

# INFORMATION AND COMMUNICATION TECHNOLOGIES IN FOREIGN LANGUAGE LEARNING

## REPORT

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## List of Abbreviations

Becta	British Educational Communications and Technology Agency
CMC	Computer Mediated Communication
ELLiE	Early Language Learning in Europe
FLTL	Foreign Language Teaching and Learning
ICT	Information and Communication Technology
L1	Native language
L2/L3	Second and third languages
MFL	Modern Foreign Languages

## Summary

The adoption of ICT in the school system has far-reaching implications. They include the technical issue of the accommodation of hardware in schools in terms of space, support and costs. They include the transformation of classroom culture and the teacher's role. Most importantly, they require schools to maintain a clear pedagogical focus, so that ICT can be used effectively as a powerful educational tool.

New software and second generation 'Web 2.0' technologies have revolutionised the way in which learners, at all levels, learn languages and communicate with one another within and outside the classroom. The proliferation of social networking tools has allowed communities of teachers and learners of Modern Foreign Languages to come together from across the world, with an ease and dynamism that has not been seen before. However, it is clear that learners still need the input and direction that teachers give to the learning process, and a sound pedagogical underpinning to classroom activities is as important as it ever was.

The following document reports on the use of ICT in primary education for the teaching and learning of Modern Foreign Languages. There is no comprehensive research framework in this particular area, and so much of the literature considered in this report is from specific projects and studies comparable with typical situations in the primary school sector. Several practical recommendations arising from an analysis of the literature are offered at the end of this report.

Please note that for the purpose of this report, the term Information and Communication Technology (ICT) is interpreted widely to cover any kind of computing or telecommunications activity and includes hardware, software and the internet.

## 1. Overview

The adoption of ICT in the school system has far-reaching technical and pedagogical implications, which range from accommodating hardware in schools, both in terms of space and costs, to the transformation of the teacher's role and classroom culture (Richards, 2005). School infrastructure and financial resources also impact heavily on the integration of technology for supplementing and complementing instruction in foreign languages and for its sustainability through time (Tondeur et al., 2010).

Integration of ICT at its most effective relies ultimately on an accurate assessment of the educational needs of pupils, technical factors and teachers' competencies in ICT. Some researchers and practitioners (Tondeur et al., 2008; Venezky: 2004) have, for example, expressed opinions against the use of laboratories and in favour of an integrated use of computers in a classroom-like environment, where their use can be more easily managed. These conclusions came about as a direct response to teacher and learner needs.

Using ICT in teaching foreign languages makes demands on teachers. For example, the creation of resources *by* primary teachers *for* primary learners of languages is often very difficult because of time and money constraints. But there is also another aspect, which is that teachers have to integrate the use of the technology they have at their disposal into the didactics of their own subject (John and Sutherland, 2004: 105; Parks et al., 2003). In order to do this effectively, teachers' technological abilities need to be as good as their pedagogical skills. According to some researchers, this change in the role of the teacher must take place, in order to make the student learning experience consistent with the ICT-rich environment that today's children live in outside of school (Eynon, 2009). This implies the need for ongoing professional development for educators as well as constant reflection and self-reflection on individual and classroom activities and related results (John et al., 2004: 103-5; Becta, 2009a).

Research suggests that the best educational software is that which enables teachers to produce resources integrating knowledge and pedagogical design (Hsu, 2010), e. g. individually customised multimedia (audio/visual) materials, interviews, exercises, questionnaires etc. Some studies (Mangenot and Zourou, 2005; Verdugo and Belmonte, 2007) have indicated that the use of ICT-based resources can lead to improved results because learners are often given the opportunity to engage independently in the learning process with less teacher control and intervention. This is one of the advantages of

technology-enhanced teaching and learning. Although technology does not, and probably never will, substitute the teacher in the classroom (Parks et al., 2003), it has the advantage that it can engage learners in the learning process in a creative, self-directed way (John et al., 2004: 107; Sutherland et al., 2009; Williams, 2001) and this means that ICT is surely a welcome part of MFL classes.

## **2. Studies in ICT in FLTL in the following areas (or comparable with)**

### ***a. Foreign language learning for beginners in primary and secondary school setting (level 1 and 2A)***

Traditional teaching methods at this level adopt a communicative and interactive approach in the classroom and focus on a range of game-based activities, which involve physical movement and use of objects to exemplify the meaning of words (Cable et al., 2010: 81). The acquisition of vocabulary in a foreign language is particularly relevant at this stage of learning, since knowledge of words supplies the basis for acquiring reading and listening skills (Marsden and Davies, 2008; Cable et al., 2010: 101-9).

These kinds of activities seem to have transferred effectively to the medium of ICT. For example, several activities have been devised for improving the learning of words in a foreign language at beginner level and for developing a sizeable vocabulary in the L2 through the use of ICT-supported teaching materials, in particular multimedia resources (Silverman and Hines, 2009; Sydorenko, 2010: 52-3). Researchers have also tried to monitor pupils' progress and quantify improvement in ICT-mediated word learning (Milton, 2006); that is, to evaluate how much vocabulary is learnt in a given period of time in the L2, what type of vocabulary, and frequency effects (Milton, 2006; Blok, 2001; Silverman and Hines, 2009). Although such studies have found that achievements in vocabulary learning are not significantly higher when ICT-based resources are employed than when traditional methods are used, there is an argument that ICT-rich resources help to increase the level of motivation and creativity in learning foreign languages 'ab initio' at primary level (Blok, 2001; Williams, 2001: 54-5). There are a number of studies which have shown that motivation is crucial to attainment in learning foreign languages, for example, Milton (2006) reported that the achievements of pupils learning French at a particular secondary school in the UK, were significantly higher when explicitly motivational strategies were adopted.

