The teacher as a *facilitator* (Riley 1986; Dickinson 1987; Hammond and Collins 1991). The teacher's role is twofold: on the one hand, he/she gives learners psychosocial support and, on the other hand, he/she supports learners technically (Holec 1990).
- The teacher as an *assessor/counsellor*. Although this definition is very similar to the previous one, some authors use it when referring to the teacher's role in specific learning situations, such as individualised learning in Self-Access Centres (O'Dell 1997).
- The teacher as a *resource*. If we look up the definition of resource in a dictionary, we will realise that there is no significant difference between this definition and the two previous ones, since a teacher should be available for all the aspects involved in the learning process.

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Applying these new roles to the introduction of the ICT also requires taking into account a new dimension in its characterisation, that is, a technologically-skilled teacher is needed. The US Department of Education defines the term Computer Expertise (CE) as the computer skills and the ability to use computers and other technology to improve learning, productivity and performance. Additionally, *The International Society for Technology in Education* (ISTE) presents standards for instructional technology, in which three major divisions of CE are distinguished: i) basic operations and concepts, ii) personal and professional use, and iii) applications in instruction and learning. The first type includes running software, managing and manipulating data, publishing results, and evaluating the technology. The second one consists in the use of productivity tools, telecommunications, assisting devices for problem solving, collaboration, research and lifelong learning. These definitions of CE provide the basis for my definition of the technological requirements for the teacher's and the learner's new roles.

The need for computer expertise in language teachers is a topic for discussion nowadays. Beatty (2003: 157) hits the nail on the head by stating that:

> Those creating CALL software programs are often experts in computer programming, design or pedagogy, but are seldom experts in all three fields; while one aspect in a finished program may shine, others may be problematical.

This aspect is also highlighted by Chapelle (2003: 31), who notes:

> Teachers need to learn to use computer technology for constructing and implementing materials for teaching and assessing English, and they need to engage in innovative teaching and assessments through the use of technology.

However, it is important to mention that this new technological dimension is twofold: those teachers whose CE is not high enough and those teachers whose CE is high but who lack ICT pedagogical expertise. That is, they do not know how to introduce the ICT in their classrooms. Regarding the former, language teachers must rise to the challenge of harnessing the potential of such new devices for their own and their learners' particular needs, since until now studies conducted on this topic have revealed a gloomy situation (Burke 1994; Fernández 2001). This aspect unveils another factor that leads us to the second type of

teachers, that is, those who work with computers, do research using the Internet resources, use software packages for their own interests, communicate with other colleagues and their learners through e-mail and use concordances and dictionaries for their own work. Paradoxically, this type of teacher refuses to use these resources in class. One possible answer to this paradox may be their lack of pedagogical experience in the use of ICT-based materials in the classroom. For this reason, I agree with both Fernández and Burke, who called for teacher training in the use and integration of the ICT in the L2 learning classroom. Following this line, it is important to mention that many institutions currently offer courses devoted to integration of the ICT in their teacher-training programmes in the context of language learning-teaching, particularly for L2 settings. Apart from some theoretical principles, these courses also embrace practical issues such as the design and implementation of ICT-based activities (e.g., file exchange, emailing, web browsing, basic web authoring, and FTP, among others) and techniques (e.g., word-processing, spreadsheets, graphics editing and scanning, scanning and handling text) in teachers' practices (Warschauer and Healey 1998). Ely and Plomp (1986) suggested several norms for the successful implementation of educational programmes, which I have adopted in order to achieve successful integration of the ICT in the language classroom. They defined the new technological dimension in the role played by the teacher as a teacher who becomes a *guide* (Willets 1992; Barnett 1993), a *resource expert* (Willets 1992), a *resource provider* and a *mentor* (Pennington 1996). I agree with Ely and Plomp's (1986) definition of teachers' tasks (i.e. assessors or counsellors), since it matches my view of the relationship that might be established between learner autonomy and ICT. From my point of view, teachers, as creators of materials, should structure ICT-based materials with variable content responding to learners' diversity. Teachers and assessors, however, should work with learners to design a course of study that fits their individual preferences. In order to make this process more effective, teachers should learn from learners. That is, they should take into account their strong and weak points, their concerns and other aspects that may influence their way of learning. To do this, the *new teachers* should be aware of all the possibilities that technological development offers them, such as the use of blogs, forums, e-mail among others or software packages that track learners' performance while working. This last device could provide teachers with valuable information in order to know how learners interact with ICT-based materials. Nevertheless, regarding the technological dimension, *attitude* should be considered as a key aspect in the teachers' new role. This is crucial because the tasks described above are not easy to perform

