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Katerina Gajdáčová Veselá
University of Constantinus the Philosopher in Nitra - Univerzita Konstant'na Filozofa v Nitre
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Teaching ESP in New Environments

CA-CLIL

Katerina Veselá

2012

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Introduction

Chris Lehman:
"Technology must be like oxygen:
ubiquitous, necessary, and invisible."

A blend of three seemingly separate fields of foreign language teaching/learning theories and practice is presented by the author of this book, namely English for Specific Purposes, Content and Language Integrated Learning, and Computer Assisted Language Learning. All of them are highly topical, as the English language is ineluctably reaching the stage when it will be "the chosen one", which has been sought for ages to play the role of the *lingua franca.* There are proponents and opponents of this idea, nevertheless all English language teachers should benefit from it. It can be taken for granted that in the future the profession of an English language teacher will be in a high demand.

However, it is no longer the case where only general English for basic communication purposes is being more and more extensively taught all around the world. As globalisation proceeds job and educational markets are not limited by boundaries anymore. These boundaries which are disappearing step by step and more and more learners of English have specific purposes to learn it – to be able to communicate professionally and/or academically. Consequently, teaching English for Specific Purposes (ESP) is the focus of attention of language pedagogy researchers, as well as practitioners.

The second field is Content and Language Integrated Learning (CLIL), which has been considered a solution to the problem of the efficiency of foreign language teaching/learning. Despite all the endeavours of the scholars who have been trying to find a 'miracle method', which would spare the learners' time, money and effort

invested into their language education, a method which would provide the knowledge and skills without learning has not been found yet. However, the attempts to succeed in seeking the golden key which would open the door of the world of foreign languages will never end.

The CLIL methodology boomed as a possible solution to the problem of time and money, which formal education in any country always faces. The overly ambitious action plan of the European Commission, according to which every European citizen will speak besides his/her mother tongue two more languages, has caused tremendous efforts of educators, who have been trying to find a method, which would guarantee the results without any need in extending time and expenses in education. CLIL, the idea of which is to use the time devoted to other subjects, seemed to satisfy these needs. While the results in the field of general English need more time to be revealed, and the results of repetitive and/or longitudinal studies have not appeared yet, the proposal to use this method in teaching ESP logically follows the idea of dual-aimed CLIL.

Computer Assisted Language Learning is the third field of foreign language learning which we blend with the previously mentioned two, in order to get an efficient methodology for teaching ESP under the conditions of the modern 21st century technological society. Our concern is to find the role of the information and communication technologies, in which they will be the most useful in enhancing teaching/learning foreign languages. As technologies are nowadays ubiquitous, and all of them are useable in education and in language education particularly, we call this phase of CALL – Ubiquitous CALL.

The first chapters of this book briefly describe the theoretical basis, history, and development of these three fields of foreign language education. We analyze the possible points of their intersection, which

will allow us to formulate the proposal for using the blended CA-CLIL methodology to teach ESP.

This blend is described in a separate chapter and followed by design-based research, in which three case studies of the application of the CA-CLIL methodology are described, analysed and the results interpreted. Two of these case studies show successfully managed lessons taught with the CA-CLIL methodology, and one case study can serve as an example of misunderstanding the principles of CA-CLIL. Nevertheless, even the analysis and interpretation of this negative case leads to the conclusion that the thesis was proven, and thus it can be stated that if used properly,

the proposed CA-CLIL methodology meets the demands of teaching ESP in new environments of pedagogy in the third millennium and ubiquitous CALL.

English for Specific Purposes

ESP stages of development

In spite of having been discussed since the early 1960's, the definitions of English for Specific Purposes (ESP) are still being argued and discussed.

According to the doyens of this field, Hutchinson and Waters (1987), the first steps towards the definition and clarification of ESP were made after the Second World War, when the world started to be dominated by technology and commerce, which in fact led to the need for an international language. These authors (*ibid.*) claim that mostly because of the economic power of the USA, English started to play the role of the *lingua franca.* A new generation of learners who needed English and knew what they needed it for was born. According to the general rules of market, the demand was followed by the supply, and consequently the first English courses tailored to these specific needs were created.

Furthermore, as Gatehouse (2001) explains, the second fact that influenced the birth of ESP was the change in linguistic research which was more focused on the ways in which language is really used in real communication than on the description of its formal features (i.e. grammar). Subsequently, when the settings of the 'real communication' were set as specific for science, technology, commerce, etc., the language used in these specific settings should be definable, describable, and thus made as a core language for the English courses answering the demand for their 'specificity'.

The third influential factor at the beginning of ESP was, as suggested by Hutchinson and Waters (1987), the shift towards the importance of learners and their attitudes to learning in educational

psychology. Rogers, who wrote *Freedom to learn* (1969), was one of the leading psychologists of that time and he influenced the ESP theories with several of his general principles for learning (Rogers, 1969, p. 114, cited in Zimring, 1994, p. 416), mainly:

> *"Significant learning takes place when the subject matter is perceived by the student as having relevance for his/her own purposes, when the individual has a goal he/she wishes to achieve and sees the material presented to him/her as relevant to the goal, learning takes place with great rapidity.*"

As Hutchinson and Waters (1987) conclude, the relevance of the English course to the needs of the learners will make learning better and faster. Therefore it is clear that needs analysis became one of the basic characteristics of the ESP courses (see below).

The three above mentioned issues (the social and political landscape post the Second World War, changes in general linguistics, and changes in educational psychology) influenced the early years of ESP development, nevertheless it is necessary to point out that these are the main factors which have been and still are influential in foreign language teaching in general.

These characteristics of the first stage of the development of ESP in the 1960's – 1970's can be traced in the works written by Barber (1962), Ewer and Latorre (1965), Swales (1971), and others (Hutchinson and Waters, 1987). The attention of these authors was mainly focused on the description of the English language linguistic characteristics – mainly vocabulary and grammar. Register analysis was used to find specific grammatical features and vocabulary used in ESP. As it is noted by Maleki (n.d.), the statistical frequency analysis of large corpora of specialized texts was used to establish the basis for the learning materials. As far as the language description is concerned,

Basturkmen (2008) states that "ESP teaching often takes, as a point of departure, the analysis and description of language systems (p. 35)."

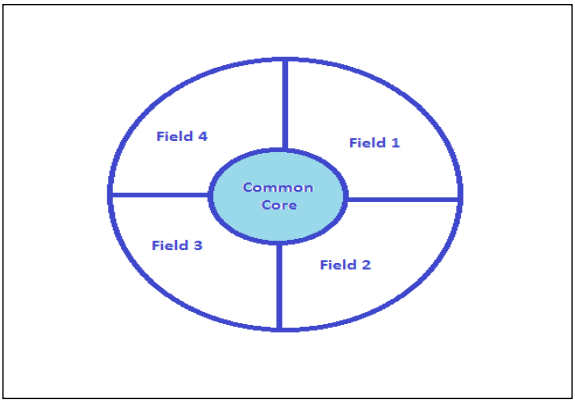
Two different approaches to 'language for specific purposes' can be traced (Bloor - Bloor, 1986). The first one is based on a presumption that a specific-purpose language is based on a basic core of the general language, and extends it; the second approach presupposes that there is no basic core, i.e. 'general-purpose' language, and thus all language exists in particular varieties. These two approaches are illustrated in Pictures 1 and 2, where the particular varieties of the language for specific purposes are shown (Field 1-4).

The first approach leads to the conclusion that the learners should have learned basic English before they study English for specific purposes. As far as the vocabulary is concerned, according to Coxhead and Nation (2001), the number of the words of 'general usefulness' is 2,000. Maleki (n.d.) noted that the statistical frequency analysis of large corpora of specialized texts was used to establish the basis for the learning materials.

Quirk *et al*. (1972) supported this approach:

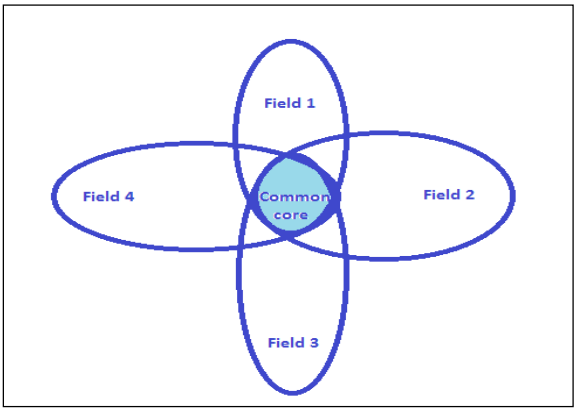
> *"Attempts to teach a 'restricted language' [...] too often ignore the danger in so doing of trying to climb a ladder which is sinking in the mud; it is no use trying to approach a point on the upper rungs if there is no foundation" (p.29).*

Picture 1: Common core and the specific-purpose fields



The second approach serves as a basis for the theory according to which teaching any specific variety of ESP can start at any level (Bloor - Bloor, 1986), since a common core of language does not exist. The 'core' is an integrated part of any language 'variety', as its base. These authors (*ibid.*) assume that the 'core language' is present in all varieties, and learning from the specific variety is highly effective because the learners acquire the language in context, "which view supports a theory of language use as the basis of language acquisition theory". This approach is illustrated in Picture 2.

Picture 2: Common core as an integral part of specific-purpose fields



Later on, the approach focused on the communicative values of discourse led discourse analysis becoming the basis for developing the materials for teaching the ESP courses (e.g. Allen - Widdowson, 1974), which taught students to recognize textual patterns and discourse markers mainly by means of text-diagramming exercises.

The 1980's saw fresh approaches to the concept of the text, and the genre analysis approach was preferred. Its beginnings are connected with Dudley-Evans (1987, cited in Maleki, n.d.), whose theory is based on the presumption that a text is a total entity rather than a collection of items, and "...we need a system analysis that shows how each type of text differs from other types." Dudley-Evans (2000) later on stated that the findings of the genre analysis brought together the earlier approaches to text analysis and closer examination of the writer's aim. He illustrates the flow with the following diagram (p. 14):

Genre ⇨ Register ⇨ Language

Moreover, stronger concern about the wider contexts of the texts and their relation to the learners' needs to use the language for real communication led, besides the genre analysis, to the analysis of the 'target situation' (Hutchinson - Waters, 1987). Its purpose was to enable the learners to function adequately in the situation in which they will use the language they are learning. These authors (*ibid.*) explained that the ESP course design should at first identify the target situation, and then carry out an analysis to find the appropriate linguistic features. This was the step from the stage of the TESP focused on the 'input' (language, register, and genre) towards the TESP aimed at the conditions of learning – the learners and their needs, course design, role of the teacher, etc. This tendency is closely connected with the attention paid to the learner in contemporary educational theories and also teaching foreign language theories aimed at communication.

Hutchinson and Waters (1987) called this stage a "learning-centred approach". For them to teach learning-centred ESP courses meant that they had to mainly consider needs of the learners, the course design, the syllabus, etc. Other authors (e.g. Robinson, 1991) later added the teacher's role as a matter of interest in learning-centred TESP.

The needs analysis is the focus of this approach, in which ESP is defined as "an approach to course design" (Hutchinson - Waters, 1987, p. 53). These authors also claim that the difference between the ESP and GE is that in ESP there is not the 'existence' of a need but an 'awareness' of the need. Thus, any course should be based on a needs analysis.

The basics for the needs analysis were created by Munby (1978), who presented a set of procedures for discovering target situation needs – the Communication Needs Processor (CNP). Hutchinson and Waters (1987) distinguish between the *target needs* and *learning needs*. Target needs are further classified into *necessities, lacks,* and *wants.* In their work, assiduous attention is devoted to the description and the analysis of the former of the two categories of needs; while, the latter – learning needs are just briefly described. In the learning needs analysis these authors pay attention to the learners, their general characteristics, place, time and purpose of the course, sources, etc. Surprisingly, the question: "How do the learners learn?" does not elaborate the methodology and methods issues; evidently during that stage of TESP development the time for discussing methodology had not ripened yet.

As far as the course design is concerned, there are several principles according to which an ESP course should be designed. Basturkmen (2008) discusses two main strategies – input based strategies and output based strategies. The former is based on the presumption that learning occurs mainly through exposure to language in the form of texts and language descriptions. Consequently, the course design is mostly devoted to the texts and language (e.g. grammar, vocabulary).The predominantly input based courses provide the students with authentic texts and comprehension activities (*ibid.*).

As Basturkmen (2008) explains, the output based strategies rely on the students' effort to communicate, which is sufficient for learning; however, it should be followed by some form of input (feedback). The key idea is that the learners learn the language when they are pushed to do so. Horváthová's research (2011b) has also revealed that students often use social strategies (functionally oriented strategies), which contain the need to communicate in a foreign language. Dudley-Evans and St John (1998) call this the "deep-end" strategy. They argue that this strategy reflects the students' target professional situation, where

performance (for which they even may not have enough preparation time) is the point of departure. The courses designed accordingly to this strategy make use of activities simulating the real world situations – case studies, projects, presentations, role plays, simulations, etc. However, this theory contradicts Krashen's (1982) hypothesis according to which "comprehensible input is responsible for language acquisition" (p 68).

However, there are strategies which cannot be strictly categorised into one of these two types. 'Input to Output' strategies, in which students are provided with input as the basis for output (production), follow Krashen's (*ibid*.) hypothesis by focusing on explicit knowledge followed by practice activities (output).