The use of ICT in teaching languages stimulates motivation by presenting students with exciting, interactive and collaborative tasks (not exclusively in the area of vocabulary

acquisition). For example, a project conducted in Spain, in 2007, with 6-year-old learners of English has shown how the use of internet-based resources can develop pupils' acquisition of listening skills (Verdugo et al., 2007). The main outcome of this experiment, which involved six primary schools in Madrid, Spain, was that stories presented through a digital medium boosted learners' motivation and finally produced better results. The authors clearly state that the group of learners who were taught through ICT-based resources outperformed those taught through traditional methods: 'The outcome of the present study, thus, validated the research hypothesis by demonstrating that there were significant differences between the two groups. Learners in the experimental group improved their listening comprehension skills and outperformed the control group' (Verdugo et al., 2007: 96).

The same project also highlighted that there is a necessity for producing ICT-based materials specifically designed for primary school children by primary school teachers. This kind of material is necessary to ensure that children have access to resources providing not only pedagogically sound tasks but also a suitable and safe interface. This view is widely shared by researchers and practitioners in the sector (Milton and Garbi, 2000; Hollingworth et al. 2008; Venezky, 2004: 16). The design of teaching and learning materials, which integrates subject knowledge and makes use of technology, remains crucial in using ICT effectively in teaching and learning foreign languages (Milton and Garbi 2000: 289-90 and 292; Hasselgren, 2000: 264-5; Richards, 2005).

To date, technology-enhanced resources for beginner learners of languages at primary level are scarce. Teachers often lament a lack of resources which integrate internet materials or multimedia-supported materials into the primary school pedagogical framework (Verdugo et al., 2007: 97). Once such resources become available, further research will be possible in this area and researchers will have a better understanding of how technology can benefit beginner language learners at primary level.

### ***b. Learning of two foreign languages (L2 and L3)***

The introduction of two foreign languages at primary school level is not an uncommon practice in several areas of continental Europe. Teaching of two foreign languages is especially practiced in bilingual regions, where in addition to the national language, a regional idiom (e. g. Catalan or Frisian) and a foreign international language (e.g English) are taught as part of the curriculum. In areas such as Luxembourg, northern Italy, Tyrol, and some regions of France and Belgium, for historical and socio-economic reasons the national language, another major European language (that of a bordering



state) and English are introduced at a very early age in the school system (Cenoz and Jessner, 2000).

Consensus on the benefits of introducing and teaching two foreign languages concurrently has not as yet been achieved and very little research in relation to the use of ICT in this area has been carried out to date (Low and Beverton, 2004). There is, however, a growing interest in monitoring these situations and in devising specific tasks for this type of learning experience, mostly, though not exclusively, by exploiting the cognate status of the languages in question (Tonzar et al., 2009: 625; Schönplflug, 2000: 137). Such methods of teaching, which make use of the linguistic interdependence of related languages, have proved particularly successful in facilitating the acquisition of vocabulary. Word-learning methods based on the acquisition of cognate words in L2 and L3, accompanied by translation into L1 (Tonzar, et al. 2009: 627; Ytsma, 2000: 229; for a recent overview on the use of glosses/word-translations in vocabulary acquisition see Yoshii, 2006) have been tested, and achieved a fair degree of success. Tonzar et al. (2009: 639) have shown that interference between L2 and L3 throughout the vocabulary learning process was negligible.

In recent times, a multilingual or concurrent, approach to the study of languages has been trialled in some areas of the UK. Researchers (Jones et al., 2005: 64) have indicated, albeit tentatively, that a concurrent approach to the study of foreign languages at primary level may be preferable to a sequential one, especially in areas where there is high linguistic awareness due to the existence of bi- and multi-lingual communities. For example, a 2003-5 Nuffield-funded pilot project (Jones, et al., 2005) in Coventry, in the UK, proposed a model that encouraged primary school pupils to discover and reflect on languages. The pilot scheme required pupils to look at two different languages and attempt to identify differences and similarities ranging from script to etymology (Jones et al., 2005: 64-6). In the framework of the project, learners were presented with a series of tasks including language identification through reading websites, word, text and structure comparison, and language script. Learners from bi- or multi-lingual communities were at ease with this approach due to their existing high level of linguistic awareness.

A multicultural approach to the concurrent study of two or more languages has been the focus of a number of projects across Europe. For example, Halmari (2008) reports on a case study carried out in a Swedish primary school with learners of English as L2 through reading multicultural children's literature. In the context of this project sixth-grade pupils already bilingual in Swedish and Finnish, read texts in English on

multicultural topics. In this way, pupils simultaneously learnt language and culture through task-based and content-based language teaching. Projects comparable with this in the UK are run by *Routes into Languages* (<http://www.routesintolanguages.ac.uk/>), a consortium of universities working with schools and colleges to raise language awareness. Projects within this initiative have adopted a multicultural approach through online cultural and language-based resources aimed at secondary school students.