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if teachers do not adopt a positive attitude towards the integration of the ICT in the language teaching -learning field. It is important, thus, that teachers display enthusiasm for what they are doing, and explain the relevance of using the ICT materials when learning (Davies and Crowther 1995). However, it cannot be ignored that teachers' attitudes should also be affected by different external causes such as understanding of educational technology, model of teaching, the lack of access to resources, and institutional traditions, among others (Cummings 1995, 1996).

The teacher's new role has also been redefined by *The European Directorate General of Education and Culture*, which refers to it in its *Impact of New Information Technologies and Internet on the Teaching of Foreign Languages and on the Role of Teachers of a Foreign Language* (2003). In fact, the report is mainly focused on the need to integrate ICT competencies in teacher training. According to these competencies, the teacher's new role is enriched with terms such as *facilitator*, *integrator*, *researcher*, *designer*, *collaborator*, *orchestrator*, *learner* and *evaluator*.

Yet, from my point of view one of the main new roles that the European perspective adds to the new teacher is that of *mediator*, which was first defined by Bruner (1984). This role is not new for language teachers, since it corresponds to the traditional role of *intermediary* between two cultures that teachers should play when they introduce learners to new linguistic and cultural aspects. However, the introduction of the ICT in teaching practices provides it with a new standpoint. In this sense, *access to the real world* of the target culture *through the Web* requires new strategies and approaches that need to be learnt and practised.

It seems, thus, that a common definition of a teacher's new role can be addressed by describing two different but complementary dimensions: the pedagogical and the technological, which are summarized in Table 1 below:

REDEFINITION OF THE TEACHER'S ROLE		
PEDAGOGICAL DIMENSION	**TECHNOLOGICAL DIMENSION**	
TEACHER AS A LANGUAGE LEARNING RESEARCHER: • facilitating learning process. • assessing learners. • acting as a resource for them. acts as mediator • evaluating quality of learning conditions.	TEACHER AS A ICT RESEARCHER: • examining the resources exhaustively, evaluating the quality of learning. • taking into account the correct integration of the ICT-based resources and materials in the curriculum. • searching for specific information, on the Internet or on software packages. • integrating the technology in his/her teaching.	TEACHER AS A DEVELOPER AND CREATOR: • caring about the correct elaboration of a didactic design of the several tutoring materials that he/she will use. • creating customised software packages and materials. • using authoring tools. • making use of the Internet to publish his/her own materials on the Web.

Table 1: Redefinition of teacher's role: ICT and LLA (adapted from Ruiz-Madrid 2005, 141).

Bearing in mind all these definitions, it seems that we are far from the ideal teacher who might be able to enrich his/her teaching practises with the ICT. Nevertheless, I assume that these implications are very problematic for many teachers. In fact, it requires teachers to assume new roles with different beliefs to those they have traditionally pursued. Additionally, there are institutional limitations such as the availability of technology in each institution, as well as the pedagogical predisposition towards these new proposals of the institution itself. Therefore, most teachers will find these implications challenging and in some cases impossible to achieve. However, teachers are making progress and nowadays there are countless websites devoted to language teaching and learning or to teaching practices directly related to the implementation of the ICT in the L2 teaching-learning field.

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3.3. *ICT and LLA: Enriching the learner's role*

Just as teachers must assume new roles, learners should also take on new responsibilities. Concerning the pedagogical dimension, learners should give up their role as passive learners and assume responsibility for their own learning. The problem lies in learners' attitudes towards the learning process, since, as claimed by Tumposky (1982: 5), "many students are reluctant to assume the responsibility that was once invested in the teacher". Undoubtedly, this new role for learners, as in the case of the teachers, is more complex and difficult to play, since it involves becoming an active learner who makes decisions, self-evaluates (Tumposky 1982), plans his/her learning and therefore accepts responsibility for his/her own results (Little 1990; Esch 1997; Riley 1997). It is because of this complexity that many learners are not ready or do not feel ready to assume so much responsibility, and in some cases they do not even want the power to manage their own learning. In this sense, it is easier for them to waive responsibility and allow the teacher to take control of the whole process.

