# Applying Knowledge Management in Online Language Learning

#### VALÉRIA MEDÁROVÁ

School of Management - City University of Seattle, Bratislava, Slovakia

**Abstract.** Computers and information technologies have become necessary components in e-Learning and web-based language acquisition. The author's research focuses on potential ways of teaching and learning foreign languages in the online environment, while considering their limitations. An online language course should be designed in a specific way and more sensitively than a traditional classroom course. A successful web-based course template consists of learning blocks, teacher activities, and student activities, which are designed separately. The paper provides feedback of secondary school teachers regarding Computer Assisted Language Learning (CALL) as a part of the European COVCELL project. Also, it summarizes a comparative study of foreign language learning websites and describes online language course evaluation criteria. Examples of on-line English language courses from the UK and Slovakia are presented.

## **1** Introduction

We live in the age of rapid development of information technology and information communication - the age where the relation and active cooperation between humans and computers is strengthened increasingly. It affects all areas of human activity, such as work, education, traveling, shopping, entertainment, relaxation, just to name a few. This is the age of the so-called third intelligence. The first intelligence is presented by pure verbal communication between humans, the second intelligence is the era of recording data, and the third intelligence presents processing of these data [8]. Another phenomenon of the 21<sup>st</sup> century is an emphasized focus on sustainable development in all areas of human activity. Life-long learning is a natural and irreplaceable condition of achieving this sustainability. Moreover, Knowledge Management theory emphasizes the close connection between human capital and sharing of knowledge with the help of modern information technology and tools.

The focus of this paper and of the author's future research is *e-Learning* as a modern and rapidly developing way of education using information technology and management of knowledge, with a specific emphasis on language learning/teaching. E. Masie defines e-learning as using technology to propose, deliver, administer, support and share education (as cited by [17]). Learning/teaching a foreign language is actually a process of transferring and sharing of knowledge. As such, this process requires appropriate Knowledge Management methodology and tools.

E-learning, just as any other form of learning, involves both explicit and tacit knowledge. According to Awad and Ghaziri [1], *explicit knowledge* is knowledge stored in books and other documents, and as such can be easily retrieved and shared. On the other hand, *tacit knowledge* is gained through experience and work and is often shared in personal communication. Learning a foreign language requires the use of both forms of knowledge.

## 2 Computer assisted language learning (CALL)

In the present, use of the Internet and various modern computer technologies is becoming increasingly involved in teaching/learning foreign languages. Besides the traditional classroom environment, languages are studied in the form of distance learning and on-line learning (e-learning) or a combination of these forms (blended/hybrid learning). Computerassisted Language Learning (CALL) can simply be defined as the type of language learning "in which a learner uses a computer and, as a result, improves his or her language" [2] as cited by [6]. In the present, computers and the Internet are becoming important technical tools in both synchronous and asynchronous language acquisition. However, technology cannot completely substitute teachers, since teachers are an irreplaceable component in computerassisted language learning and therefore are responsible for supervision of language learners [6]. For example, teachers need to be involved in leading learners in searching information on the web and in Internet-based communication activities, such as text chat, audio chat, video chat, providing feedback on learners' work, explaining language elements, clarifying information, etc. Therefore, ,,the role of the teacher in CALL is that of a tutor or facilitator of learners' independent and autonomous learning., [6] In fact, one of the causes of failure of CALL is insufficient involvement of language teaching professionals [3] as cited by [6].

### 2.1 Advantages and disadvantages of CALL

E-learning presents many advantages as well as challenges and complications that have to be dealt with. The main advantages include a flexible schedule, constantly updated content, the possibility of communication with the tutor/instructor and other learners from various parts of the world, the possibility of immediate connection of the individual learner's knowledge with information available in the course material as well as current information on the World Wide Web, etc. As Gallardo del Puerto and Gamboa state, computer-mediated communication enables learners' autonomy and self-pace. Moreover, according to Kramarski and Feldman [9] as cited by [6], the Internet, as a learning environment, substantially increases motivation to study other languages. Several studies have proved that CALL contributes to effective sharing of ideas and group interaction online.

Disadvantages of CALL language learning include time delays, difficult communication, isolation [11] ( as cited by [6]). Other challenges in use of CALL are presented by common use of inefficient or outdated technology, lack of computer skills on the side of the learner (or teacher), lack of the learner's motivation and time-management skills, and others. This leads to two assumptions: first, CALL as a way of learning a language is not suitable for everyone; second, the role of a qualified teacher as a facilitator in CALL is indispensable.