The role of the teacher is an issue in which the difference between the GE and ESP is heatedly discussed. Some authors (e.g. Dudley-Evans, St John, 1998) use the term 'practitioner' instead of 'teacher' to accentuate that TESP involves more that teaching. The roles of the ESP practitioner are described by Bojović (2006) as:

- a teacher,
- a course designer and a material provider,
- a researcher,
- a collaborator,
- an evaluator.

An ESP practitioner in the role of a researcher carries out a needs analysis and should be capable of incorporating the findings into the course design and/or preparation of teaching materials. The TESP practice has proven that subject-specific language teaching is best approached through collaboration with a subject specialist (*ibid.*) – the

role of a collaborator. It answers the question usually put by the teachers involved in TESP: "How much of the subject should an ESP teacher master?" Day (n.d.) answers this question by proposing that there needs to be a specialist involved in teaching – and it could be the students. And this author concludes (*ibid.* para 4): "... if you're a non-specialist teacher who is willing and able to ask intelligent questions, do plenty of background reading and learn from your students, you needn't feel inferior." Most ESP practitioners after several years of experience would agree with this statement.

ESP definitions

As can be concluded from the course of ESP development described above, this specific field of teaching English as a foreign language (EFL) has always been connected with the contemporary social situation, linguistic research, educational theories, and foreign language education. Nevertheless, an exact definition of the ESP was not always clear. The most cited definition is the one by Hutchinson and Waters (1987, pp. 18-19):

> *"...ESP must be seen as an approach not as a product. ESP is not a particular kind of language or methodology, nor does it consist of a particular type of teaching material. Understood properly, it is an approach to language learning, which is based on learner need."*

However, to define ESP as an 'approach' could be rather confusing, as learner-centeredness is a basic characteristic of modern language pedagogy in general; consequently, any English language teaching with a learner-centred approach could be understood as ESP, and teaching English for some specific purpose (e.g. Academic Writing) with a text-centred approach would not be considered ESP.

Moreover, in their picture of "The tree of EFL" Hutchinson and Waters (1987, Figure 3, p. 17) represent the relationship between ESP,

GE (General English), and ESL in the form of a tree, where EFL is its trunk, and ESP and GE the branches, further branched into e.g. ESP: EST (English for Science and Technology), EBE (English for Business and Economy), and GE: Primary, Secondary, and Adult. So if the ESP is an 'approach', the question can be raised: what is EFL as the trunk from which ESP grows?

To find the best definition of ESP, further studies were undertaken. In 1988 Strevens (cited in Gatehouse, 2001) stated that "ESP is a particular case of the general category of special-purpose language teaching". This author then distinguishes absolute and variable characteristics of ESP (*ibid.*):

> *Absolute characteristics: "ESP consists of English language teaching which is: designed to meet specified needs of the learners; related in content (i.e. on its themes and topics) to particular disciplines, occupations and activities; centred on the language appropriate to those activities, in syntax, lexis, discourse, semantics, etc; in contrast with General English".*
>
> *Variable characteristics: "ESP may be, but is not necessary: restricted as to the language skills to be learned; taught according to any pre-ordained methodology"* (cited in Gatehouse, p. 2-3).

From the definitions mentioned above it can be clearly seen that no distinction is made between the target language (English for specific purposes) and its teaching, and so we can conclude that the term ESP is used in both meanings – the language used for specific purposed communication, and its teaching. In this book we distinguish these two different notions, and for teaching ESP we propose to use the abbreviation TESP.

TESP can be described using Strevens's characteristics of ESP, which were ten years later modified by Dudley-Evans and St John

(1998), who removed two of Strevens's absolute characteristics: that "ESP is in contrast with General English; and that related in content (i.e. on its themes and topics) to particular disciplines, occupations and activities". They included more variable characteristics, e.g.: "ESP may use, in specific teaching situations, a different methodology from that of general English; ESP is designed for intermediate or advanced students" (*ibid.* cited in Gatehouse, 2001, p.3). By these changes these authors moved the ESP definition back to Hutchinson and Waters' (see above), claiming that ESP is an "attitude of mind" (Dudley-Evans, St John, 1998, cited in Abdelssalami, n.d.).

However, considering teaching a foreign language to be either an 'approach', or an 'attitude' can be rather unclear, especially nowadays, when the approaches typical for TESP at the end of the last century are used in language pedagogy in general (mostly the learner-centeredness). Thus we prefer a more precise definition, which will better suit the TESP specification to distinguish it from TGE, and further in this book relate it with the CLIL methodology and CALL (see below). Thus the simplest definition of the TESP is: 'teaching English for any specifiable purpose, which will guide the teaching methods and tools'.

TESP methodology

Our conviction is that methodology is the basis of language education, however, from the above mentioned definitions a conclusion can be drawn that in the last century little attention was devoted to the methodology and methods used in TESP. Hutchinson and Waters (1987) claimed, "There is nothing specific about ESP methodology" (p. 142), neither is ESP a methodology itself. The same was the opinion of Robinson (1991, p. 47): "If we consider what methodological options are available in ESP, then an inevitable conclusion seems to be that there is a very little difference from general ELT [English Language Teaching]."

On the contrary, Dudley-Evans and St John's opinion was that "ESP may use, in specific teaching situations, a different methodology from that of general English" (1998, cited in Gatehouse, 2001, p. 3). Moreover, these authors were convinced that "ESP makes use of the underlying methodology and the discipline it serves" (*ibid.*). In this context it is not surprising that Hutchinson and Waters (1987) in the chapter entitled Methodology (pp. 128-144), (*n.b*. just 16 pages in the 183-page book) deal with three sample lessons and just explain some techniques, which can be applied to almost any lesson. As an integrated methodology they advise using a range of skills, which will greatly increase the range of activities possible in the classroom, increasing recycling and reinforcement, and maintain the learner's interest. Furthermore they argue: "It is impossible to deal adequately with methodology in a book. It has to be experienced in the classroom... " (p. 142).

A deeper insight into TESP methodology was gained by introducing Content and Language Integrated Learning (see the next chapter). Before, the interest of the TESP researchers and practitioners was devoted to other issues in this field. They focused mainly on language description (e.g. text analysis, genre and discourse analysis), needs analysis, a course design, material design and evaluation, and the teacher's role, etc.

Content and Language Integrated Learning

The term Content and Language Integrated Learning (CLIL) was defined in 1994, and launched in 1996 by UNICOM, the University of Jyväskylä in Finland and the European Platform for Dutch Education. According to their definition CLIL:

> *"... refers to any dual-focused educational context in which an additional language, thus not usually the first language of the learners involved, is used as a medium in the teaching and learning of non-language content. It is dual-focused because whereas attention may be predominantly on either subject-specific content or language, both are always accommodated" (Marsh, 2003).*

The same author (*ibid.*), who is commonly known to be part of the team which defined and later on popularised CLIL, states that foreign language education in Europe does not reach optimum outcomes in terms of learner achievements. He considers CLIL to provide a framework for achieving better results. His view is based on practical and economic reasons – the need to meet the European Commission demand, which is known under the abbreviation MT+2 (all European school leavers should have some competence in both the mother tongue and two community languages), without any additional costs of either curricular time or resources (*ibid.*).

Therefore, CLIL can be considered a pragmatic solution, which offers besides the benefits in learning (both – the language and the non-language subject matter) additional "social, psychological and economic benefits that suit political policies and goals (ibid., p. 2)."

However, the definition of CLIL and the reasons for its launch and development mentioned above would not be satisfactory for language education, if there were no further research in the field of language pedagogy, which would lead to the approval of CLIL as a methodology

for foreign language teaching/learning. Thus, before acknowledging CLIL as a suitable method for teaching ESP, deeper analysis is needed.

Definitions

The first definition of CLIL provided by its authors is not the only one. Ever since its inception, researchers have been trying to define CLIL as an approach, a method, an environment, etc.

Stoller and Grabe (1997) do not use the term CLIL, but when defining their eight approaches to content-based instruction, they describe combining language and content instruction as a version of *"whole language instruction* [...] which integrates language-skills instruction and content information... " (p. 80).

Six years after his basic definition Marsh (2002, p. 58) developed a more general CLIL concept, considering "… CLIL as a generic umbrella term which would encompass any activity in which a foreign language is used as a tool in the learning of a non-language subject in which both language and the subject have a joint curricular role."

The same term 'an umbrella' is used by Mehisto *et al.* (2008): "CLIL is an umbrella term covering a dozen or more educational approaches (e.g. immersion, bilingual education, multilingual education, language showers and enriched language programmes)". However, in the abstract of the same book, these authors describe CLIL as "methodologies used in teaching situations where a second language is used as a medium for teaching non-language content."

Dueñas (2004) mentions CLIL as a term labelling the European variant of content based instruction (CBI), which had been extensively used in the US and Canada.

Costa and D'Angelo (2011) claim that

"the CLIL acronym, which is now a term in itself, expresses an umbrella concept that contains a series of didactic methodologies which, starting from bilingualism and going up to the most recent language across curriculum, connote the more or less immersive use of a foreign language to learn content" (p. 6).

Finally, Lorenzo (2007, p. 28) called CLIL "a new methodology of language teaching"; and similarly Marsh (2006), after ten years work in this field, used the term "CLIL methodology" (p. 36), too.

To prove the right of CLIL to be called 'a methodology', or a 'set of methodologies', further description of its origins, theoretical background, characteristics, and strategies will be provided.

Origins of CLIL

As is stated by Costa and D'Angelo (2011), the origins of CLIL can be traced back to the year 1928, when a conference on bilingualism was held in Luxemburg. Bilingual education is one of the terms, which is mentioned in CLIL definitions. Baker (2001) classifies bilingualism into two forms – weak and strong. The former (also called subtractive) refers to the situation when the learner is included in a new culture, which is different from his/her own, and thus must learn both – the content and the language at school. The latter, a strong (additive) form of bilingual education is also called 'immersion education', with a focus on achieving bilingualism and bi-literacy.

The first programmes in language immersion education originated in Canada around 1965 (Dueñas, 2004). They combined language and content for language and subject matter learning with the aim to provide the English speaking young people with the opportunity to learn French (*ibid*.).

Immersion programmes in North America refer to a K-12 (publicly-supported school grades prior to college from kindergarten – K to the 12th grade) education. Their goal is to prepare language minority students to cope with academic skills and content knowledge in mainstream classrooms (Stoller, Grabe, 1997).

After the discussion at the Luxemburg conference, which led to the conclusion that bilingual education was not favourable for children, and learning a second language should not start before the age of twelve (Costa, D'Angelo, 2011), the interest in this type of education weakened. Learning foreign languages was limited just to certain social classes, and was not available to the general public.

However, even under the conditions of socialism, bilingual education in the former Czechoslovakia was launched as an 'experimental' form of language education – the author of this book being one of the students, attending a bilingual school from the age of nine (1964). The support of foreign language education was closely connected with the political situation shortly before the year 1968, when the effort to weaken the influence of the former Soviet Union and the ides of communism was strong and in this field rather successful, and thus not only the Russian language but the English language as well was taught at bilingual schools, where the language of the instruction of several subjects was the foreign one. However, the choice of those subjects depended just on the availability of teachers of non-language subjects with sufficient linguistic knowledge, and not on some kind of planned and purposeful curriculum.

The history of bilingual education is mainly connected with countries, where the foreign language is either the language of the majority population, and thus a second language for the learner from minority groups (e.g. the USA or Australia), or it is the second official

language (Canada), or it is used as an official language (e.g. India, Hong-Kong).

In Europe, mainly the countries which deal with the problems of a multilingual society – e.g. Holland or Spain (Basque language) – are those where research and practice on bilingualism are developed. However, the European Commission's demand of MT+2 (see above) caused increased interest in language education in all European countries, especially in foreign language acquisition and the CLIL methodology is an answer to the demand for teaching/learning foreign languages as effectively as possible.

Even though the theories on CLIL do not distinguish whether it refers to the second or foreign language acquisition, neither whether it is the language spoken in the country, or the language taught at schools as a part of their foreign language curriculum, we are convinced that these differences should be taken into consideration when speaking about CLIL issues (e.g. theories, practice, advantages, pitfalls, potentials, efficiency etc.).

Types of CLIL

Referring to the metaphor of CLIL as 'an umbrella', Costa and D'Angelo (2011, p. 6) argue that: "... it seems that the time is ripe to begin clarifying a bit what is found under an umbrella that today is too crowded." A look under the 'umbrella' will reveal that a wide range of types of language and content delivery can be seen there.

Marsh (2003, para 4) distinguishes:

- *"language showers" for 6-10 year olds (involving 30 minutes to one hour exposure per day);*
- *"language encounters" for 10-14 year olds (involving experiential blocks of some 40 hours before or parallel to formal language instruction);*

- *"dual-focused learning" for 14-19 year olds in academic streams (involving some 5-10 hours per week); or "competence building" for 16-19 year olds in vocational education and training."*

Nonetheless, Costa and D'Angelo (2011, p. 7) claim that "If a lesson is not given for at least 50 % of the time in the additional language (75 % of the time according to some experts) it cannot be defined as a CLIL lesson. [...] The ultimate objective is to gradually reach 90 % of lesson time in the target language..." without stating how much time a day or week it should be.