The technological dimension that enriches the learner's role is defined in similar terms to the ones used in the pedagogical dimension. In this sense, the *The European Directorate General of Education and Culture* refers to such a learner as one who must take on new responsibilities, since classes will become far more learner-centred and learner's time and effort will be devoted to authentic reading and writing tasks related to authentic communication with native speakers (e.g., partners in chats, Tandems, forums, collaborative e-learning, blogs, etc.). Besides, they must become active participants in the learning process, that is, they must take on the responsibility for choosing and selecting their own learning materials. Furthermore, learners have the opportunity to select and manipulate language data in multiple media, which provides them with raw material they can use to re-create the language for themselves, using their own organising schemes. The technological dimension is also based upon the CE required, in the sense that learners should also be ready to employ all the tools and facilities currently offered by the ICT, such as running word processing software packages, searching for on-line information, preparing a presentation, or participating in any of the CMC tools.

Following the redefinition of the teacher's role, I also distinguish between two different but complementary dimensions in the redefinition of the learner's role, namely, a pedagogical dimension and a technological one. The former involves a learner who is aware of all the pedagogical aspects underlying his/her own learning process. The latter requires a learner

who has the CE needed in order to successfully use and implement the tools and resources afforded by the ICT in his/her own learning process. My redefinition of the learner's role is schematized in Table 2 below:

REDEFINITION OF THE LEARNER'S ROLE	
PEDAGOGICAL DIMENSION	**TECHNOLOGICAL DIMENSION**
LEARNER AS AN AUTONOMOUS SUBJECT: • accepting responsibility for his/her own learning process. • making decisions on all the aspect related to the language learning process.	LEARNER AS AN ICT RESOURCES USER: • acquiring computer expertise (builds knowledge at a technical dimension when exploiting functionality and knows the functionality of different computer tools) • using the Internet on critical and pedagogical basis • discriminating ICT-based resources according to his/her learning necessities • integrating these resources in his/her own learning plan under pedagogical basis.

Table 2: Redefinition of the learner's role: ICT and LLA (adapted from Ruiz-Madrid 2005, 144).

As shown in Table 2 above, two different but inseparable dimensions of the learner are presented. At the pedagogical level, the learner is expected to become autonomous. This means that the learner is able to accept responsibility for and make decisions about his/her own learning process. At the technological level, the learner is presented as a computer-literate individual, who is able to use ICT-based resources effectively.

However, changes in the teacher or in the learner cannot take place overnight. Regarding the learner's role, the change in the pedagogical dimension requires previous training that should be based on the acquisition of learning (i.e. cognitive and communicative) strategies, which enable learners to learn by doing. In this sense, the cognitive and communicative strategies should be integrated in linguistic, metacognitive and methodological tasks. At the technological level, learner training requires the acquisition of computer skills. Accordingly, specific training packages focused on the development of learners' CE should be included in the language classrooms so that successful implementation of ICT-based pedagogical proposals can be achieved later on.

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3. 4. *ICT and LLA: Enriching learners' learning strategies*

If learning a language involves developing an inner active process that helps the individual to integrate the linguistic experience, it seems plausible to define learning training *as the acquisition of the instrumental procedures related to content involved in learning*. This definition is focused on the acquisition of strategies that enable learners to understand, transform, retain, transfer and generalise information. This acquisition process allows learners not only to answer the evaluation tests successfully but also to use the acquired information effectively in problem-solving situations and relate it to new knowledge. The skills involved in LLA are those implicit in the learning competence that is inseparable from the concept *learning to learn* or *knowing how to activate* the appropriate inner processes to acquire meaningful knowledge. Therefore, the term *learning how to learn* is closely related to the concept of the *strategic learner*, that is, a learner who is aware of the strategies that should be applied in the different learning situations he/she may experience during his/her learning process. Learner autonomy is also related to the term *an adaptive learner*, in other words, a learner who is able to adapt his/her learning style according to the learning process. In this respect it is important to point out that, although it is true that there is no default learning style directly related to LLA, there are some cognitive traits that can be associated to it, such as, for instance, *field-independent* (Chapelle and Cárdenas 2007). Nevertheless, learner training, when referring to the introduction of the ICT in language learning, should not be restricted only to the acquisition of learning strategies in the pedagogical dimension, since part of learners' learning experience is going to be assisted by the ICT. Consequently, learners should also be trained in the technological dimension. Additionally, the introduction of the ICT in the language teaching-learning process might trigger off the appearance of new strategies that are derived from the medium. I will refer to these new strategies as *medium-derived strategies*, since they are based upon the search and management of information in the new ICT-mediated-instructed settings.