***c. English as a second foreign language (L3 after L2)***

In recent years, the acquisition of English as a third language (L3) has become increasingly common in Europe. The study of English L3 has been introduced in schools situated in regions where people live in a situation of bi- or multi-lingualism. For example, English L3 is studied alongside national and heritage languages in the Basque Country, Catalonia, the Netherlands, Sweden, etc. (Cenoz et al., 2000), or with a national and one major European language in the German-speaking northern regions of Italy, France, Belgium, etc. Although this is a growing field of cultural and linguistic enquiry, research in direct relation to ICT for the concurrent learning of L2 and L3 is scant if non-existent.

Some research (Cenoz et al., 2000) has shown that the acquisition of English as L3 differs from learning English as L2 in many respects, in particular because the acquisition of a second language impacts significantly on that of a third language in individual, social and educational terms (Cenoz et al., 2000: ix-x). Some previously mentioned studies (Ytsma, 2000; Muñoz, 2000; Lagabaster, 2000) have suggested that issues such as the age at which L3 should be introduced, learning achievements and level of fluency/proficiency to be attained in the L3 have to be carefully considered before introducing the L3 into the curriculum. However, there is hardly any agreement on these issues in the literature as these variables change significantly according to project and area.

Linguistic connections between L1, L2 and L3 and the frequency of use of L2 and L3 also influence the learning process as well as the adoption of teaching methods, e. g. approaches based on the interdependence of the languages, on displaying images, flashcards or objects, on classroom interaction etc. Pedagogical choices in teaching English as L3 may vary greatly and mostly depend on the language combinations that the learning environment offers; that is, whether there is cross-linguistic influence between L1, L2 and English L3 as is usually the case with learners of French and German (Tonzar et al. 2009: 626-7). The acquisition of English as a third language also

depends on the level of education (i. e. primary, secondary, tertiary etc.) at which English L3 is introduced. The linguistic context (i. e. monolingual, bilingual or multilingual schools) in which the study of English L3 is undertaken is also very important in determining teaching methods.

A cross-linguistic examination of the aspects common to the acquisition of English by European users could reveal that there is common ground and scope for developing more widely shared strategies (Cenoz et al., 2000: 257) for a concurrent acquisition of L2 and L3, when L3 is English. Whether or not technology is crucial to implementing them will also have to be assessed. Availability of authentic materials on the web could facilitate the combined teaching of L2 and English L3, when embedded in an effective pedagogical approach. Although many experimental projects have now been conducted in the area of third language acquisition (TLA), whereby English is studied as L3 (Muñoz, 2000 and Ytsma 2000), research has still to shed light on the relations between L1/L2 and the acquisition of L3 and on effective related learning strategies, including those based on the use of technology and its benefits to the teaching and learning of languages (Milton and Garbi, 2000: 292).

### **3. Research evidence on the impact of ICT in L2/L3 classroom**

#### ***a. Which skills (e. g. reading, writing, oral comprehension, etc.) benefit most from the use of ICT?***

Over the last ten years there seems to have been alternating waves of enthusiasm and scepticism as to whether ICT-based resources should be used to facilitate the learning process of any subject and of foreign languages in particular (Bruillard and Delozanne et al. 2000; Cartwright and Hammond, 2007; Chambers, 2004; Richards, 2005; Warschauer and Healey, 1998). These studies indicate that although there has been an ongoing debate on the integration of technology in classroom teaching, technology is most often used simply as an 'add-on' to language lessons (Richards, 2005; Cartwright et al., 2007).

Where technology is used, it tends to transpose traditional teaching methods—like those offered in textbooks—onto technical substrates instead of proposing innovative approaches. For example, teachers have raised concerns about the fact that internet-retrieved resources lack a pedagogical framework suitable for primary school children (Verdugo et al., 2007). There is a general understanding that the internet is a rich

resource with great potential for providing language learning resources and opportunities for a creative approach to teaching and learning (Selinger, 2001). However, in order to make its use effective to primary language learning, teachers and researchers agree that materials have to be embedded in a pedagogically sound framework (Parks et al., 2003; Meskill, Mossop et al., 2002; John, 2004).

Although projects have been carried out with a focus on the ICT-supported development of one of the four skills, an ICT-mediated approach to the study of languages is, by its very nature, a comprehensive one. The development of one skill simultaneously implies practice in the other skills in such a way that two or more abilities are developed in performing one single task. For example, an internet-based listening task might include oral input and written text, as well as vocabulary acquisition (Verdugo et al., 2007: 97). The use of ICT especially in the form of internet-based and multimedia resources encourages a holistic approach to the study of languages whereby oral ability and literacy are developed through the simultaneous interaction of the four skills, as opposed to more linear methods whereby specific abilities tend to be compartmentalised and then gradually integrated (Becta, 2009b).