Controversially, the research of Lindholm-Leary (2007, para 4) revealed that

> *"ELL [English language learners] in 90:10 programs attains the same level of proficiency in English and the same or higher standards of achievement in reading/language arts and math (measured in English) as ELL students in 50:50 programs. Thus, more exposure to instructional time in English does not lead to an improvement in English language proficiency or achievement in reading/language arts and math as measured in English."*

However, not only the length of the foreign language exposure can be taken as a base for CLIL typology. Four types of models are distinguished by Dueñas (2004):

1. immersion education, originally referring to ESL programs in the USA and Canada, in which the amount of teaching in the target language may vary (50-90 %);
2. sheltered courses, taught in a second language by a content specialist to a group of learners who have been segregated ('sheltered') from native speakers;

3. adjunct courses, which are not implemented on their own but serve as an 'adjunct' to assist an existing regular subject-matter class;
4. theme-based models, which are autonomous courses offering strong language-oriented projection.

Some authors (e.g. the above mentioned Dueñas, 2004) prefer the term Content-Based Instruction (CBI) to CLIL, which they mentioned as a European term. However, having the main goal of CLIL in mind, i.e. its dual goal – learning both, the language and the content-matter simultaneously, we can come to the conclusion that there can be found a difference between these two terms. This will be clearly visible from the Brinton *et al.*'s (2003) classification of CBI courses into 'weak' and 'strong'. The aim of the 'weaker' ones is to develop learners' communicative proficiency, whereas the 'stronger' ones have the primary goal to master the subject matter. This contradicts the synergic effect of the CLIL methodology.

CLIL – psychological and pedagogical basis

Ting (2010) - after the application of Sherer's 'five modes of stimulus appraisal' to education generally and CLIL lessons particularly - describes a "stimulus appraisal filter" (p. 89) containing five individual but stacked filters:

(1) the novelty filter: is this input new?

(2) the pleasantness filter: is this input enjoyable?

(3) the relevance filter: what does this have to do with my goals – do I need it – will it do me good?

(4) the cope-ability filter: can I understand this?

(5) The self/social-image filter: will knowing this make me 'cool'?

If the information flows smoothly across each filter, "sustained deep learning (*ibid.*)" is possible. Ting (*ibid.*) is convinced that the input in the CLIL lessons can pass easily through these filters, and thus 'sustained deep learning' will be reached.

Some theories on foreign language learning counter-react to the claims that just rich input is needed for successful language acquisition by an 'output hypothesis' (Swain, 1985, cited in Järvinen, 2009). Swain later on (2006) developed her output hypothesis (which states that spoken output challenges language production and thus it is necessary for language learning) and replaced the word 'output' by '*languaging*', which involves mediating cognition, articulating and transforming thinking into language.

This idea is reflected in the 'ecological CLIL theory' (Järvinen, 2009). Language learning in an ecological framework is viewed as a holistic and complex process, the course of which cannot be predicted, because there is "ample individual variation" (*ibid*., p. 169) in context, which is "the primary provider of affordances that mediate cognition" (*ibid.,* p. 164). Consequently, ecological CLIL is a holistic, dynamic, interactive, and situated methodology, according to which content and language integrated classrooms provide an ecological environment, rich with affordances and their languaging to facilitate foreign language learning.

In addition to high-motivation input, which CLIL provides by 'natural use' of the foreign language in the context of non-linguistic content, and ecological output, Menegale (2008) considers the involvement of higher-order thinking skills (analysis, synthesis, evaluation of the outcome) being an aspect which plays a role in successful learning through this methodology. However, Coonan (2008) claims that higher order thinking process in the foreign/second

language on new content and through the foreign language is "inherently difficult" (p. 18).

The fourth aspect of the psychological basis of CLIL (motivation, languaging, and higher order thinking skills being the first three) is a 'code switching' (Hansen-Pauly *et al.*, 2006), i.e. alternation in the use of more than one language. According to the 'dual-code hypothesis', Paivio and Desrochers (1980) present

> *"a dual coding model of language and cognition in which functional relations are specified between the verbal symbolic systems that underlie the bilingual's 2 languages and a 3rd (image) system specialized for processing information about nonverbal objects and events. The 3 systems are assumed to be capable of functioning independently. At the same time, they can interact because of interconnections that permit one system to initiate activity in another. The image system, representing knowledge of the world, is shown to be connected to both verbal systems."*

Hansen-Pauly *et al.* (2006) argue that 'code-switching' is valuable for education, and in the first stages of CLIL it should be supported.

According to Anderson (1993) cognitive psychology reveals that when students are exposed to coherent and meaningful information (content), and when they are provided with opportunities to process this information, their learning is cognitive and consequently more complex, and the recall is better. The same author also claims (*ibid*.) that teaching approaches which combine content knowledge and the development of knowledge with practice in using that knowledge are supported by the results of the research in learning theory.

Furthermore, the CLIL methodology is based on the constructivist model of learning as a transformation of knowledge; the teacher being a 'learner among learners'; emphasising process, self-inquiry, and social

and communicative skills (Pistorio, 2010). This author (*ibid.*) blends CLIL and Cooperative Learning to create a learning environment according to social constructivism (learners learn – construct knowledge – through social interaction) and humanistic psychology (learners learn by reconstructing knowledge by themselves), which accents the social and interactive nature of learning.

CLIL characteristics

On the basis of the above-mentioned principles, the main following characteristics of CLIL can be deduced:

- input-based;
- learner-centred;
- task-based;
- content-oriented;
- and meaning-focused.

CLIL pitfalls

Despite all of the positives, which CLIL brings to the field of language pedagogy, when a holistic approach is applied to its analysis several questionable issues will be discovered. Stoller and Grabe (1997, p.12) name four "caveats", which teachers and curriculum planners should avoid: balanced language and content learning; balanced content and language objectives and the time assigned to them; too much content; balanced evaluation of both content and language.

As three of those caveats are connected with the balance between the content matter and language, they can be viewed as the most problematic issues in discussions on CLIL. If the basic utilitarian principle of CLIL were considered (it should save time devoted to learning foreign languages to meet the MT+2 objective), the whole

content of the language needed to be learnt would be covered by CLIL classes. However, in most European countries foreign languages are taught at schools as really 'foreign', not as a 'second language', and it cannot be expected that the learners will be exposed to the foreign language in their everyday lives. By teaching foreign languages under these circumstances just by CLIL, the time of the foreign language exposure will be limited, not enriched by the content matter.

In addition, even though enormous interest has recently been devoted to CLIL issues from the side of language teachers and researchers (which is natural, as CLIL is proclaimed to be primarily the concern of the *language* pedagogy), the views of the subject matter teachers are rare. Van de Craen *et al.* (2007, p. 73) include the subject matter knowledge among their "six tenets" of CLIL, claiming that

> *"The state of the art with respect to subject matter knowledge suggests that :(i) In primary education subject matter knowledge seems to be boosted more than in secondary education. (ii) In secondary schools there seem to be few negative effects as a result of the CLIL approach. (iii) More research is needed to entangle the considerable number of context variables and their influence on older pupils' knowledge acquisition."*

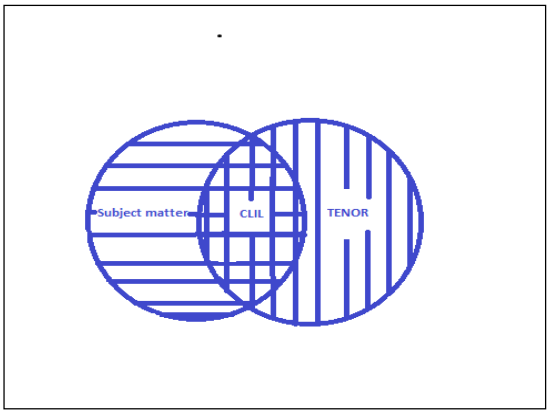
The problems of the balance between the subject matter and language are accompanied with the problem of the CLIL teacher, who should be the subject-matter teacher rather than the language teacher. In the CLIL/EMILE (2002, p.76) document it is stated that the CLIL teacher's competencies include (among other ones) a "high level of fluency in the target language." It means that the CLIL teacher is not supposed to be a language teacher. This problem was viewed from the practical point of view by de Graff *et al.* (2007, p 12), who ask: "Most CLIL teachers, however, are non-native speakers of the target language, and do not have a professional background in language pedagogy. How,

can these teachers effectively contribute to the target language development and proficiency of their students?"

Regarding this issue, the difference between the levels of the learners should be considered. Language teachers at primary schools should be able to cope with the subject matter of the pupils, which is definitely more difficult at secondary level, and highly improbable at tertiary level. The question here is to be addressed whether the subject-matter teacher should be highly proficient in the target language and educated in language pedagogy, or if the language teacher should study the subject deeply enough to be able to teach it. The solution may be if both teachers are involved in teaching CLIL classes in cooperation.

Albeit the model we propose would not be economical as far as the time devoted to language teaching/learning is concerned, it will provide enough time and space for both – the subject matter and language taught in non-native speaking environments. In this picture the abbreviation TENOR is used for Harmer's (2011, para 9) expression – Teaching English for No Obvious Reason in his reflections on CLIL.

Picture 3: CLIL space covering subject matter and language



According to this chart, the CLIL lessons would comprise a part of the subject matter classes, but there will be still some space devoted to teaching TENOR, or General English.

This model corresponds with the idea of the core language (see picture 2 above), and leads to the postulate mentioned above, that CLIL is a methodology appropriate for teaching ESP. Besides the idea of the core language, our proposal concerning CLIL as an applicable TESP methodology is based on their (CLIL and TESP) common features, i.e. they are focused on input – mainly texts, learning is cooperative or collaborative (team learning), they use tools common with the specific subject such as projects, case studies, presentations, simulations, etc. Moreover, they are connected by the most important language pedagogy principal – learner-centeredness.

Recapitulating the main CLIL characteristics it can be stated that this methodology reflects the demands of 21st century pedagogy (see Felix, 2005a) – it is flexible, collaborative, authentic, relevant, etc. The same characteristics were used by Townsed *et al.* (1999, cited in Felix,

2005a) to describe the third millennium thinking, and further implemented by Felix (2005a) into her theory on E-learning pedagogy in the third millennium. As E-learning is a general term used to describe the use of any electronic device in pedagogy, in the context of language pedagogy the term CALL (Computer Assisted Language Learning) is applied to the use of technologies in teaching/learning foreign languages. Not only have CLIL and CALL common principles and objectives (effective language teaching/learning), but nowadays without technology we could hardly imagine teaching any subject. Consequently, using modern technologies in CLIL cannot be avoided. In the following chapters CALL will be explained, and then the blend of CALL and CLIL (CA-CLIL) will be proposed as a methodology eligible for teaching ESP.

Computer Assisted Language Learning: History, Presence, and *Future*?

Just like any new technological innovation, computers entered the field of education relatively shortly after their invention, or more precisely – after their mass production. In 1953, IBM introduced the first mass produced computer, the 701 (Computer Help, 2012), to the public and in the 1960's the history of Computer Assisted Instruction (CAI) began.

Similar developments can be traced in many innovations used as teaching aids or learning tools (the difference will be discussed later). It is believed (Norman, 2011) that one of the first books printed by Guttenberg in Mainz (the exact year is not known) was Ars minor, a schoolbook on Latin Grammar by Aelius Donatus. The first public film screening using the Lumière brothers' 'cinematograph' in 1895 was followed by the first educational film 10 years later (Altshuller - Pressman, 2012). Other technological developments which entered the field of education include the television, the tape recorder, and so on. Thus we dare to state that the development of technology is closely followed by its use in education.

The case of the computer is not an exception; moreover, the same tendency can be traced even nowadays. As soon as the cellular phone became a part of everyday life – M-learning (mobile learning) was introduced by technology-friendly teachers. Nowadays M-learning is "... mediated through a compact digital portable device that the individual carries on a regular basis, has reliable connectivity, and fits in a pocket or purse." (MoLeNET, 2009). Palmtops, iPods, e-book readers – all these innovations are already used in education and many more will follow.

1. Pre- CALL

What was said about new technologies and their implementation in teaching/learning can be applied to foreign language education as well. As stated above, one of the first printed textbooks was the Latin grammar textbook.

Computers were involved with language as early as World War 2 (Fotos - Brown, 2004) – when large, mainframe computers were used for cryptography and mechanical translations. By the 1960's computers started to be used by linguists to create concordances for text analysis. The first computer-created corpus was the Brown Corpus of Standard American English, which contained about 1 million words as a base for the word frequency list (*ibid.*). Using computers in language teaching/learning was just one step behind their usage for linguistics.

2. Structural CALL

In the 1950's and 1960's the first, pioneer CALL programs (nowadays called 'behaviouristic CALL') appeared and they were used mainly for drilling and testing, which was in fact partially due to the ruling behaviouristic theories, as well as the functions of computers, which were limiting the first linear programs. As the language teaching/learning was based upon drill and practice, computer programs, which made these activities easier for both the teacher and the student, successfully supplemented classroom instruction.