E-learning in acquisition of foreign languages is a relatively new phenomenon in Slovakia. Many teachers are experimenting with possibilities that information technology and multimedia offer for learning. On the other hand, e-learning has a great potential. The demand for e-learning or blended (hybrid) programs will grow rapidly in the next 10 years and institutions that are able to provide such education will gain a big share of the global market. [12]

#### 2.2 Teacher feedback on CALL

Various studies on effectiveness of CALL can contribute greatly to improvement of online language teaching/learning methodology. One of the studies from the year 2009 – conducted by Francisco Gallardo del Puerto and Eider Gamboa of the University of the Basque Country

in Spain – provides results of a questionnaire administered to 166 second language teachers of various world languages [6]. The survey was a part of the European COVCELL project (Cohort-Oriented Virtual Campus for Effective Language Learning). The goal was to obtain information about teachers' experience with CALL. The respondents came from the following countries: countries associated with the COVCELL project - Spain, Iceland, Italy, Germany – as well as Australia, Brazil, China, Greece, the Netherlands, Nigeria, Poland, Portugal, Russia, Saudi Arabia, Sweden, Turkey, USA and UK.

The most common second languages presented were English, Basque, Spanish, German, and French. The questionnaire consisted of 8 items:

- a) teachers' frequency of computer use in class and for other purposes
- b) their experience with computer use in onsite and online courses
- c) what they use computers for in language teaching
- d) most effective teaching methods
- e) which learning scenarios are supported by computers
- f) which learning scenarios they would like to run on computers
- g) which problems would occur after transfer of these learning scenarios online
- h) which functionalities of computer learning management systems they would like to use in their language teaching

As the authors conclude, "the findings showed that teachers' use of technology is neither very sophisticated nor very productive and [that] there is a strong need for further CALL training." [6] The authors emphasize that teachers do not use computers to support interaction within language learning and that the design of online course management platforms does not provide suitable interactive tools. The authors believe in efficiency of Open Source platforms, such as Moodle, which enable everyone to use and modify learning software free of charge. They summarize that "success lies in the combination of both technology and pedagogy." [6]

## 3 A comparative study of online courses of foreign languages

In the last decade, various online courses of languages have been developed all over the world. They differ in content, structure, length, teaching methods, web tools and technology used. It is necessary to realize that true on-line teaching does not mean simple putting of textbook content, tasks and tests online. An on-line language course must involve active communication, sharing of ideas and providing feedback between tutors and students as well as within a group of students.

"True e-learning attempts to recreate, as far as possible, more traditional face-to-face learning environments, whilst simultaneously trying to leverage the obvious differences between the bricks and mortar classroom and the virtual one." [4]

We also have to realize that learning a foreign language to achieve, say the intermediate level, is a complex and time-consuming process. As such, it requires a specific structure and tutor's guidance regardless of whether it is conducted in the classroom or as an on-line course or a hybrid course. Also, the content and teaching methods differ according to the age or professional background of the learners and their motivation. Certain groups of learners (such as people with full-time jobs) may require a more individualistic approach, while others (such

as college students) need to communicate more actively with their peers in the language course. All this has to be taken in consideration when evaluating the existing on-line language courses and designing new ones.

As E. Kartal and L. Uzun [7] state, online language learning sites are able to increase the learners' proficiency level, so it is necessary to use the full potential of the Internet to design effective language learning sites. The authors also believe that to improve the foreign language learning, it is necessary to design formal, reliable and comprehensive language learning portals.

For example, in their study of foreign language learning websites, Kartal and Uzun [7] have evaluated them according to the following 4 main criteria and related sub-criteria:

- a) General state of the website (access through search engines, language options, target audience, target level, etc)
- b) Physical appearance of the website (color harmony, font and legibility, visual and audio materials, etc.)
- c) Contextual aids on the website (archives, chat and forum pages, online dictionaries, links to other websites, etc.)
- d) Educational state of the website (download/upload opportunities, educational games, pedagogical guidance, feedback, tests, etc.)

# **3** Specific attributes of designing of online courses

L. Rudak [13] suggests a three-step process of online course design. First, the educational goal and type of course must be determined according to organization of the course, communication mode and access to course materials. Second, the course content should be divided into units. Finally, the so-called course blocks must be designed. They are built according to the way of presenting the course material, teachers' actions and predicted students' reactions. Each block represents a didactic unit with a specific learning objective. The related metadata consist of *initial conditions* (minimum knowledge required to understand the block content) and *final results* (expected knowledge learned in the block).