Web 2.0 and multimedia technologies offer opportunities for communication and collaboration. The European-funded VIRLAN (2000) project has attempted to create a language-learning environment for primary school children, aged 6-12, by providing an online virtual platform simulating the real world, to address the learning habits of young learners of foreign languages. This system included 2D and 3D activities, a painter room, a picture board and the possibility of running activities in an audio mode. Although not measured quantitatively, the outcomes of the VIRLAN project have indicated that there might be scope for investigating the advantages and disadvantages of ICT-supported communicative and collaborative approaches. More recently, computer mediated communication (CMC) in foreign language learning has been exploited for providing feedback in child-to-child corrective feedback exercises, which have produced some interesting results (Morris, 2005: 38). However, given its highly experimental nature, the area needs further research. The development of an ability to communicate through ICT (e. g. in social networking environments, with blogs, collaborative software etc.) is among the transferable skills which can be derived from an ICT-supported approach to the study of languages, to the point that some have called it the 'fifth skill'.<sup>1</sup>

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<sup>1</sup> Interview with Gun Lundberg [http://www.svshv.umu.se/personal/lundberg\\_gun\\_eng.html](http://www.svshv.umu.se/personal/lundberg_gun_eng.html) (Southampton, 3 September 2010)

In the context of ICT-based teaching methodologies, there is an argument supporting the view that teachers of foreign languages can make effective use of children's confidence in dealing with ICT in the language classroom by drawing on their out-of-school exposure to technology. Assigning homework activities involving the use of ICT could be beneficial to pupils' language development and also save teacher time in the classroom (Cartwright et al., 2007; interview with Gun Lundberg). Such tasks could range from browsing websites to watching language-specific television programmes (where available), to games etc. While this approach benefits from drawing on materials which already exist and need not be created anew, thereby saving teachers time, it also involves the collaboration of teacher and parents. In using children's out-of-school expertise teachers and parents are equally involved in the learning process, albeit with two very different roles, that of the instructor and that of the supervisor, respectively.

In conclusion to this section, it would appear that rather than benefitting any particular skill individually, the use of ICT in foreign language learning benefits an integrated skills approach to learning.

***b. Which structural elements (structure of language, vocabulary) most benefit from the use of ICT?***

A number of studies indicate that vocabulary acquisition seems to be an area in which ICT has proven to be most effective, especially with primary beginner learners (Becta, 2009b; Sun and Dong, 2004; Blok et al., 2001; Moreno-Ger, Burgos et al. 2008). Activities that may be employed focus on the acquisition of categories of words, such as colours, body parts, animals etc. These kinds of activities exploit very simple technology ranging from animated PowerPoint slides (Becta, 2009b) to simple activity-based online tasks, which require the learner to think and do, then receive immediate feedback. Such activities can also combine vocabulary learning with acquisition of simple syntactic structures, for example, through colour-coding words according to their function in a sentence (Becta, 2009b).

The effectiveness of multimedia support for vocabulary acquisition (in L1 as well as in L2) has been examined in studies monitoring school age children. These have corroborated the belief that multimedia-enhanced activities for vocabulary learning significantly improve the children's vocabulary growth in a second language (Silverman and Hines, 2009). Multimedia activities studied by Silverman and Hines included computer presentations of a storybook with spoken text, static pictures and sound

effects, which were used in teaching primary school children Dutch as a second language (Silverman et al., 2009: 307a). In this approach vocabulary was not taught through traditional sequential methods, but through multimedia activities, which facilitated the acquisition of words even though their focus was not directly on vocabulary learning. It is plausible to think that basic language structures were also learnt too, though measuring such progress in numerical terms is difficult.

Studies (Becta, 2009b; Blok, 2001; Richards, 2005; Carwright et al., 2007) conducted on the impact of ICT on vocabulary learning and learning more generally, have shown that the role of the teacher is still paramount in administering multimedia resources with children in schools. Teachers' guidance in helping pupils to notice new words and discuss them in a thematic context is crucial to an effective use of audio/video resources, which would not otherwise provide such positive attainment in the learning of the L2. Although incidental word-learning still seems to be the way in which pupils typically learn new words in the target language, studies demonstrate that the number of words children learn through normal reading tasks is rather low (Blok et al., 2001: 122). It is therefore advisable that ICT-resource designers recognise the centrality of teachers in directing students through the vocabulary acquisition process, by devising multimedia-supported activities which give an opportunity for reflection and teacher intervention (Becta, 2009a; Sun et al., 2004).

ICT-based materials can offer teachers and learners in this area a variety of activities, which can potentially be tailored to the individual needs of users in specific contexts. This versatility and the potential for a comprehensive approach to learning are ultimately the intrinsic value in ICT-mediated teaching of foreign languages.

***c. What tasks (e. g. information retrieval, communicating, reading, doing language exercises etc.) give the best results?***

There is agreement in the literature that ICT-led activities in foreign language learning are effective in producing learning (Verdugo et al., 2007; Salaberry, 2001). The introduction into the classroom of tasks harnessing the potential of technology is beneficial in many ways, not least because ICT can lead to increased contact with authentic materials and real-world situations (Selinger, 2001; Becta, 2009b). Widespread use of the internet, for example, has given teachers and learners of foreign languages the opportunity to devise authentic learning activities. Not only does the internet support the provision of tasks based on real-world situations, but it also entails the development of complementary skills such as the ability to handle data and information, to search and

process them in learning languages (Selinger, 2001: 101-2; Sutherland, Robertson et al. 2009: 34).