One of the first projects aimed at using computers in foreign language teaching/learning was carried out at Stanford University, where self-instructional materials for Slavic language learning were developed. In the same period, at the University of Illinois a system named PLATO (Programmed Logic for Automated Teaching Operations) was used by teachers to create a Russian-English translation course (Gruba, 2004 cited in Davies - Elder, 2004). The PLATO system was later enlarged to include more languages, and more sophisticated tasks than

the first programs, which were able to provide drills and marking for students and an authoring tool for teachers. However, high costs did not allow the expensive mainframe computers to be more extensively used in education. It was the increase in computer availability, which came with personal computers, which caused increasing interest in CALL (ibid).

3. Communicative CALL

Two facts influenced the following development of CALL. Firstly, it was the attention focused on communicative approaches based on meaning-focused language teaching/learning in 1970's; secondly – the development of technology leading to microcomputers, which started to be used in CALL. The first organisations (CALICO, EuroCALL) and journals (CALICO journal, ReCALL) dealing with CALL issues were established. Computers were used for reading, writing, text reconstruction, cloze tests, puzzles, games, etc. As Levy (1997, cited in Fotos - Brown, 2004) states, the computer was considered a tutor – 'a teacher in a machine'.

Levy (*ibid.*) stresses the fact that the development of educational technology was [*nb*, it always has been (noted by the author)] closely tied with the efforts of language teachers. The Athena (campus/wide networked computer systems) at MIT (Massachusetts Institute of Technology) was used to develop the special Athena Language Learning Project based on communicative approaches to language teaching/learning together with the integration of multimedia and techniques from the research of artificial intelligence. The authors tried to keep learning foreign languages (French and Spanish) more close to real life by using native speakers to film videos on location, linking a variety of supporting resources (ibid). Moreover, they introduced interactive structured video, in which the student could influence the outcome that may be considered a step towards the 'learner's autonomy'.

The same author (cited in Gruba, 2004) states that in this period the first attempts to use multimedia-based instructions were made. A project entitled TICCIT (Time-Shared, Interactive, Computer Controlled Information Television) was undertaken at Brigham Young University in 1971, where the computer integrated text, audio, and video, which could all be controlled by the learner. However, the real development of multimedia in CALL started with the development of multimedia computers.

4. Integrative CALL

The mid 1990's in terms of technology meant the next step – powerful desktop computers appeared in CALL. The Internet, multimedia, and hypermedia supported an interactive, individualized approach to language teaching/learning, which was backed by the Vygotskyan sociocultural model of language learning, in which interaction is a basic condition of creating meaning (Fotos - Brown, 2004). At the beginning of this period the computer started to be viewed as a means of communication for meaningful purposes.

Chapelle (2001, p. 175) calls the 20th century a "time of idiosyncratic learning, quirky software development, and naïve experimentation" for second language learning. The same author (*ibid.*) also commented on the explosive growth of the Internet, which according to her point of view can serve not only as a great source of resources and motivation to teachers to create sophisticated materials, but also supported the interactivity by cooperation through e-mail, sharing virtual environments, etc.

While the practices in communicative CALL based on cognitive constructivist theories of learning tried to guide meaningful interactions and promote fluency (Gruba, 2004), integrative CALL seeks to use networked computers for large-scale collaborative activities, in which not only meaningful interaction but also authentic project-work are

stressed. The learner's ability to take a purposeful action and see its results is the main goal. Gruba (*ibid.*) considers the difference in the approaches to the syllabus design being the main distinction between the communicative CALL and integrative CALL. Whereas the syllabus design in the former can be regarded as task-based, defined in advance by the learner's needs, the latter is just a "dynamic blueprint", where learning occurs through "accidents" generated by projects (Barson, 1999, cited in Gruba, 2004). It can be concluded that the development in CALL pushes the learner towards the responsibility for his/her learning success and autonomy, awareness of the goals and possible results of their active learning.

The development described above can be encapsulated in the table at the end of this chapter, which is based on Gruba (2004); Fotos, Brown (2004); Veselá (2008); and Kern, Warschauer (2000). Three periods: structural CALL, communicative CALL, and integrative CALL are described, where the role of technology, theory of learning, and the role of the learner are considered. On the basis of the history and presence of CALL development our predictions about the future can be made, thus the fourth column is included.

The nowadays computers and other technologies are an integral part of our everyday lives. Children are growing up in a world where computer literacy is taken for granted. They can use computers in pre-school age, very often before they can read and write. They are, as Wheeler (n. d.) calls them: 'digital natives'. The development in the field of technologies is so fast that we cannot predict the future, however it can be stated without any doubts that computers in some form will be all around us.

Talking about the future of CALL, not only the technology should be considered, but also the fact that the Internet and globalisation have caused the situation when foreign languages appear all around us. The English language dominates every possible source – music, films,

computer games, radio, TV, billboards, internet, etc. Despite all the struggles of language purists, exposure to foreign languages cannot be avoided.

5. Ubiquitous CALL

The above mentioned facts lead us to the conclusion that the future generation of CALL can be called "Ubiquitous CALL", with the omnipresent technology and pervasive presence of foreign languages. The term U-learning was introduced by Wheeler (2009). He developed the idea about ubiquitous computing (pervasive computing) in a learning context:

> *"U-learning will rely heavily on access to devices and tools that enable and support learning in any context, whether mobile or static, anywhere 24/7, and in a manner that is seamless and unobtrusive. It will also need to be 'intelligent' according to the strictest interpretation of the ubiquitous model, so that it can predict changing contexts and user needs as they occur. The key tools of U-learning will be mobile phones, laptops and other portable wireless devices."* (Wheeler, 2009, para 2)

If this definition is applied to CALL, we can say that the term "Ubiquitous CALL" is approvable. The fourth column of Table 1 describes the potentials of CALL nowadays and in the future. A brief description of its parts follows.

Technology

Despite the fact that the development in the field of new technologies is difficult to predict, it is clear that the speed is accelerating, and (as mentioned above) we can expect that when new technologies are developed, they will be definitely used in education, and subsequently in language education.

The Centre for Learning and Performance Technologies (C4LPT) runs a website with a directory of learning and performance tools, where "over 2,000 tools for learning and working in education and the workplace" (C4LPT, 2004a) are listed. They are categorised into twelve groups (e.g. Public learning sites, Instructional tools, Social and collaboration spaces, Web meeting, conferencing and virtual world tools, Document, presentation and spreadsheet tools, and others), and further subdivided into subcategories. Within the group of public learning sites a list of nearly 200 websites dedicated to learning a language online is provided. However, CALL is not only about learning languages online. All of the listed "Learning & Performance Tools" can be used by language teachers and learners.

According to the C4LPT definition learning tool "could be a tool you use to create or deliver learning content/solutions for others or a tool you use for your own personal learning" (C4LPT, 2004b).

Here is the list of the Top 30 (C4LPT, 2004b):

1. Twitter - micro-sharing site
2. YouTube - video-sharing tool
3. Google Docs – collaboration suite (incl. Google Forms)
4. Skype - instant messaging/VoIP tool
5. WordPress - blogging tool
6. Dropbox - file synching software
7. Prezi - presentation software
8. Moodle - course management system
9. Slideshare - presentation sharing site
10. (Edu)Glogster - interactive poster tool
11. Wikipedia - collaborative encyclopaedia
12. Blogger/Blogspot - blogging tool
13. diigo - social annotation tool
14. Facebook - social network
15. Google Search - search engine
16. Google Reader - RSS reader

17.Evernote - note-taking tool
18.Jing - screen capture tool
19.PowerPoint - presentation software
20.Gmail - web-based email service
21.LinkedIn - prof social network
22.Edmodo - edu social networking site
23.Wikispaces - wiki tool
24.Delicious - social bookmarking tool
25.Voicethread - collaborative slideshows
26.Google+ - social network
27.Animoto - videos from images
28.Camtasia- screencasting tool
29.Audacity - sound editor/recorder
30.TED Talks - inspirational videos

All of them can be and are used in CALL. FutureForAll.org (2012) provides a list of future predictions about the development of technology. A number from the field of communication and the field computers can be connected with CALL:

- Instant information
- Virtual presence
- Wireless everything
- One small mobile device does everything
- All media (movies, TV shows, etc.) on-demand
- Holographic messages
- Computers equivalent to the human brain
- Nanoscale computers everywhere
- Optical computers
- Self editing software
- Holographic touch screen computers

Can we imagine how to use them in CALL? Are we prepared for the new challenges? How can we prepare the learners for using the technologies which we today cannot even imagine but they will be available when they are adults?

The role of computers

This part should be called 'The role of technologies', as not only computers are used in CALL; nevertheless the general term 'computer' can be used to refer to technologies, otherwise we should consider to use the abbreviation TALL (Technologies Assisted Language Learning) instead, which would bring some confusion into our table (Table 1).

In the table the role of computers is described as an "Integral part of learning". Technology is becoming an integral part of communication and, as a consequence, language. Indeed it has become an ever more integral part of our lives – therefore technologies will be a *conditio sine qua non* in future language education. In 2000 there were still two extremes: eager proponents or angry deriders of technology in education (Chapelle, 2003); however, since then the voices of those educators who question the role of technology have been weakening. Chapelle (*ibid.* p. 14) states that "[the] assumption that a case must be made for technology sits uncomfortably with my everyday reality in which using technology has become the unmarked, the normal and natural, way of doing so many things". However, technology itself cannot change the CALL, as Warschauer (2004, p. 24) stresses: "In the end, the most important developments may not be those that occur in the technological realm, but rather those that take place in our own conceptions of teaching and learning." And that is what makes the point of language pedagogy the focus of CALL.

Applied linguistics

In language pedagogy the main theories of general pedagogy are applied, as it was with behaviourism, cognitivism, and sociocognitivism.

In the Ubiquitous CALL basic constructivist and connectivist ideas can be found.

Constructivism

According to Turek (2005, cited in Horváthová, 2011), constructivism cannot be viewed as an unequivocal pedagogical theory, but a way of thinking, which can influence the creation of educational models aimed at problem solving tasks and the construction of final products. Chen (n. d.) claims that constructivist approaches to teaching and learning have emerged from the work of Bruner, Piaget, and Vygotsky; however they split into two main strands – cognitive constructivism and social constructivism, which share common perspectives but differ in what they emphasize.

Jonassen (1994, cited in Chen, n. d.) summarizes the constructivist learning environments in the following points:

1. Constructivist learning environments provide multiple representations of reality. Multiple representations avoid oversimplification and represent the complexity of the real world.
2. They emphasize knowledge construction inserted of knowledge reproduction.
3. They emphasize authentic tasks in a meaningful context rather than abstract instruction out of context.
4. They provide learning environments such as real-world settings or case-based learning instead of predetermined sequences of instruction.
5. They encourage thoughtful reflection on experience.
6. They "enable context- and content- dependent knowledge construction."

7. They support „collaborative construction of knowledge through social negotiation, not competition among learners for recognition".

If we apply the above-mentioned principles to Krashen's basic ideas about second language acquisition (input – apperception – comprehension – intake – integration – output), the constructivist influence on the Ubiquitous CALL can be easily illustrated.

Input

Ubiquitous technology provides "multiple representations of reality" and "complexity of the real world", i.e. complexity of language; consequently, the learning environment presented by virtual reality provided by technologies makes the tasks "authentic in a meaningful context". The foreign language input provided by technologies may have any form of real language, e.g. e-books, videos, multimedial presentations, online newspapers, chats, e-mails, blogs, wikis, etc.

Apperception – comprehension – intake – integration

The "real world settings", i.e. real language mediated by technologies, and "case-based learning" help apperception and comprehension from "context" and "content". The intake can be easily integrated with previous knowledge by multimedial support and technology-assisted help (dictionaries, search engines, hypertexts, etc.)

Output

This phase is the one which is mostly influenced by the constructivist theory. The learners create their own "construct", i.e. output – the language input appercepted and integrated into previous knowledge and then "put out" with technology support (speech recognition software, recording, e-mails, chats, blogs, presentations, etc.)

Vygotsky's main idea of social constructivism about the importance of culture and the social context for cognitive development can be applied to language (as as a cultural and social experience) learning and teaching. Furthermore, if language is to be used in a cultural and social context, it should be learned and practised in these contexts as well.

Maddux, Johnson, and Willis (1997, cited in Chen, n. d.) describe Vygotsky's main principles applied in a classroom. We can complement these ideas by their application to CALL.

1. *Learning and development is a social, collaborative activity.*

Using technologies to enhance communication, contact, and interaction should be beneficial. The ideas that "computers kill social life", which are quite common among teachers and parents should be overcome and replaced by the idea that "computers help social and collaborative activities". The learners who would otherwise have no opportunities to be in touch with real language, other learners, and/or native speakers can now do that via technologies. It just needs to promote the principles of "using, not abusing technologies".

2. *The Zone of Proximal Development can serve as a guide for curricular and lesson planning.*

To develop understanding and move the ZPD forward any technology can help – electronic dictionaries, internet and/or CD-ROM encyclopaedias, grammar checker, electronic mind-maps, etc.

3. *School learning should occur in a meaningful context and not be separated from learning and knowledge children develop in the "real world."*

The "real world" can be a virtual world of a computer game (e.g. learning the animal vocabulary through playing Simfarm), any recording and publishing software, blog, etc.

4. *Out-of-school experiences should be related to the child's school experience.*

It means that the language the learners learn should be the language they can meet outside the classroom, in reality. The Internet helps to bring the reality of a foreign language closer to the learner – YouTube videos, online magazines and newspapers, chats, social networks, etc. – all of these tools can be brought to school and used in language teaching/learning.