The whole content of e-courses is represented by learning objects, which have a specific content and form as well as logical position in the course design. For example, an online quiz on the Moodle platform may have a feature that allows a learner to go to the next page only if he/she answers a quiz question correctly. [13]

One of many available definitions of the term "*learning objects*" (LOs) is simple digital resources with pedagogical potential [16]. Examples are video files, graphic images, textual assets, etc. According to Watson [16], a learning object should be as small as possible so that it can be easily re-used for different contexts. On the other hand, if LOs are too large, they can lose their focus and structure. LOs can be embedded in the so-called virtual learning environments (VLE), e.g. Moodle, Blackboard or Web CT. Also, J. Watson suggests that an effective LO should have a specific learning point and present it in several stages of activities. Such a sequence of activities should present about 20 - 40 minutes of learning, which is a size suitable for online learning. From the pedagogic point of view, LOs should reflect the key elements of Laurillard's model for teaching and learning. These are: discussion, interaction, adaptation and, reflection. In LOs design, an example of *discussion* is a learner's active work on assignments and feedback, while *adaptation* can be presented by a sequence of learning

activities which have increasing difficulty. Learning objects are very versatile. They can be used simply to build an on-line course or be embedded in a blended course (a combination of an on-line course and face-to-face teaching). [10] as cited by [16]

The University of Southampton, UK, has developed a blended course of English for Academic Purposes, with the use of learning objects in the VLE Blackboard [16]. The University has conducted a survey of LO effectiveness in the period of 2005 – 2008 (Table 1). Overall, students evaluated the toolkit with LOs as effective and easy to use. However, the level of satisfaction with feedback provided by LOs was rather low. J. Watson connects this decrease to "higher student expectations regarding the capacity of learning software to provide personalized feedback in every case." [16] Online learning materials cannot fully substitute feedback by a real tutor. This opinion is in agreement with the research findings regarding Slovak university students showing that limited communication with teachers and classmates is one of the key obstacles to online learning. [14]

LOs in the English for Academic Purposes Toolkit	% of students who agree	
	in 2005	in 2008
are enjoyable to use	63 %	62 %
help me to understand a learning point	70 %	71 %
provide good feedback	66 %	49 %
support my classroom learning	62 %	64 %

Tab. 1. Student evaluation of LO effectiveness at University of Southampton in 2005 – 2008 [16]

# 4 The online Business English course at the School of Management

For five years now, School of Management (VŠM) in Trenčín and Bratislava, Slovakia, has been providing English language courses for students of management (Bc. program students) in the on-line format. The author of this paper has created the learning content of these on-line courses for 5 proficiency levels (beginner to high-intermediate), including a Business English course. The learning goals and course content are compatible with those of the classroom format, with the use of the same textbook materials – *New Cutting Edge* [5] series and *Intelligent Business Coursebook* [15] published by Pearson Education. Until June 2011, the course portal (virtual learning environment) of these courses was Bulletin Board, and in July 2011, it was replaced by the portal Moodle. Each of the online English courses/levels has a form of a 10-week-long program. The course format is a combination of autonomous study with the use of course textbooks as well as materials provided online by course instructors, weekly tasks which are assigned and evaluated by the instructors (written homework), online discussion in the virtual classroom, and weekly virtual interviews with the instructors via Skype.

Learning objects (Fig. 1) in these courses are represented by various course materials and learning activities, such as hyperlinks to online quizzes, newspaper articles and video files, as well as discussion groups, writing assignments, etc. The LOs are structured and organized logically, with the focus on specific learning objectives, e.g. understanding and using the present perfect tense in context or developing job interview skills. Qualified language instructors are actively involved in organizing the teaching process, providing regular individualized feedback, answering student questions online, evaluating students' work, leading virtual discussion, interviewing students, etc. Therefore, in the current format, the human factor is an irreplaceable component of these courses.



Fig. 1. The structure of a one-week block in an online English course at School of Management

# **5** Conclusion

We cannot ignore the latest trend of applying knowledge management tools and information and communication technology (ICT) in language learning if we want to keep up with the fast progress in all areas of human activity. Many efforts to incorporate KM and computers in language courses all around the world provide various results with various levels of effectiveness. The experience shows that successful e-Learning in language acquisition is possible only if both human component and ICT component are incorporated in mutual accordance. Ignoring the human interaction in ICT-based language courses may lead to a low level of learner satisfaction. Also, pedagogic principles and the learning process have to be considered in designing online language courses. Further study of psychological and pedagogic requirements as well as obstacles to e-Learning is needed.

The author of this paper has been collecting feedback on effectiveness of on-line English courses at the School of Management in Bratislava, Slovakia, and surveying the level of

satisfaction of students. The unofficial feedback results demonstrate that most students are satisfied with the content and teaching techniques of these courses, but there is undoubtedly a lot of room for improvement in several areas (technical efficiency, user-friendly design, human interaction, etc.)

The author aims to research effectiveness of teaching techniques and knowledge management tools applied in teaching languages online in countries that are ahead of Slovakia in this area. The findings will be applied in order to propose general principles of online language course design.

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### Contact data: Mgr. Valéria Medárová, M.B.A.

Vysoká škola manažmentu v Trenčíne, Panónska cesta 17, 851 04 Bratislava, Slovak Republic

vmedarova@vsm.sk