In the light of these reflections, I will focus this section on these new strategies derived from the medium, since they constitute a new field for research in the field. The medium-derived strategies can be placed in between the *pedagogical* (i.e. technical[1] or methodological) *dimension* of learner training (i.e. learning strategies) and the *technological dimension* (i.e. computer expertise applied to language learning). For this reason, I will devote the first part of this section to explore both dimensions in order to better understand the nature of the medium-derived strategies.

Learner training in the pedagogical (i.e. technical or methodological) dimension has its origin in the vast number of works on learning strategies and strategic training carried out in the last decades that have already been mentioned above (Wenden and Rubin 1987; O'Malley and Chamot 1990; Oxford 1990; Wenden 1991; McDonough 1999). These studies are based on the premise that learners can be trained and guided during the learning process in order to make them more efficient learners. This training consists in promoting the use of certain strategies that, according to different researchers in the field, are the ones most commonly employed by the most competent and efficient learners.

The training process also plays a key role in fostering and developing LLA, since learners should be aware of their own *strategic knowledge*, that is, they should know that there are certain learning strategies that could help them to improve the way they learn. In order to achieve learners' awareness on strategic knowledge, teachers and, in this case, ICT-based materials designers should reflect seriously on how these strategies are presented to learners (McDonough 1999). Nonetheless, it is important to bear in mind that, in order to improve its effectiveness, it would be important to take into account the notion of the *adaptive learner*, since it would be highly recommendable to train learners to become not only strategic learners but also adaptive learners.

Research on learner training has emerged from research on learning strategies, which were directly related to autonomy by Wenden (1991), who defended the need to introduce learning strategies in learner training, if the final aim was to promote an autonomous learner. This direct relationship between learning strategies and LLA has also been reflected in other researchers' work (Manchón 1994; Villanueva 1997; Cohen 1998).

Up to this point, we have introduced the concept of learner training in a pedagogical dimension. However, my main goal in the present section is to see how LLA and learner training (i.e. in its pedagogical and technological dimension) can converge in order to provide a solid reference for the design of enriched ICT-based pedagogical proposals for language learning. In this respect, I consider it essential to introduce strategic learning in the learning plans when integrating the ICT, since they can help learners to learn better.

In sum, how should learners' learning strategies be addressed when aiming to enrich our pedagogical proposals with the integration of the ICT? Concerning the *how*, learning strategies could be implemented mainly in two different ways, that is, as independent training packages focused on learning how to learn or as activities that are fully integrated within the proposed linguistic tasks. Regarding the *what*, in the *technological dimension,* I consider that

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any attempt aimed at introducing the ICT should take into account learners' awareness of strategy use. Accordingly, special attention must be paid to:

- Making a wide range of strategic tasks available.
- Providing information on the final goal of these tasks to encourage self-reflection and new strategic orientations in learners' actions.
- Providing strategic tasks with communicative goals in order to offer learners not only strategic knowledge but also linguistic knowledge, since we cannot ignore the fact that in most of the cases in which technology is applied, learners are working on a second/foreign language (L2).

Furthermore, it is extremely important to work on the medium-derived strategies when learning takes place in virtual settings, which usually require an exhaustive knowledge of the technological resources for learners to make the most of them. Language learners, thus, should be trained in certain strategies that are fundamental when using ICT resources and that would allow them to cope with the complexity of the medium and acquire a critical view on it. Learners, thus, should acquire new strategies such as the following:

- Planning the search process. It seems essential for *learners/users* [2] to know, for instance, what the Internet is, how information is organised, how to identify an URL, what the characteristics of a site are or what a browser can offer them. All these aspects can help them to plan their search in a more effective way.
- Selecting materials according to criteria based on relevance and pertinence. It is not only important to know how to find information, but also to know whether to accept it or reject it depending on the goal pursued.
- Globalising and contextualising within the hyperdocument. Learners should know how to find reference points in hyperdocuments by looking at the icons, site maps and guides.
- Relating and linking the contents and the findings that result from the hypertextual search.
- Managing the information with personal criteria (i.e. organising it and saving it in order to make it available for future requests).