Connectivism

Siemens (2004) comments on the limitations of behaviourism, cognitivism, and constructivism, stressing that the central idea of these theories is that learning occurs inside a person. He reproaches them for not paying attention to the learning that occurs outside of people (i.e. stored and manipulated by technology). Moreover, he criticises the fact that learning theories are concerned just with the actual process of learning, not with the value of what is being learned. Siemens (*ibid*.) considers the need to evaluate the worthiness of learning being a meta-skill that should be acquired before learning itself begins. According to him: "In today's environment, action is often needed without personal learning – that is, we need to act by drawing information outside of our primary knowledge. The ability to synthesize and recognize connections and patterns is a valuable skill (*ibid.*, para 13)."

One of the basic ideas of connectivism is that "including technology and connection making as learning activities begins to move learning theories into a digital age. We can no longer personally experience and acquire learning that we need to act. We derive our competence from forming connections." (*ibid.*, para 16, underlined by the author).

Siemens (*ibid.* para 6) formulates the basic principles of connectivism as follows:

- *Learning and knowledge rests in diversity of opinions.*
- *Learning is a process of connecting specialized nodes or information sources.*
- *Learning may reside in non-human appliances.*
- *Capacity to know more is more critical than what is currently known*
- *Nurturing and maintaining connections is needed to facilitate continual learning.*
- *Ability to see connections between fields, ideas, and concepts is a core skill.*
- *Currency (accurate, up-to-date knowledge) is the intent of all connectivist learning activities.*
- *Decision-making is itself a learning process. Choosing what to learn and the meaning of incoming information is seen through the lens of a shifting reality. While there is a right answer now, it may be wrong tomorrow due to alterations in the information climate affecting the decision* .

Despite the fact that language teaching/learning is a specific field, where not all the connectivist principles can be applied, we will provide some examples of connectivist theory in CALL.

In Ubiquitous CALL specialized nodes or information resources can be connected. For example, when developing a special field vocabulary we can use various dictionaries, mind-maps, YouTube videos, podcasts, etc. This variability will help the apperception and comprehension. Another example can be given to illustrate the point describing the importance of the *"capacity to know more"* (see above), as foreign language learning is a never-ending task, which needs not only the capacity to learn more, but what is more the will and need to use it.

What we see as the most important connectivist idea applicable in language learning is the importance to develop the ability to see

"connections between fields, ideas, and concepts". Everything learnt in language should be learnt in context, integrated with previous knowledge. The connections between the particular language fields should be clear, connections e.g. between the vocabulary and grammar, letters and phonemes, vocabulary and register, style and text. Moreover, all the knowledge should be connected with real world reality and the connections clearly visible to every learner.

The role of learners

We are convinced that the 'learner centred approach' is and will be taken for granted in future language pedagogy. However, recently an opinion has been articulated that there is a danger that teaching/learning will be 'technology centred'. We believe that recent developments have proven that new technologies are so closely connected with everyday life that there is no need to overestimate them because the influence is clear and strong.

The learners do and will naturally use technologies in communication and thus language learning, which will allow them to be autonomous, not dependent on the traditional school environment – e.g. using podcasts in developing listening skills, which can be realized everywhere through the simplest cellular phone, used as an MP3 player. As stated by Horváthová (2011a), emphasis on the autonomous approach in CALL and ESP is essential for establishing the conditions which allow students to manage and control their own learning process. On the other hand, Holúbeková and Nemčoková (2007) came in their research to the conclusion that teaching learners how to be autonomous is a long-lasting and difficult process.

Social networks such as Facebook and/or Twitter provide the learner with an opportunity to be a part of "global learning", to meet learners from other countries, to create common teams to work on projects, etc. The tools like Dropbox and/or Yousendit enable learners to share huge amounts of information, send files, and cooperate with

each other. This type of collaborative project work was unthinkable before.

The role of teachers

At the end of the last century the opinion that technologies will replace teachers in the future was not uncommon. Some 'pro-technologists' were enthusiastically proving the non-importance of teachers in the future whereas some conservative 'anti-technologists' were worried that education will lose its 'humanism'. Time has proven that the role of the teacher cannot be played by any computer or any form of artificial intelligence. As Fotos and Brown (2004, p. 7) claim: "Technology will not replace teachers; teachers who use technology will replace those who don't!" Similar idea was promoted by Bílek and Šimonová (2009, p. 52): Ït is clear that only technology is not able to replace a human education at any level."

Warschauer (2004) stated that information and communication technologies had caused a societal change similar to the one brought by the invention of the printing press. Thus it can be concluded that a teacher who cannot or does not use technologies nowadays can be compared to a teacher who could not read or did not use books in the past. However, the task is not to use technologies but to use them wisely, purposefully, and creatively.

The role of the teacher in the Ubiquitous CALL is marked as a 'challenger' and a 'motivator'. We can add that his/her role is to show the learners that learning can be a useful, funny, and interesting activity. The teacher can be a powerful inspiring part of the learning process; he/she can show the learners the intellectual pleasure of obtaining new knowledge.

Moreover, the world of information is too complicated nowadays, and the journey through it cannot be managed without prior instruction or without the help of a more experienced 'traveller'. This is the role

which we call a 'navigator'. Nowadays more and more scrupulous attention is being paid to computer literacy and media wisdom. The learners cannot be thrown into the ocean of information without having been taught not only how not to drown, but also which style to swim, how to recognize the dangerous currents and waves and how to use them for their sake.

Every year among the entries in the Medea Awards competition[1] there is at least one dealing with the importance of technology literacy. In the year 2011 one of the finalists was the INgeBEELD Media Wisdom Platform, whose aim is to educate children, young people and adults in media wisdom and media literacy. According to the MEDEA awards (2011): "The platform's structure reflects the media literacy content and is likewise divided into four separate levels: self-use of media, critical use of media, conscious use of media, and sharing all this know-how and expertise and making it available to others in the educational system, which is the purpose of the World of Learning." In 2009 the "Passport to the Internet - the Student tutorial for Internet literacy" was rated among the highly commended entries. "This interactive medium allows students to learn Internet literacy skills in authentic environments" (*ibid*.).

In the Ubiquitous CALL the teacher's role of a navigator is of high importance. There are too many online sources for foreign language teaching/learning and it is not easy to evaluate them. Thus it is necessary to guide the learners through, to teach them how to evaluate the source from the point of view of its reliability, accuracy, currency, appropriateness, suitability etc.

However, Shneiderman (2003) describes the role of the teacher as being more complex than just the 'navigator': "We must do more than teach students to 'surf the net'; we must also teach them how to make

[1] See < http://www.medea-awards.com/>

waves" (p. vii). So, he considers the teacher's role to activate and develop creativity. Despite the fact that computer assisted instruction is blamed for killing the creativity of the learners, it is often stressed by the authors that the teacher's role is to support it. As Pimienta (2002) suggests, we should view the students not as behind a screen but rather in front of a keyboard. That means that the main role of the teacher is to teach how to use the resources combined with their skills and knowledge to create their impact on the world in collaboration with class or distant co-learners.

Learning objectives

Accuracy, fluency, agency and coefficiency – that is how the learning objectives in Ubiquitous CALL are described in Table 1. The first two of them are clear and do not need to be commented on. Agency was added to the aims of foreign language learning by socio-constructivist theories, which stressed social interaction mediated by language. So the aim is to learn the language to be able to use it in particular action – the objective of 'agency'.

The 'coefficiency' as an objective can be explained as the ability to use the language effectively in collaborative tasks, not just as an individual performance, and to be able to enter the world of connections and enjoy it. Swain (2005, cited in Nassaji and Tian, 2010) finds the collaborative activities in language learning beneficial because when learners collaborate to produce output, they use language not only to convey meaning, but also to develop meaning; moreover, they may get help from their peers. Thus coefficiency as an objective of learning is a necessity.

The learnt language should serve as a tool for meeting the demands of learning under new conditions, in the new environments with the ubiquitous technology.

Table 1 CALL in historical perspective (based on Felixová, Veselá, 2002; Gruba, 2004; Kern, Warschauer, 2000)

	Structural CALL	**Communicative CALL**	**Integrative CALL**	***Ubiquitous CALL***
Technology	Mainframe computers	Personal computer	PC + Internet	*PC, Internet, multimedia…*
Role and **use of computers**	Tireless instructor Drill and practice Instant feedback	Tool Communicative exercises	Mediator Authentic discourse Socio-cultural interaction	*Integral part of learning* *Authentic purposeful multimedial communication* *Networked collaboration*
Applied linguistics	Behaviourism and structuralism	Cognitivism	Socio-cognitivism	*Constructivism and connectivism*
Role of learners	Dependant trainee	Independent communicator	Collaborative focus of learning	*Autonomous part of global network*
Role of teachers	Authoritative instructor	Helpful mediator	Facilitator	*Challenger, motivator, navigator*
Learning objectives	Accuracy	Accuracy and fluency	Accuracy, fluency and agency	*Accuracy, fluency, agency and coefficiency*

Blended CALL

The term 'blended learning' is generally considered as a combination of face-to-face instruction and e-learning. However, according to some authors (e.g. Khan, 2005; Singh - Reed, 2004), it is possible to blend more complex range of forms and elements. If we suppose that CALL is a subfield of e-learning, then blended CALL can be either understood as a combination of face-to-face instruction and e-learning (narrow sense) or a combination of more forms and elements (wider sense) in foreign language teaching/learning. However, this division is not so clear and it deserves more detailed analysis.

Khan (2005) when talking about 'blended learning' describes a rich set of learning strategies or "dimensions". All of them can be adopted in CALL, and consequently according to this theory, 'blended CALL' will be a combination of various forms and elements used to reach effective teaching/learning. Among those mentioned by Khan (*ibid.*) there can be chosen following "dimensions" (in Khan's terminology) to be blended in CALL:

- off-line and on-line learning;
- self-paced and live, collaborative learning;
- structured and unstructured learning;
- custom content and off-the shelf content;
- learning, practice and performance support.

Nevertheless, this complex view on blended learning cannot satisfy the need of more precise definition. That is why there have been some authors (e.g. Oliver - Trigwell, 2005) who claim that if blended learning is understood as a mixture of various educational goals, theories, contents, and media, it is consequently confusing and hazy. Moreover, it is more content-centred than learner-centred. These authors argue that the term 'blended learning' is "ill-defined and inconsistently used. [...] Under any current definition, it is either incoherent or redundant as

a concept" (*ibid*.). If we agreed with this concept of 'blended learning', we would have to admit that it cannot be applied in the Ubiquitous CALL since its postulate about not being learner-centred directly contradicts the learner-centeredness as a Ubiquitous CALL principle.

Considering the views of both – opponents and proponents of blended learning we should find the approach which would meet the needs of CALL theory and practice. Contemporary blended learning theory aims at assessment of strengths and weaknesses, evaluation of effectiveness by tools of pedagogical research, and attempts to find balanced combination. We do agree with Saunders and Werner (2002), who claim that no single approach or method can achieve maximum learning across a variety of learners. They continue:

> *"Only a blend of methods and approaches can produce the richness and achieve the desired outcomes. [...] once one focuses on learning and how to support and produce learning across a variety of learners, selecting the most effective instructional, presentation, and distribution methods as well as assessment methods for the blend becomes much easier" (ibid.).*

Under the conditions of the educational environment at schools from primary up to the tertiary level of education pure e-learning solutions are not applicable. Not because its efficiency is even after the years of research still not clear and difficult to evaluate[1], but mainly because the traditional schooling is definitely not so easily replaceable by e-schooling, moreover there is no reason to do so. That does not mean that CALL cannot be applied, it means that the right 'blend' should be found.

The term 'blended CALL' then can be used to name language teaching/learning by the help of various technological means in

[1] Compare Steiner, 2005 and NSD, 2012

combination with traditional classroom instruction, which is the most common mode of language pedagogy. Since there is an immeasurable amount of the possible combinations of various 'blends' and their share, the core question is not whether to use technologies or not, or whether to blend or not but how to reach the balanced blended learning, use it purposefully, predimetatedly, and rationally, having the learners needs always in mind. Here is the space for pedagogical research, the results of which should be applied and reresearched in practice to find the right blend of teaching tools and methods.

Computer Assisted Content and Language Integrated Learning

The principles of blended learning can be applied to blend CALL and CLIL together as an eligible methodology for teaching ESP (TESP). This assertion is based on their common principles and common aim. The aim is to provide foreign language teachers and learners with an effective methodology and tools, which will help them to teach/learn foreign languages as quickly, easily, and as infallibly as possible.

The principles which are shared by both – CLIL and CALL are:

1. Constructivism and connectivism as background philosophies;
2. Learner-centeredness and Learner's autonomy;
3. Interactivity;
4. Task-basedness;
5. Cooperative and collaborative learning;
6. Agency and Coefficiency.

Many authors have already studied the possibilities of using technologies in CLIL classes. Most of them focused their attention mainly on a particular tool, e.g. Vlachos (2009), Mac Donald (1977), Wojtowicz *et al.* (2011), or skill Coll (2002), Vetter and Chanier (2006).

Vlachos (2009) discussed the potential of information and communication technologies in CLIL introducing Web quest in project work as an effective blended learning tool in CLIL. He divided the stages of project work into: Planning, Implementation, Creation of the Project, Evaluation, and Follow up activities. In all of the stages the use of technologies (both online and offline tools) is presented.