ICT also offers an opportunity to students to use Virtual Learning Environments (VLEs), such as Blackboard, Moodle etc., and to access them both at school and from home. This model enables learners to participate in the learning process by sharing materials with their peers, communicate with their teachers from home, and engage in independent learning. Access to VLEs allows the students an element of control over their learning process, which becomes self-directed and more independent as tasks such as information retrieval, language exercises, and communication activities can be set and completed remotely.

Researchers consider (Sutherland, et al., 2009: 89) the best tasks to be those, which engage children in their own learning process and those which offer a degree of freedom and flexibility to accommodate the variety of learning experiences, interests and abilities represented in the classroom. Examples of tasks that have been used in schools in the UK to engage children in the study of languages at primary level (Becta, 2009b; Sutherland et al., 2009: 90-5) show that ICT-based resources that give the best results are those offering learners an opportunity to engage creatively with the learning process and this might include all types of generic tasks, e. g. information retrieval, reading, language exercises, communication in the L2 etc. Choice of software and layout of teaching material is therefore crucial to achieving learning objectives in a creative way. There are a number of tools such as Voki, HotPotatoes or Audacity, which are used effectively to create resources for developing children's language abilities (see section 4 for more details). Such software, which enables the creation of digital resources also opens up the possibility of digital follow-up activities, such as publishing students' work on a website and sharing it publicly with other school pupils or with peers outside the school setting through an online repository. The development of student-created multimedia resources, which involves using software packages for the creation of activities, has a positive effect on children as they engage in the learning process actively and independently (Becta, 2009b).

Game-like activities also give very good results in terms of students' engagement especially for vocabulary learning at an early stage of the learning process and are employed in Years 2-4 (with 6/8-year-olds) alongside story telling activities which make use of ICT-supported animations (Moreno-Ger *et al.*, 2008). The latter activities encouraged children to predict what the characters in a story would say. Major outcomes

of these tasks were: the development of an ability to describe characters; significant vocabulary gain, and general transferable skills such as communicative and interactive abilities.<sup>2</sup>

Web 2.0 technologies allow for these types of collaborative multi-skilled activities and have the advantage of taking the instruction of foreign languages beyond the physical and temporal constraints of classroom teaching into the out-of-school world and vice versa. Going beyond the classroom in teaching languages has given rise to projects and classroom activities, which focus on collaborative work with partner schools in the target language country (Comenius Regius Project—Tyrol <http://www.britishcouncil.org/comenius-regio-partnerships.htm>). Such activities are based on both oral and written communication and are supported by ICT in so far as they take advantage of blog-mediated conversation activities; for example, two classes in different countries take turns in asking questions (Becta, 2009b: see section Making Links Abroad). This activity has the advantage of putting learners in contact with others and encouraging them to discuss aspects of their lives and respective cultures, thereby breaking clichéd understandings about other countries' cultures (Pachler, 2001). For example, social networking sites (such as Multiply <http://multiply.com/> and similar secure media sharing sites) which allow for uploading audio and video files provide native-speaker audio materials for school children at both ends.

A project with similar aims to those described above has been undertaken in Tyrol, Austria. This project focuses on the development of foreign languages in primary schools in St Helens, UK and Innsbruck, Austria, through 'mutual learning, authentic resources, new technologies, mobility, cultural experience, links with the European citizenship curriculum and accompanying research' (Comenius Regius Project—Tyrol). Part of the teaching in this project is supported by video conferencing: through this tool, teachers in St Helens teach English to pupils in Innsbruck, and teachers in Innsbruck teach German to pupils in the UK. There has been an ongoing debate around the effectiveness of these methods as they are often complex to manage technically as well as expensive (Kinging, 2007; Williams, 2001b: 116-7). However, advantages that have been associated with tele-collaborative (i. e. video conferencing) teaching are that online cultural exchanges offer a direct experience of the target language as spoken by native-speakers and are key to highlighting the relevance of language abilities to students' lives (Kinging, 2007: 114-5) and this is something that ultimately motivates students in the

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<sup>2</sup> For a pedagogy of learning languages at primary level through story telling click on [http://www.primarylanguages.org.uk/training\\_zone/teachers/active\\_learning/story\\_telling.aspx](http://www.primarylanguages.org.uk/training_zone/teachers/active_learning/story_telling.aspx)



classroom. In supporting authentic, collaborative and game-like activities, ICT makes all kinds of tasks more motivating.

***d. What is the added value in a quantitative and qualitative perspective?***

***Some conclusions on the added value of ICT-based foreign language instruction in primary schools***

The projects (Verdugo et al., 2007; Blok et al., 2001; Sun et al. 2004; Morris, 2005; Silverman et al. 2009) examined for this report have provided very little quantitative evidence in support of the added value of ICT in primary language instruction. On the other hand, qualitative studies on the use of ICT provide a very positive picture of how effectively technology can be used in the learning process (Verdugo et al., 2007; Williamson and Facer, 2004; Venezky, 2004; Sydorenko, 2010; Salaberry, 2001)

Given the right set of conditions, the adoption of technology:

- Enhances motivation in the learning process (Williams, 2001; Verdugo et al. 2007; Becta, 2009b)
- Offers collaborative and interactive environments to pupils (Becta, 2009b; Kinginger, 2007; Pachler 2001)
- Provides flexible and independent learning from a very early age (Mangenot et al., 2005)
- Has the potential to bring the out-of-school world into the classroom (Richards, 2005; Becta, 2009b)
- Provides authentic materials and real-life communicative situations (Selinger, 2001)
- Allows students to communicate quickly and in informal ways (Kinging, 2007; Pachler, 2001)
- Facilitates contact with native speakers of the target language (Kinging, 2007; Pachler, 2001; Williams, 2001)
- Allows teachers to design fit-for-purpose materials by personalising and customising software to the learners' needs, to the curriculum requirements and to the teachers' own pedagogical beliefs (Richards, 2005; Sutherland et al., 2009)
- There is some evidence that technology might be instrumental in overcoming social inequalities (Hollingworth et al., 2008: 74-5; Venezky, 2004). For example, the internet gives equality of access and information and teaches skills that are not the preserve of a certain social class.

The flexibility and variety of approaches offered by the use of technology in the provision of foreign languages has the potential to begin a radical shift in how MFL are taught. The use of ICT in the classroom entails adoption of a new pedagogical vision whereby ICT tools and ICT-based resources supplement and transform the role of teachers (Richards, 2005: 61 and 75). This change implies moving from linear approaches based on the transmission of knowledge/skills in sequence to approaches focussing on enabling learners to build their own learning by engaging with learning tasks actively and with growing degrees of independence (according to age, access to resources, maturity in using ICT). As Richards (2005: 63) argues: 'The challenge of ICT integration is as much at the centre of a conflict between old and new pedagogies as it is in terms of how educational values are alternately influenced by institutional imperatives for change and existing social contexts.'

For all these reasons, a holistic pedagogical approach is crucial to the incorporation of ICT in teaching and learning in an integrated non-technically driven way and not just as a mere 'add-on' to more traditional methods. A case study (Cartwright et al., 2007) conducted in a primary school in the UK between the years 2003-2005 has found that trying to 'fit ICT in' rather than understanding how to use it was the real challenge, in that complex pedagogical and practical decisions had to be taken often within financial and physical constraints (i. e. space, computer-pupil ratio, limited financial support etc.). Although the project managers came to the conclusion that adoption of ICT and radical transformations in teaching and learning are 'unrealistic' and unlikely to happen in schools on a large scale in the short term, ICT can be used on a 'best fit' basis (Cartwright et al., 2007: 402-3). In order to take this approach, conditions have to be set in the school environment enabling adequate training and support of staff, greater access to ICT and to software packages (Venezky, 2004; John et al. 2004).

There is more qualitative than quantitative data available on the value of ICT in foreign language learning, and this may be due to the complex nature of learners and the learning process. Further, longitudinal research is needed and may provide useful quantitative data in the future.

#### **4. Some practical considerations:**

The following comments and recommendations are based on a review of the relevant literature, and also the authors' wide experience in this area. They are not intended to be exhaustive, but rather, are indicative of some of the key practical considerations necessary when using ICT in foreign language teaching.

### **Hardware design**

- It is advisable for institutions/organisations considering the purchase of new hardware for the use of ICT to first consider the needs of learners and teachers before deciding which hardware to choose.

For example, consider whether teachers intend to do groupwork or collaborative work, use Smartboards in a plenary class situation, get learners to engage in self-directed/independent learning; make audio recordings; use the internet etc. The choice of hardware will have an impact on the learning environment and class layout. Hardware should be appropriate for the educational environment and the needs and requirements of teachers/learners, and where possible should be integrated into the curriculum. Different types of hardware allow for learning to take place in a variety of different environments and different ways, and thinking creatively about what kinds of hardware is needed and how it can be deployed will assist teachers in building ICT into their curriculum design and go some way to avoid unnecessary expenditure.

Hardware is developing and improving at a rapid rate and can involve considerable expense on the maintenance and upgrading of machines and tools. Consideration should also be given to the numbers of technical support staff needed to operate the hardware and train teachers and learners in how to use it. It also may be the case that it is no longer necessary to purchase expensive systems, as nowadays, many students have access to their own hardware at home. However, educators should be aware that this may not apply to all students (particularly poorer students).

### **Software/Internet resources**

- If institutions invest in commercial software for their teachers to use, it should be appropriate for the age of the learners, or sufficiently flexible to allow teachers to adapt their ICT-based strategies to their educational context.
- There is a wide range of excellent and useful commercial software available to buy and there is also a large amount of excellent - and *free* – software available on the web, so there is no longer such a need to spend a huge amount on expensive software.

Such free software can be used by teachers, learners and adopted on an institutional level, for example, the free, open source virtual learning environment, Moodle, is widely used across the world by a variety of institutions (e.g. in the UK, the Open University has adopted it), and the free online activity-authoring tool HotPotatoes is equally popular with teachers of pupils at all educational levels across the world. In previous years, such free tools were treated with caution by institutions as they were not considered to be as

robust and stable as commercially-available software; however, recent improvements in web technology and access to a worldwide pool of 'guinea pigs' using, testing and recommending improvements has enabled software to develop rapidly and has considerably diminished fears that software will not be good enough to cope with the rigours of the educational environment.