- Classifying information in a hierarchical way by categorising and labelling it. This skill involves the development and fostering of metalanguage and the capacity for abstraction.
- Developing a critical perspective towards the information found on the Internet (i.e. by asking about the nature of information, making comparisons with other kinds of information, creating different opinions about the credibility and reliability of information by taking into account the contents and the sources).

From my point of view, it would also be necessary to develop pragmatic and sociocognitive strategies when using materials or programs that are mostly based on communicative goals using the Web, whether it is to carry out collaborative works or to keep in contact with the tutor. Some of these strategies would be based on aspects like, for instance:

- Asking for cooperation
- Asking for clarification
- Asking for repetition
- Making up words or compensation mechanisms

Additionally, fostering learners' training based upon computer expertise strategies would help to mitigate the situation. Accordingly, working on the acquisition of certain strategies to acquire or improve computer expertise would be crucial in order to overcome learners' technical limitations and constraints. These strategies should focus on the following goals:

- To help learners to familiarise themselves with computer facilities by exploring software and computer applications that could be relevant for them as language learners and as computer users.
- To provide learners with the possibility to create and implement solutions for their own technological needs.

To conclude this section, I may assume that all the strategies presented and discussed here have a final goal, which is to help learners overcome difficulties that arise when facing the different tasks involved in their own learning process. Accordingly, if one of the aims of any ICT integration should be to develop and foster LLA, learners' training should therefore

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be based upon a strategic training in the pedagogical, technological and medium-derived strategies. Such instruction should include the strategies summarised below in Figure 1.

REDEFINITION OF THE LEARNER'S LEARNING STRATEGIES		
PEDAGOGICAL DIMENSION (LEARNING STRATEGIES)	**MEDIUM-DERIVED STRATEGIES**	**TECHNOLOGICAL DIMENSION (COMPUTER EXPERTISE)**
• Communicative strategies • Social strategies • Cognitive strategies • Metacognitive strategies	• Using ICT for L2 learning as a resource for methodological managament • ICT and interaction • Using ICT for self-evaluation	• Software packages manipulation • Understanding ICT as a technical level (i.e. multimedia technology)

Table 3: Redefinition of the learner training role: ICT and LLA (adapted from Ruiz-Madrid 2005, 152).

4. WHAT TO EXPECT FROM ICT: PEDAGOGICAL IMPLICATIONS

In the light of what has been stated, it seems clear that the ICT can enrich the L2 learning experience provided that there exists a previous pedagogical reflection focused on the transformation of the learning process in general and the learning strategies, as well as the teacher's and learner's role in particular. In fact, both learner and teacher training seem to be a key factor in the effective introduction of the ICT in the field of L2 teaching and learning. From my point of view, such a change cannot take place if the learner autonomy rationale does not underlie it. Teachers, thus, need to learn how to evaluate and select learning resources and how to solve technical and pedagogical problems linked to the introduction of the ICT in the language classroom. Learners must also confront new challenges. They need skill training so that they become more autonomous by making efficient use of learning strategies, which should go hand-in-hand with effective computer-expertise training in order to make effective use of the medium-derived strategies. Therefore, the ICT can provide a suitable framework for the design of pedagogical proposals that aim at making learners become more autonomous. Teachers, thus, must commit themselves to this transformational

process in order for teachers themselves and learners to gain full benefit from the new tools and procedures at their disposal. The institutional curricula concerning teacher and learner training should also pay special attention to this new context and accept that *learning to use* must give way *to using to learn* in the profession, as proposed by Chapelle (2003: 31):

> The way students will learn to do applied linguistics with technology is by learning applied linguistics through technology […] applied linguistics technology cannot be taught separately from applied linguistics.

and the European Report from the *The European Directorate General of Education and Culture* (ICC) (2002: 4):

> Teacher training is shown to be the key to the successful introduction and deployment of the new media. Special efforts are required to overcome observed gender and generations divides and to redress the balance by providing specific training programmes which encourage female teachers and older faculty to become acquainted with ICT and its attendant advantages.

5. NOTES

1. We use the adjective technical here because we understand learner training at the pedagogical level as the acquisition of strategies or *techniques* to be employed in learning situation.

2. We use here this dualism, since learners are also users when using virtual learning contexts in which they learn but also *surf*.

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