This author (ibid.) describes the use of online concordancers and language corpora in the last, follow-up stage of the project work in the language-focused activities. He also notes that linguistic preparation with the help of concordancers can be done at the preparatory stage as

well. However, it should be remarked that the linguistic part of CLIL cannot not be restricted to some of the stages, the learners should be lead to use dictionaries, concordancers, thesauruses, wikis, and other tools, which will help them to understand the meaning of unknown words and notions at any stage of their work.

Using computers in ESP project work was mentioned in 1977 by Mac Donald *et al.* (1977), who were some of the first authors who dealt with the use of computers in ESP; of course the limitations of the technical development in 1970's did not allow them to go further than using computers for numerical solutions in real life problems, and authentic graphs and calculations.

Wojtowicz *et al.* (2011) aimed their survey at gathering information about the experiences of CLIL practitioners across European countries with using ICT, particularly computer games, in CLIL classes (using the term 'e-CLIL'). A general statement was made by these authors, who found out that "71 % of respondents viewed that CLIL supported by ICT can be a very interesting and efficient alternative to more traditional ways of learning language" (p. 6). However, this survey just revealed the opinions of CLIL practitioners, it did not involve serious research on the effectiveness of e-CLIL.

Coll (2002, p. 263) stressed "intermediate interaction", "individualizing instruction allowing self-pacing and self-monitoring", "flexibility", and "authenticity" among those features of hypermedia which could enhance learning. In spite of the fact that his paper was focused on TESP, not CLIL, all of his presumptions can be applied in CLIL, as the proposed methodology in TESP. He claims (ibid., p. 264):

> *"Merging Computer Assisted Instruction (CAI) and video-technology has great potential in the field of English for Specific Purposes (ESP). Learners are provided with input that is visual, auditory and textual*

as well as linguistic and paralinguistic. This new technology is able to present real language in authentic contexts."

In the described research the author focused his attention on listening comprehension training, particularly incidental learning of technical and subtechnical vocabulary in developing listening comprehension in hypermedia-based settings. The findings of his study revealed that "hypermedia-based instruction, if properly designed, can provide an effective learning environment to build vocabulary among ESP students" (p. 274).

Vetter and Chanier (2006) conducted an experiment based on a synchronous audio conference in their ESP classes, which proved that synchronous communication enhanced the development of the learners' oral proficiency.

All the authors mentioned above focused their attention on particular areas of the possible usage of technology in TESP; on the contrary, Soetaert and Bonamie (2009) made more general claims when talking about using computers in CLIL: "Indeed, designing courses for CLIL will be a major challenge for the future, inevitably this design will be inspired by TELL [technology integrated language learning]" (p. 6).

One of the issues which CALL and CLIL have in common is motivation. Motivation is besides dual coding a basis of CLIL, whose theory presumes that content matter will stimulate stronger interest of learners than general English, as they can see how a foreign language is used in practice. Here the question arises: what if the subject in dual-aimed CLIL (e.g. biology, geography, arts, etc.) is for the learner not interesting (or less interesting than the foreign language)? Then the 'motivation factor' does not work. Albeit when CLIL is used for TESP (not general English), the probability of the interest in the subject matter is higher, as the learners can chose their field of study and/or

work according to their preferences. Consequently, the motivation factor in this case really influences their learning.

In CALL, motivation as a factor influencing the learners' results is also considerably discussed. E. g. Lee (2000) stated three main reasons for increased motivation in CALL: the fact that it is associated with fun and games, considered to be fashionable, and it makes the learners feel more independent. According to the results of Garcia and Arias' (2000, p. 8) study,

> *"computer oriented tasks motivate students to make more extended use of the references provided by allowing easier and quicker access to the contents, which leads to self-learning and individualization of the learning process."*

According to Kong (2009), CALL, multimedia, using the Internet and educational software are methods which stimulate intrinsic motivation, since they are innovative, interesting, and practical. The novelty as a factor of motivation in CALL together with increased confidence, ability, empowerment, enhancement of learning opportunities, etc. are mentioned by many authors (e.g. Jaychandran, 2007; Wu *et al*., 2011; Warschauer, 1996; etc.)

Regarding novelty it can be presumed that in CALL it will not be considered a motivation factor in the future, since the use of computers is becoming usual in foreign language classes. The other factors are shared by CLIL and CALL, and can be viewed as proceeding from learner-centeredness and learner's autonomy. Thus it can be concluded that in CALL and CLIL synergic motivation can be used to enhance foreign language learning.

As it was mentioned above, many authors have dealt with the use of technologies in CLIL. Wojtowicz *et al.,* (2011) used the special term: e-CLIL, which is in some European projects aimed at exploiting ICT in

CLIL. This is also the name of the virtual European CLIL Resource Centre. However, the difference between e-CLIL and our proposed CA-CLIL is that while the former just takes the 'e' from the term 'e-learning' to name either any form of using ICT, or a virtual platform for theoretical and practical issues in CLIL methodology, the latter is an elaborated methodology, based on common principles, joined by common aims and motivation, effective in teaching ESP.

The research, which will be discussed in the following chapters, will be focused on its pitfalls and potentials. It may be used in reflective teaching of CA-CLIL practitioners. The idea of considering 'the researcher' to be one of the various roles of the teacher in TESP was discussed in the chapter on teaching ESP. This role can be assigned to any teacher who wants to improve his/her teaching, which creates a basic presumption of 'reflective teaching'. Pokrivčáková *et al.* (2008) stressed the importance of reflective teaching when describing self-evaluation process of a teacher, and recommended using self-evaluation forms.

According to Richards (n. d., p.5),

> *"…teachers engaged in reflective analysis of their own teaching report that it is a valuable tool for self-evaluation and professional growth. Reflective teaching suggests that experience alone is insufficient for professional growth, but that experience coupled with reflection can be a powerful impetus for teacher development."*

Reflective teaching means that the teachers collect data and use them to investigate and develop their teaching. For that aim they need to be equipped with tools, which will help them not only to collect, but also to analyze the data, and use this analysis to improve their teaching. This practice is not widespread among teachers, however it is the way how to connect theory and practice, how to verify the methodology in practice, and how to reflect the results back.

It can be argued that this is the idea of action research. Bailey (1997) explained the differences between reflective teaching and action research. According to her, while action research is conducted in a social context, reflective teaching can be personally focused. As she claimed (*ibid*., n. p.): "Action research would, by definition, necessarily encompass a somewhat wider perspective -- whether in terms of the number of people involved, or in terms of its public nature, or both." She also listed some problems which would discourage teachers from conducting action research - e.g. lack of time, lack of expertise, fear, etc. She proposed reflective teaching as an alternative to action research for those teachers who share the above mentioned worries (*ibid*.). Nevertheless, it does not mean that the results cannot be used in research, if they are collected and analysed according to the research rules insuring their validity and reliability.

Our research on CA-CLIL was conducted as a part of the KEGA project ("Integration of the CA-CLIL methodology and the research of its productivity into the lifelong education of secondary school teachers, KEGA 024UKF-4/2010"), whose aim was (among others) to teach the teachers using CA-CLIL as a methodology in TESP, how to evaluate their teaching methods and reflect the results in practice.

For that purpose we used the research methodology, which is described in the next chapter – Design-Based Research. In the chapter it will be explained how it differs from action research, and why we propose it as a suitable tool in reflective teaching.

Design-Based Research in CA-CLIL

It is not just by chance that the crucial definition of the design-based research by Wang and Hannafin (2005) was connected with a technology-enhanced learning environment. The reason can be seen in the fact that the development in the field of technology is so rapid that its application in education needs prompt feedback, which cannot be reached by traditional longitudinal types of research. Moreover, it also reflects the situation in pedagogical research, when it is almost impossible to avoid the influence of variables other than those which are being studied (e.g. the personality of the teacher or/and current situation in the classroom, in the research considering the effectiveness of a particular methodology, etc.).

The definition provided by Wang and Hannafin (*ibid.*, p. 6) is as follows:

> *"[Design-based research is] a systematic but flexible methodology aimed to improve educational practices through iterative analysis, design, development, and implementation, based on collaboration among researchers and practitioners in real-world settings, and leading to contextually-sensitive design principles and theories."*

The same authors (*ibid*.) described the five main characteristics of design-based research:

1. pragmatic – design and theory are mutually developed through the research process in practice;
2. grounded – in both theory and real-world context, where theory is both – the foundation and the outcome of the research;
3. interactive, iterative and flexible - requiring interactive collaboration of researchers and practitioners, iterative analysis, development, and flexible redesign;

4. integrative – a variety of quantitative and qualitative research methods and approaches depending on the needs of the research are used;
5. contextualized - the research process is closely connected with the settings where it is conducted.

In its basic features the design-based research may resemble action research, however it differs firstly in that it is aimed at generating theory which will solve authentic problems; and secondly, unlike the action research, the researchers take the initiative as both researchers and designers, not the practitioners (Wang - Hannafin, 2005).

However, as it is claimed by Peer Group (2006), some pitfalls confessed even by the design-based research proponents should be mentioned. These include: missing standards identifying both promising and unworkable instructional interventions; lack of a strong theoretical foundation; too little contribution and too much method; and difficulty in creating generalizations.

Despite the possible dangers of overestimating the results of the design-based research, we are convinced that for the purposes of creating a workable design for CA-CLIL methodology in TESP and reflective teaching, this type of research is the most suitable choice under the conditions of TESP at secondary education, described in the following chapter.

Three Case Studies

A case study as a method of pedagogical research reflects the main philosophy of the design-based research – it (as described by Cohen *et al*., 2010, p.23) "provides a unique example of real people in real situations". Furthermore, it shows effects in real contexts, which are unique and dynamic (*ibid.*). The cases described bellow can be considered the first part of the design-based research, in which the designs of three lessons taught through the proposed CA-CLIL methodology were studied. On the basis of the results, the re-design of the lessons and further research should follow.

The research was conducted within the project *'Integration of the CA-CLIL methodology and the research of its productivity into lifelong education of secondary school teachers'* financed by the Cultural and Educational Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic in the years 2010-2011.

To set a common core for the subject-matter, the project was aimed at business academies, and the teachers of English and German as foreign languages. The teachers of subjects specific for the field of economics were approached, too. The call for participation was answered by three business academies in the Nitra region (South West Slovakia). Seven teachers were involved – one of them with three qualifications (teaching English language, Economics, and Computer Science), two teachers of subjects connected with economics, two English language teachers, and two German language teachers. For the purposes of this study, the German language case was excluded.

At the two business academies the teachers of the subject-matter and English cooperated, which was an efficient solution for a CLIL lesson; in the third case one teacher with her three qualifications covered all the tasks connected with the project. However, this case is rather untypical, since this type of a teacher is rare and unique. As the

case studies revealed, the teachers who participated in this project successfully managed all the roles of the ESP practitioner, described by Bojović (2006): a teacher, a course designer and a material provider, a researcher, a collaborator, and an evaluator (compare p. 14 above).

During the first period of the project the teachers consulted the researchers from the Department of Language Education and Intercultural Studies at the Faculty of Education, University of Constantine the Philosopher in Nitra (Dr. Horváthová and Dr. Veselá), who provided the theoretical background of the research, and also training in the usage of educational technologies. For the purpose of this project a course was developed in the LMS Moodle on the Amos UKF portal (<http://amos.ukf.sk/course/view.php?id=164>), which consisted of three English topics and one German topic. The teachers learnt how to use the LMS Moodle to create their CA-CLIL teaching materials in this environment.

Subsequently, the lessons were taught through the CA-CLIL methodology supported by the electronic educational tools offered by LMS Moodle. Observation of these lessons was conducted by both – the teachers themselves and the researchers and followed by interviews and questionnaires answered by teachers and students. In one case a quasi-experiment with pre-test and post-test design was conducted. The three cases will be described below in chronological order, as they were observed..

The following research question was set:

Does the proposed CA-CLIL methodology meet the demands of teaching ESP in new environments of the pedagogy in the third millennium and ubiquitous CALL?

The cases were designed according to the theory-generating structure (Cohen *et al.*, 2010), and are divided into sections, which

constitute elements of the CA-CLIL theory analysed in the previous chapters. Following this structure, the cornerstones of the CA-CLIL methodology are analysed:

1. flexibility,
2. authenticity,
3. task-basedness,
4. learner-centeredness,
5. and cooperativeness.

Furthermore, the role of the teacher, the role of the technology and possible improvements will be researched in special sections.

Case A

Topic: *Supply and Demand*

Integrated subjects: Business English (ESP) and Practical Economy

Teacher: English language teacher and content-matter teacher

Students: 16 students (16-17 year-old)

Time: two 45-minute teaching hours

Settings: Computer-equipped classroom, one computer per student, a data projector, a big screen, and a printer

Language level: A2-B1 CERF (The Common European Reference Framework for Languages)

Material: LMS Moodle based texts, word documents, a video (YouTube), dictionaries, colour-paper cards, printed handouts

Lesson description: An English and a Slovak version of a business letter (Appendix A. 1 and Appendix A. 2) were introduced; the students

compared them and performed a fill-in-the-gaps exercise, revising particular phrases, and/or grammar issues (e. g. tenses, passive voice etc.). Then they were handed out the worksheets with pre-watching activities (Appendix A. 3). They were encouraged to discuss and guess the product which would be advertised in a video clip. After the short discussion they watched the video advertising the eco-friendly products (Appendix A. 4) and performed the after-watching exercises (Appendix A. 5). Finally they were encouraged to write a letter of offer introducing one of the products. Three teams competed to reach their goal – to win a permanent position in the company, which will be offered to the team who wrote the best letter. Colour-paper cards (each team received a set of a different colour) with useful phrases were handed out. The letters were printed and a committee of the teachers and learners decided about the winner. The letters were written in teams, with the help of dictionaries. Throughout the whole lesson the mother tongue (Slovak) was used to introduce new vocabulary, thus dual-coding was ensured.