- There is also an identified culture of sharing knowledge and information on the web now, and a huge amount of resources are freely available for language learning on open websites or repositories.

These resources have been created by institutions, organisations and ordinary teachers. (<http://www.primarylanguages.org.uk> and <http://www.routesintolanguages.ac.uk/> are only two examples). Resources can be used by teachers and in most cases, downloaded and edited for their own teaching context. It is often part of the culture of these sites for users to contribute their own or edited resources and widen the pool of materials available to the language learning community. Teachers can showcase their own work and improve the materials available to their students by engaging with the 'open access' community.

### ***Technical maintenance***

- It is evident from the literature that for the effective use of ICT in an educational setting, there needs to be adequate technical support and maintenance.

Such support is inevitably costly and some schools have reduced expenditure by using internal staff, who have a keen interest in ICT, to provide technical support in addition to their normal duties (Cartwright et al., 2007: 399). This can be a way to lower costs but does not necessarily lead to the most effective use of ICT, unless such staff are given adequate time to deal with ICT-related enquiries and tasks e.g. overseeing software upgrades, VLE maintenance, assisting colleagues and ICT training. ICT issues can be extremely time-consuming and it is not realistic to expect teachers to solve their own ICT-related problems, as many would have no skills in this area, no time to devote to this and little inclination (John et al., 2004).

Sustainability issues related to the use of ICT in teaching languages are mostly related to the wealth of schools, as money is needed to support the ICT infrastructure, any external or externally sourced training, and ongoing technical support. The appointment of an ICT coordinator may facilitate the planning of actions to be taken towards the integration of ICT in the delivery of the curriculum, budget handling and oversee maintenance of hardware and training of staff (Tondeur et al., 2010). This would

guarantee continuity to learning activities, entail the least technical disruption to classes, and guarantee sufficient support for staff.

### ***Teacher training***

- The vast majority of projects reviewed in this report regard the professional development of teachers and their training in the use of ICT as crucial to the success of any ICT-based teaching and learning activity.

The key points drawn from the literature reviewed are:

- teachers appreciated training from experts not only in ICT but also in relating it to use in primary school teaching
- teachers who had computer access at home felt that extra practice through training activities improved and consolidated their abilities to use ICTs effectively back in the classroom.

Teachers play the key role in making ICT available and accessible to pupils in a way that can match curricula objectives, and so it is essential that time and resources should be allocated to the training of teachers in both resource design (including personalisation of software), good pedagogy in the use of ICT, and how to use multimedia resources effectively in the classroom.

### ***Pedagogical aspects and methodology of teaching***

- Sound pedagogy must underpin the use of ICT in teaching and the creation of online learning activities

This is an obvious point but pedagogy is not always apparent in how teachers use ICT or in the online activities they create or get learners to use. Technology can offer a wide range of appealing and attractive activities for students – and this can be motivating in itself. However, use of technology should always be underpinned by consideration of pedagogy and learning purpose, and should not be used if it does not add value to the learning experience in some way. ICT should be seen in the light of a tool which helps teachers to do their job more effectively. Similarly, many technically savvy teachers rush to create their own materials using free software tools, or make use of activities available on the web – and these activities should be carefully considered before use, as too many are based around an old-fashioned approach to teaching (quiz-style test – feedback). Innovative ideas on pedagogy should be applied to the use of ICT just as they are to all other aspects of teaching and classroom practice. In this respect, ICT coordinators/support staff may need to challenge teachers' perceptions of how ICT can

be integrated into their practice, e.g. using ICT does not have to mean learners working in class at computer workstations, but can be additional learning outside of class, self-directed learning, involve group work or full class participation using a Smart board.

- 'Digital natives' still need to be directed in their learning despite their easy facility with ICT.

Much has been made of the fact that today's young people are so-called 'digital natives,' having 'spent their entire lives surrounded by and using computers, videogames, digital music players, video cams, cell phones, and all other toys and tools of the digital age' (Prensky, 2001). This is an undeniable truth and there is much speculation in the media and the academic world about how this is impacting on student learning and teaching. It is too soon for there to be any meaningful data in this area, but there is no doubt that today's children are familiar with computers, to using them to find information, play games, share knowledge, meet friends. However, in the context of teaching and learning, they still need the direction that a teacher and a curriculum provides and there is some evidence that learners prefer a blended approach with a moderate amount of technology that is an integrated part of their curriculum (reported of post-primary learners in Palfry and Gasser, 2008).

## **5. What are the problems/shortcomings and pitfalls observed when using ICT in the foreign language classroom? What are the controversial discussions in the use of ICT in foreign language classroom?**

### ***Problems and pitfalls***

Issues arising from the literature are:

- The security of users is always an issue in any engagement with the internet, particularly when young people are involved.

If there is an intention to use discussion rooms, virtual environments or social networking sites, teachers should ensure that access to the sites (or groups within the sites) is restricted by using passwords or not linking to external sites, or making use of internal intranet systems. Teachers should also monitor communications carefully. Caution should be taken when directing learners to the open web, and safety in web-usage may be an issue that is best addressed in conjunction with parents. There is a growing amount of research on the topic of cyber-bullying (e.g. Smith et al. 2008; Li, 2007) but it deals – almost entirely - with the adolescent age group. Nonetheless, it should be an issue that all teachers are aware of.

- The creation of online activities and the use of technology (including training and preparation time) is very time-consuming

This is one of the main concerns raised by teachers—or at least by the current generation of teachers—who claim that designing and delivering activities through ICT is time-consuming, and that implementing the activities with learners often requires more time than has been allocated to classroom teaching and preparation (John and Sutherland, 2004: 104). Having to deal with technical failures and learner difficulties in using the technology in the classroom can create disruption in the delivery of lessons and diminishes the quality of teaching by taking time away from the achievement of pedagogical outcomes. Understandably, teachers are often unwilling to contribute hours of their spare time to learning how to use technology, when traditional methods work well, or spend extra hours making up for lost teaching time due to technical failures.

### ***Controversy in the MFL classroom***

Many teachers still dispute the pedagogical value of using ICT and are not convinced by the wealth of literature pointing out the benefits of doing so. From analysis of the many projects, reports and articles reviewed in this report, it is clear that this argument is already out-of-date: teachers and learners are using technology in their language learning, are convinced of the benefits and are keen to experiment with the wide range of tools and software available. ICT is an unavoidable fact of the world we live in and it is the responsibility of teachers to interpret and use technology in the context of education. Pedagogy can be obscured by excitement over the latest flashy tools and websites, but it is no less necessary than it ever was.

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\* Due to new government policies in the UK, Becta has been closed down. However, the materials referenced in this report were accessible at the time of writing and will be archived online.

### **Useful Websites for resources and general information**

CETL-NI CIES [Centre for Excellence in Teaching and Learning – Northern Ireland: Centre for institutional elearning services] (2007) *Hybrid Learning Model*.  
<http://cetl.ulster.ac.uk/elearning/hlm.php>

Comenius Regius — an initiative encouraging partnerships which promote cooperation activities between local and regional education authorities. The partnerships will give educational authorities, in cooperation with schools and other actors in education, the opportunity to work together on topics of mutual interest. Accessed 17<sup>th</sup> September, 2010 from <http://www.britishcouncil.org/comenius-regio-partnerships.htm>

Cyber-bullying — UK government advice can be accessed at <http://yp.direct.gov.uk/cyberbullying/> and advice from Childline, a charity for children: <http://www.childline.org.uk/Explore/OnlineSafety/Pages/CyberBullying.aspx>

Dialang—an online language diagnosis system covering five skills in 14 European languages. Accessed on 9<sup>th</sup> September, 2010 at <http://www.lancs.ac.uk/researchenterprise/dialang/about>

DfES [Department for Education and Skills, UK] (2002) Languages for all: Languages for Life, A strategy for England. Retrieved 9<sup>th</sup> September from <http://publications.education.gov.uk/eOrderingDownload/DfESLanguagesStrategy.pdf>

European Confederation of Language Centres in Higher Education—the aims of this project are:

- to support language centres in European establishments
- to promote research in foreign language learning at international level
- to encourage international and interdisciplinary cooperation between language centres in order to enable them to co-ordinate the pursuit of their objectives

<http://www.cercles.org/en/main.html>

ELLiE is a trans-national, longitudinal study of the introduction of second/foreign language learning in primary school classrooms in seven European countries. The study has been set up in response to the rapid expansion of provision for early languages learning that has recently occurred in Europe and many other parts of the world

<http://www.elliresearch.eu/>

FutureLab—an independent, not-for-profit, UK-based organisation that is “dedicated to transforming teaching and learning, making it more relevant and engaging to 21st century learners through the use of innovative practice and technology.” Accessed on 9<sup>th</sup> September, 2010 from <http://www.futurelab.org.uk/projects>

Links into Languages—a website for Language teachers and assistants in primary, secondary, FE and HE looking for up-to-date information, support and advice on pedagogy. Accessed on 16<sup>th</sup> September, 2010 from

<http://www.linksintolanguages.ac.uk/>

HotPotatoes online authoring software. <http://hotpot.uvic.ca/> Accessed 16<sup>th</sup> September, 2010.

Moodle Virtual Learning Environment. <http://moodle.org/> Accessed 16<sup>th</sup> September, 2010.

Primary Languages—the national gateway to advice, information and support for everyone interested in language teaching in the primary school. Accessed on 16<sup>th</sup> September, 2010 from <http://www.primarylanguages.org.uk>

Routes into Languages—is a consortium of universities working together with schools and colleges, to enthuse and encourage people to study languages.

Resources for teachers of MFL are available from this site. Accessed 16<sup>th</sup> September, 2010 from <http://www.routesintolanguages.ac.uk/index.html>

Teacher TV—has a wealth of information and resources for both new and experienced teachers, including curriculum-based programmes for use in the classroom. Accessed 16<sup>th</sup> September, 2010

<http://www.teachernet.gov.uk/teachingandlearning/>

Teaching ideas—a web site mainly intended for teachers who teach primary-age children (i.e. ages 5 to 11). Although it has been designed with UK teachers in mind, all ideas can of course be used by teachers around the world. The ‘Foreign Languages’ area has resources for those teachers who wish to teach a different language to their children. Accessed 16<sup>th</sup> September, 2010 from

<http://www.teachingideas.co.uk/foreignlanguages/contents.htm>