1. Flexibility

The topic can be flexibly changed into using other products according to the interest of the learners. The fill-in-the-gaps exercise can be set for homework, it was created as an assignment in the Moodle course and thus it can be done and sent online.

2. Authenticity

Real company video and real products are used.

3. Task-basedness

The main goal of the lesson is to successfully accomplish the task – succeed in competition by writing the best letter of offer.

4. Learner-centeredness

The observation revealed that the time of the students' activity took up approximately 70 % of the lesson. The students performed autonomous tasks, worked in teams, answered the teacher's and the other students' questions. The teacher succeeded in attracting their interest and attention, and in supporting their creativity, and competitiveness. After the lesson the students appreciated the visualising in developing vocabulary, grammar, and listening comprehension. They also considered the co-operation and team work as helpful in their foreign language learning. In the reading comprehension they appreciated the use of dictionaries and understanding the problems in their mother tongue.

5. Cooperativeness

The task was team-based as the students cooperated as teams when writing the letters. They naturally set the roles in the team. The better students helped the weaker ones. The students who were best in typing typed the letters; others were looking up the unknown words in dictionaries. They discussed and argued, encouraged by the teacher to do so in English.

6. Role of the teacher

The share of the teachers' (both teachers were present during the lesson) time was approximately 30 % of the lesson. The teachers asked questions, motivated, facilitated learning, supported the creativity and originality of solutions. They provided feedback at the end of the lesson projecting the winning letter and praising the winning team.

7. Role of technology

Input: Moodle based course, YouTube video

Apperception – comprehension – intake – integration: real world settings (real company-video, writing real letters)

Output: Typing, printing, and projecting the letters

8. Goals

Both goals – the subject-matter (introducing the topic Supply and Demand, writing a letter of offer) and the ESP (Business English – writing an English letter of offer, revising grammar, developing vocabulary, developing negotiating and arguing skills) were achieved.

9. Possible improvements

Technology can be used where it may serve better than traditional tools – e. g. online dictionaries with pronunciation.

Case B

Topic: *Hardware input and output devices*

Integrated subjects: English for Computer Science (ESP) and Computer Science

Teacher: a teacher with three qualifications (English language, Computer Science, And Economics)

Students: 13 students (16-17 year-old)

Time: one 45-minute teaching hour

Settings: Computer-equipped classroom, one computer per student, a data projector, a big screen

Language level: B1-B2 CERF (The Common European Reference Framework for Languages)

Material: LMS Moodle based texts, online tests, online video, and online IT dictionary, web pages from <http://www.bbc.co.uk>

Lesson description: The lesson began with a revision of vocabulary from the previous lesson (parts of computer) by matching the text and the picture and *vice versa*, which was projected on the screen (an

example page in the Appendix B. 1). Then the teacher gave a presentation on hardware input devices. The text and appropriate pictures were projected and the presentation read by the teacher. Subsequently the students watched an online video (Appendix B. 2). They were encouraged to find an unknown expression on the Internet, so they googled it and then one of them read the Wikipedia definition. The teacher helped with its translation. Afterwards the students were asked to test themselves online (BBC web page, Appendix B. 3). The last task was to find all available information on some computer device and create a PowerPoint presentation on it. Each student decided on one. This task was set for homework and the students were asked to share their presentations then. The mother tongue (Slovak) was avoided and used just once to explain an unknown word, when the explanation in English was not efficient enough.

1. Flexibility

The course created in the LMS Moodle can be easily updated.

2. Authenticity

The real world examples, which were all around were not used. The computer laboratory, where the lesson took place was fully equipped with the hardware devices described – instead of using the real life objects, the pictures were used.

3. Task-basedness

The final task – to create a PowerPoint presentation was not sufficiently supported by the instruction, no input for this task was provided.

4. Learner-centeredness

The observation revealed that the learners' active time was just 20 % of the lesson. The students were mainly passive receivers of the information; they were not given any challenging tasks. The task: "find

the definition on the internet and then retell it in your own words" was too difficult and the students failed to manage it. The listening to the video was too difficult as the text was read by a native speaker presuming the native-speaking auditory, so the students lost their interest and attention. The after-class questionnaire revealed that the students appreciated the visualisation of the vocabulary development and listening comprehension skill development. For the reading comprehension they needed to understand the problem in their mother tongue.

5. Cooperativeness

The students did not need to cooperate; just the final task was to share their presentation; albeit they were asked to create them individually at home.

6. Role of the teacher

The teacher took up approximately 80 % of the lesson with her activities. Most of the time, the students were just passive recipients of the provided information. The mother tongue was avoided and thus some of the tasks were not understood very well and consequently were too difficult. In some cases the teacher asked and answered the questions by herself.

7. Role of technology

Input: Moodle based course, BBC ready-made presentations, YouTube videos

Apperception – comprehension – intake – integration: Google search engine, Wikipedia, BBC ready-made tests

Output: PowerPoint presentation

8. Goals

The subject-matter goal – to provide information on computer hardware was achieved; however we are not sure that any language goal was reached, since the students showed little activity during the lesson.

9. Possible improvements

This lesson needs grave improvement in nearly all of the points mentioned above; otherwise it cannot be considered a CA-CLIL lesson at all. It was a typical teacher-centred frontal lesson, reminiscent of a high-school lecture where the students are merely passive recipients of information presented by the teacher. We recommend that the lesson be redesigned and then observed again to see whether there will be improvements in authenticity (here the teacher failed to use the settings of the classroom as authentic material), task-basedness, learner-centeredness, and cooperativeness.

Case C

Topic: *Forms of money*

Integrated subjects: Business English (ESP) and Economics

Teacher: English language teacher and content-matter teacher

Students: 12 students (16-17 year-old)

Time: two 45-minute teaching hours

Settings: Computer-equipped classroom, one computer per student, a data projector, a big screen

Language level: A2-B1 CERF (The Common European Reference Framework for Languages)

Material: LMS Moodle based texts with hyperlinks, a video (YouTube), and real bank-cheques

Lesson description: The topic was introduced by the Abba song "Money, money, money..." played from the computer and followed by a listening comprehension check (Appendix C. 1). After introducing the topic, the teacher presented the material 'Forms of money' created in the LMS Moodle with hyperlinks with illustrative pictures (Appendix C. 2). The students were asked to say the English words in their mother tongue (Hungarian or Slovak). A gap fill exercise followed. The hyperlinks opened either Wikipedia definitions, or dictionaries, or pictures (Appendix C. 3). All these whole-class activities were vivid, the teacher was thoroughly involving all students, encouraging the less active ones. The final activity was filling in the real payment orders from VÚB bank, which were handed out by the teacher. In these payment orders both languages (Slovak and English) are used, and the students had to translate the projected English expressions into Slovak (Appendix C. 4). All the activities were created in the LMS Moodle (Appendix C. 5).

1. Flexibility

All the tasks can be performed in three different modes – projected by the data projector for the whole class who will discuss the possible solutions, projected on the interactive whiteboard and performed by individual students coming up in front of the board, or performed individually by each student working with his/her computer and compared and discussed after.

2. Authenticity

The song is a real performance from the group Abba, the payment orders are authentic forms used in VÚB bank.

3. Task-basedness

The final real-life task was to fill in the payment orders.

4. Learner-centeredness

The observation revealed that the share of the students' active time took up approximately 60 % of the lesson. The students were answering the questions, filling-in the gaps, translating to their mother tongue, and filling in the real payment order.

5. Cooperativeness

The learners cooperated during the whole lesson discussing possible solutions as the mode of projecting to the whole class was used. However, the final task was fulfilled individually.

6. Role of the teacher

The teacher did not hesitate to use the mother tongue to facilitate understanding. She was scaffolding the learning by asking supporting questions, motivating activity, praising creativity and originality of solutions.

In this case the teachers involved (the content-matter teacher and the English language teacher) performed a quasi-experiment to find out whether the students who were instructed by the CA-CLIL methodology outperformed other students in a non-CA-CLIL group in terms of their command of the English language and their knowledge of the subject-matter. They tested these two groups of students with a pre-test and a post-test (the next day after the lesson). The results showed a significant difference between these two groups. Despite the fact that the quasi-experiment was conducted just for the purposes of reflective

teaching, and therefore its results cannot be generalised, the difference between the two groups cannot be neglected. The average score in the test combining linguistic knowledge and the subject-matter knowledge in the CA-CLIL group was 46.28 %, while in the non CA-CLIL group it was just 14.3 %. This difference deserves our attention. The average increase in the CA-CLIL group was 32.5 %, and in the non-CA-CLIL group just 6.6 %. The highest increase was recorded in the CA-CLIL group – the score of one student improved by 56.8 %, whereas in the non-CA-CLIL group the lowest increase was in the negative numbers (-3 %), which means that the student not only did not learn anything, but moreover forgot what he/she had known before the instruction, which is in fact extremely alarming. These results can serve the teachers of both groups, as the results of the non-CA-CLIL group are overall rather unsatisfactory. Since their methods and modes of instruction were not subjected to our observation, further conclusions cannot be drawn.

7. Role of technology

Input: Moodle based course, hyperlinked texts, YouTube video

Apperception – comprehension – intake – integration: pictures opened by hyperlinks, Wikipedia, online Slovak-English, English-Slovak dictionary

Output: technology was not used

8. Goals

Both goals – the subject-matter (introducing the topic Forms of money) and the ESP (Business English – filling-in a payment order form) were reached.

9. Possible improvements

The output phase of this lesson can be improved by a cooperative task, e. g. a presentation on the Slovak Euro-notes and coins. The authenticity of the task can be reached also by going to the real bank and asking for information in English, or writing an English e-mail to a bank asking for information about payment methods.

Interpretation of the research results

The results of these three case studies provided sufficient information, which enabled us to positively answer the research question stated at the beginning of this chapter, and consequently formulate the following thesis:

The proposed CA-CLIL methodology meets the demands of teaching ESP in new environments of pedagogy in the third millennium and ubiquitous CALL.

However, it needs to be stressed that the research also revealed potential pitfalls of using this methodology. Case B clearly showed that not every teaching of subject-matter in a foreign language can be considered the CLIL methodology; and similarly just using a computer in teaching a foreign language cannot be considered CALL. If the instruction fails to possess the essential CA-CLIL attributes discussed above (flexibility, authenticity, task-basedness, learner-centeredness, and cooperativeness); if the teacher's role is simplified just to the 'lecturer'; if the technology is not used to enhance all three stages of foreign language acquisition (input, apperception-comprehension-intake-integration, and output); and if both types of goals (the subject-matter and the language) are not strived for, then the lesson cannot be called a CA-CLIL lesson and its success may be questionable.

Discussion

The research in the field of CALL was recently reviewed by Macaro *et al.* (2012). These authors analysed 117 studies on CALL since 1990. They stated that future research was needed since the evidence that technology had a direct beneficial impact was slightly indirect. They also mentioned that the research was too diffuse and wide-ranging.

These results support the conclusions of Steiner (2005), who mentioned two contradictory phenomena in the research on e-learning efficiency: The No Significant Difference Phenomenon and The Significant Difference Phenomenon (compare the webpage NSD - No Significant Difference, run by WCET). Despite the fact that this research is not particularly aimed at CALL, its results are comparable.

Similarly Felix (2005b, p. 284) in her meta-analysis revealed that "surprisingly scarce meta-research specifically related to CALL tells us very little about the actual or potential effectiveness of the use of ICT in second language learning". She concludes:

> *"In educational terms, of course, it hardly matters what exactly produced the improvement and, if we follow the cause and effect argument to its logical conclusion, we will find that the technology itself is the least likely contributor (p. 285)."*

The ambiguity of the research results reflects the complexity of the field – nowadays there are too many different modes of instruction using technologies, ranging from pure e-learning to blended learning combinations with various shares of technology support. Moreover, the variables include the age of learners, level of proficiency, their skills and and/or linguistic knowledge, foreign or second language environment, length of the exposure to the instruction, motivation, etc. Consequently, the number of possible combinations is too high to reach definite results. However, as Malá (2011, p. 148) concludes: "The use of

electronic communication technologies sets pedagogy a huge methodological challenge and provides new possibilities for pedagogical and linguistic researchers."

As far as the research in the field of CLIL is concerned, the most complex state-of-the-art study was conducted by Dalton-Puffer *et al.* (2010). They stated that the main focus of CLIL studies varied from "macro-level phenomena" to "micro-level phenomena" (p. 9). In other words, it ranged from reports of the implementation and/or general guidelines on CLIL to studies on classroom practices, with a special category devoted to the language learning theories underlying CLIL.

According to the CLIL-LOTE-START (2011, para 1): "CLIL represents a fascinating research field." Several traditional research topics are named: first language acquisition and development, second language acquisition, acquisition of subject knowledge, acquisition of intercultural skills, developing learning strategies, practical application of the acquired competencies and skills, etc. (*ibid*.).

Thus it can be concluded that both fields – CALL and CLIL are too complex to draw unequivocal inferences from heterogeneous research. Moreover, longitudinal studies are needed, with delayed post-tests to prove any valid results in terms of their efficiency. Nevertheless, the use of technologies cannot be stopped to wait for the results of the research.

The results of the questionnaire answered by 16 teachers from the three business academies involved in our project has clearly shown that they are considerably interested in using technologies to support their ESP instruction, nevertheless they complain about the lack of materials provided in the textbooks which they use, time consuming preparation, and/or technical problems. However, all of them agree that using technologies in teaching ESP is effective mainly in developing linguistic knowledge (grammar and vocabulary) and receptive skills (listening and reading). They should be provided with examples and proof that

technologies can be also used to support the output phase, and consequently productive skills, which are highly important for reaching agency and co-efficiency as learning objectives in Ubiquitous CALL, and also stressed by the ecological CLIL theory.

Despite (or maybe because of) the fact that using technologies in CLIL lessons is nowadays entering the stage where it is not considered to be an innovation of teaching anymore but a matter of course, the research of the usage of technologies in CLIL is not frequent. There are the cases where a particular type of technology is described, e. g. internet quest, computer mediated communication, and concordancers in project work (Vlachos, 2009). Several studies have been focused on using technologies in ESP, e.g. incidental vocabulary learning in hypermedia settings (Coll, 2002), the application of electronic portfolios for improving writing skills in social sciences (Kavaliauskiene - Kaminskiene, 2005), some reflect using technologies in teaching ESP in general (Buttler-Pascoe, 2009).

Our design-based research and its case studies shows a possible way how to meet the demand of those teachers who apply the principles of reflective teaching and want to use the CA-CLIL methodology in teaching ESP. It suggests how to research the possibilities offered by technologies, design materials, study their impact on the students, redesign and thus improve teaching/learning.

Conclusion

Teaching ESP in new environments is a demanding task for TESP practitioners. Research conducted in this field should help them to improve their teaching and thus to obtain better results, which will be satisfying for both the teachers and the learners.

New environments reflect the demands of pedagogy in the new millennium, which should stress flexibility, collaboration, authenticity, relevancy, effectiveness, etc. (compare with Felix, 2005a).

Secondly, they reflect the situation where CALL is ubiquitous and unavoidable, just as new technologies are. Using technologies in teaching/learning is a matter of fact despite the complaints of teachers about insufficiently equipped classrooms, the speed of Internet connections, the lack of resources for CALL - and on the contrary too many resources of various value, which are difficult to sort out, time-consumingness (all these complaints were taken from the questionnaire filled-in by the teachers from the business academies participating in our project), etc.

One of the possible responses to the demand for effective foreign language education (especially in the field of teaching languages for specific purposes) can be the proposed CA-CLIL methodology. The theoretical backgrounds, the attributes which are bounded to both of its blends – CALL and CLIL have been analysed above.

To prove its viability and usability under the conditions of teaching ESP in secondary education in Slovakia the research was conducted within a project financed by the Slovak Ministry of Education. Three case studies illustrated the theory according to which

the proposed CA-CLIL methodology meets the demands of teaching ESP in new environments of pedagogy in the third millennium and ubiquitous CALL.

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Appendices[1]

Appendix A (by Julia Gálová and Jozefína Šándorová)

A. 1

VZOR LISTU č. 1

Meno firmy a jej adresa

Meno firmy
Adresa firmy
Dátum

Vec: Ponuka produktu

Vážená pani/Vážený pán,

Dovoľujeme si Vás osloviť so zaujímavou ponukou na vzájomnú spoluprácu.
Sme firma, ktorá sa zaoberá ... . Všetky naše výrobky zodpovedajú technickým požiadavkám Európskej Únie a úspešne sme ich uviedli na mnohých medzinárodných trhoch.
Radi by sme Vám ponúkli náš nový produkt ... .
Aby sme lepšie ilustrovali jeho tvar, veľkosť, vzhľad a rôznorodosť posielame Vám leták s jeho opisom a cenami.
Pre ďalšie informácie sa na nás obráťte na telefónnom čísle ... alebo e-mailom ... .
Veríme, že Vás naša ponuka osloví a tešíme sa na spoluprácu.

S pozdravom

Podpis

Meno
Funkcia

Prílohy:

[1]The materials in the appendices have been published with the agreement of the authors - the teachers from the schools participating in the project.

A. 2

VZOR LISTU č. 2

Sender's company name, address

Receiver's company name
Address

Date

Subject: Offer of a product

Dear Sir or Madam

We .....1(WRITE) to you to present you with an offer in the hope of future cooperation between our companies.

Our company .....2(DEAL) with ... . All our products .....3(COMPLY) with the European Union technical requirements and they .....4(ESTABLISH) successfully in international markets.

We would like to offer you our new product ... .
To give you a better idea of its shape, size, looks and variety we .....5(SEND) you a leaflet with a description and quotation.

If you .....6(REQUIRE) any more information, please contact us on the phone number ... or via e-mail ... .

We .....7(BELIEVE) that you .....8(FIND) our offer interesting and we .....9(LOOK) forward to .....10(DO) business with you.

Yours faithfully

Siganture

Name
Position
Enclosures:

A. 3

1. Match the words and pictures.

1

http://www.electricityforum.com/static-electricity.html

bamboo

static electricity

UV rays

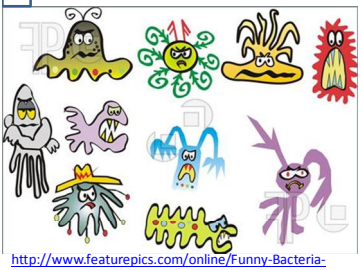
bacteria

odour

2

http://ozonelaundry.wordpress.com/tag/epa/

3



http://www.featurepics.com/online/Funny-Bacteria-Cartoon-1469070.aspx

4

http://www.allfreevectors.com/Free-Vector-Skunk-Stinky-1-801.html

5

http://ndesign-studio.com/tutorials/chinese-bamboo

2. All the words above are used in a video in which Amadam Company is presenting a new product. Do you have any idea what the product could be?

A. 4

Eco-friendly products – video from Youtube

Source: < http://www.youtube.com/watch?v=9wO-QWVTxyM>

A. 5

1. Watch the first part of the video presenting eco-friendly products that use bamboo.
Are these statements true or false?
1. Amadam exhibited eco-friendly products at the exhibition in 2009.
2. Bamboo grows without the use of agrochemicals.
3. It can be used in products after three months.
4. Cotton can be replaced by bamboo.

2. After watching the video presenting new products fill in the missing words to complete the sentences (radiation, block, bacteria, wool, shawl, occur, warm).
If you wear a _____ made of bamboo, it can _____ UV rays because bamboo can ward off ultraviolet light and has a very low ultraviolet penetration rate.
Bamboo also doesn´t generate static electricity, which tends to _____ in the winter.
It also emits far infrared _____, so when you wear a shawl made of bamboo, it _____ your body.
Bamboo has been proven to be warmer than _____.
_____ doesn´t grow on towels, it is naturally wiped out and odours don´t spread.

3. Amadam Company decided to expand to European markets and you have been chosen to work for Amadam Company. Now you are a member of a team supposed to write a letter of offer in English language to introduce Amadam´s products. Do your best. There are two more teams competing and only the best one can win and get a permanent job with Amadam Company.
The text below and information from exercise 1 may help you to write the letter.

“Amadam exhibited eco friendly products that use bamboo at the Eco Products 2008 Exhibition. The products are based on a concept of “living with bamboo”. Bamboo is grown almost entirely without the use of agrochemicals, can grow in 3 months, and can be used in products after three years. Therefore, companies are focusing on bamboo as a superior ecological material that can be used in placement of cotton and timber."

Appendix B (Tatiana Škodová)

B. 1

Input devices, processing and output devices
Input devices allow us to enter raw data: Information which has been organised or presented for analysis into a computer. The computer processes the data and then produces output: A systems block or component that is activated by the process block. For example, this could be an LED, a buzzer or a motor that we can understand using an output device. Input devices can be manual or automatic. The processing is mainly handled by the Central Processing Unit (CPU).
Manual input devices
The most common manual input devices are the keyboard and mouse. Other manual input devices include:
Concept keyboard
Each button on a concept keyboard relates to a particular item or function. Buttons can be labelled with text or a picture. Fast food restaurants often use concept keyboards because very little training is needed to operate them and they're efficient - a single button can order an entire meal.
Trackball

Used as an alternative to a mouse. To operate it the user rotates the ball which moves the pointer on screen. They are particularly easy to use for those with limited movement in their hands and are often used in Computer Aided Design (CAD) for their increased precision over a mouse.

Source:
<http://www.bbc.co.uk/schools/gcsebitesize/ict/hardware/0inputandoutputdevicesrev_print.shtml>

B. 2

Source: < http://www.youtube.com/watch?v=fLymV7Uupmo&feature=related>

B. 3

Online test

ICT
Input devices, processing and output devices

1. What is the most suitable input device for inputting a short report?

☐ mouse ☑ scanner ☐ keyboard

2. What is the most suitable input device for highlighting or selecting an object on the screen?

☐ joystick ☐ mouse ☑ keyboard

3. Which of these would you use to digitise a paper photograph?

☑ scanner ☐ joystick ☐ touch screen

4. What is Magnetic Ink Character Recognition often on?

☐ till receipts ☐ cheques ☑ barcodes

5. Which of these is another name for the CPU?

☐ processor ☐ plotter ☑ scanner

6. Which of these printers would you use to print a wage slip using carbonised paper?

☐ inkjet printer ☑ laser printer ☐ dot matrix printer

7. Which of these printers would an architect be most likely to use to print large plans?

☐ inkjet printer ☐ laser printer ☑ plotter

8. Which of these printers would be the most suitable printer for printing a large number of high quality black and white printouts?

☑ laser printer ☐ dot matrix printer ☐ plotter

CHECK SCORE

Source: < http://www.bbc.co.uk/apps/ifl/schools/gcsebitesize/ict/quizengine?quiz=inputoutputdevices;templateStyle=ict>

Appendix C (Zuzana Varga Podleiszek)

C. 1

Abba song and listening comprehension

Listen to the song and complete the text with the word you hear!

Source: < http://www.youtube.com/watch?feature=player_embedded&v=WCkOmcII79s>

I work all night, I work all day,
to pay the ....bills.... I have to pay
Ain't it sad
And still there never seems to be
a single ....penny.... left for me
That's too bad
In my dreams I have a plan
If I got me a wealthy man
I wouldn't have to work at all,
I'd fool around and have a ball
Money, money, ...money...
Must be funny
In the rich man's world
...Money..., money, money
Always sunny
In the ...rich... man's world
Aha-ahaaa
All the things I could do
If I had a little money
It's a rich man's world
Money, money, money
Must be funny
In the rich man's world
Money, money, money
Always sunny
In the rich man's world
Aha-ahaaa
All the things I could do
..If I had a little money..
It's a rich man's world

C. 2
Forms of money
Task 2: Tell the meaning of the words below in Slovak language!

Forms of money

Small change
Hyperlink opens the following picture:

Banknotes
Hyperlink opens the following picture:

Bank (deposit) money
Hyperlink opens the following picture:

C. 3

Payment methods

Task 3:
Put the words below to the correct place in the text!
There are three types of payment methods: exchanging[1], provisioning[2] and mixed payment[3].

Dictionary[4]
Exchanging is to change 1)_____, 2)_____ and 3)_____ in terms of the price. Provisioning is to transfer money from one account to another. In this method a third party must be involved. It can be realized by a 4)_____ or 5)_____. Provisioning includes money transfers and every electronic payments methods. Electronic payments technologies are made by magnetic stripe card, 6)_____, 7)_____ and mobile 8)_____. Mobile handset based payments are called 9)_____.

a) Smartcard
b) Coin
c) Mobile payments
d) Debit card
e) Contactless card
f) Banknote
g) Credit card
h) Handset
i) Money

(All these words are hyperlinked with illustrative pictures.

[1] Linked with < http://en.wikipedia.org/wiki/Financial_transaction>
[2] Linked with < http://en.wikipedia.org/wiki/Provision_%28accounting%29>
[3] Linked with < http://en.wikipedia.org/wiki/Payment#Checks>
[4] Linked with < http://slovnik.azet.sk/>

C. 4

Príkaz na úhradu

Task 4:
Look at the payment order from your teacher and write the English expressions beside/under the Slovak ones.

1. Constant
2. Details of payment for the Payer
3. To the Bank
4. Value Date
5. Payer´s Account Number
6. Bank Code
7. To the Affiliated Branch
8. Currency
9. Signature, Stamp of the Payer
10. Payment order
11. Amount
12. Beneficiary´s Account Number
13. Place and date of exposal
14. Symbols of payment
15. Variable
16. Specific
17. Bank code
18. Payer´s identification
19. Details of payment for the Bank

C. 5

ABBA song
Forms of money
Payment methods
Príkaz na úhradu

These links open the activities described above.

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Katerina Veselá

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