

A Web-based E-learning Application of Self Study Multimedia Programme in Military English

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Abstract: The language teaching-learning process is an entirely interactive communicative process. The integration of adequate information and communication technology (ICT) in the right place and at the right time plays a determining role regarding language learning efficiency. The 21st century, also referred to as a learning society, will focus more and more on adult education, training and postgraduate courses especially in the forms of web based distance learning.

This paper will give a short definition of d-learning and its categories. It will discuss the features and tasks of an e-learning system focusing on web based applications and restricting the examination on military English teaching.

It will also examine how an existing self-study multimedia language learning material meets the requirements of e-learning criteria and discuss how this self-study language learning material in military English can be transformed into a potentially motivating and efficient web-based distance learning material.

Keywords: d-learning, e-learning, military English

1 Introduction

E-learning internet based technologies have gone through a radical and extremely rapid development in recent years. In the Information and Communication Society (ICS), as the 21st century is also referred to, the nature of knowledge turns into a 'multimedia-ish', trans-disciplinary and practical oriented knowledge [1]. The revolutionary development and change in the information and communication technology (ICT) in the last fifty years and especially the digital boom in the mid/late 90s have tremendously changed certain forms of learning and education. The proliferation of internet and web-based applications opened new ways in adult education and also in language training. Learning in general moves towards the concept of life long learning, which is not a brand new concept in language

learning since learning a language is a process-based and not a product based process. ICT, especially the implementation of multimedia components and the proliferation of web based distance learning applications in language teaching have resulted in forming a new methodology which should be applied and encouraged in life long learning.

This paper focuses on e-learning applications and highlights the potentials in web based military English teaching. The second chapter deals with some definitions in d-learning and e-learning and seeks the best definition possible for e-learning in language training. The paper will go on discussing some factors in the e-learning environment relevant in our case. The fourth chapter presents the initiatives in NATO than the application of CD ROM based self study material in web based content is examined. This field of e-learning is just a tiny slice of the cake, the possibilities in web based applications seem inexhaustible in the century of technological innovations.

2 Distance Learning Concepts and Definitions

Distance learning and distance education differs from the conventional way of education. It is a complex system which results in a remote, planned and guided learning process determined by the demand of the market and the learners. As defined by Michael Moore, then director of The American Center for the Study of Distance Education "distance education is planned learning that normally occurs in a different place from teaching and as a result requires special techniques of course design, special instructional techniques, special methods of communication by electronic and other technology, as well as special organizational and administrative arrangements"¹ [2]. In the perspective of our examination the definitions given by the International Telecommunications Council (ITC) and also the Western Cooperative for Educational Telecommunications are useful. According to ITC distance learning is "the process of extending learning, or delivering instructional resource-sharing opportunities, to locations away from a classroom, building or site, to another classroom, building or site by using video, audio, computer, multimedia communications, or some combination of these with other traditional delivery methods."² [3] The definition given by the Western Cooperative for Educational Telecommunications is the following: "Distance education is instruction that occurs when the instructor and student are separated by distance or time, or both."³ [4] This means that distance education and training results from the technological separation of teacher and learner which frees the

¹ <http://www.uwex.edu/disted/definition.html> , 23. 04. 2006

² <http://www.uwex.edu/disted/definition.html> , 23. 04. 2006

³ <http://www.uwex.edu/disted/definition.html> , 23. 04. 2006

student from the necessity of travelling to “a fixed place, at a fixed time, to meet a fixed person, in order to be trained”⁴ [4] This implies that tutor and student are separated in space but not necessarily in time. From the above definitions it can be concluded that the nature of distance learning/education (d-learning) is slowly transforming to e-learning since methods and means of d-learning cannot ignore innovations in the information and communication technology. On the other hand, e-learning is not always d-learning, however, there are some definitions that argue that the integrated system made up from the learning material in electronic form and the education via broadband internet includes the whole range of e-learning thus being part of d-learning. However, a class held in multimedia language lab where synchronous learning is taking place can also be considered e-learning but not d-learning. According to Derek Stockley e-learning is “the delivery of a learning, training or education program by electronic means. E-learning involves the use of a computer or electronic device (e.g. a mobile phone) in some way to provide training, educational or learning material”⁵ [5]. According to some definitions internet technology forms the base of e-learning where d-learning gives the frame for e-learning development and interactivity adds an extra feature to e-learning compared to fixed web based education [6]. In summary it can be argued that nowadays e-learning forms a content rich, performance oriented, interactive and multimedia based network that enables autonomous and individual learning pace, flexible scheduling in learning, and can be accessed any time from any place [1]. The concept of m-learning has risen with the boom of mobile technology and enables permanent learning through cable or wireless applications like laptop, notebook, mobile phone or tablet PC.

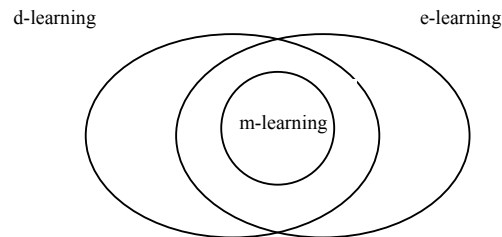


Figure 1
The interrelation of d-learning e-learning and m-learning

The accessibility of such ways of learning creates such an open learning environment where both the flexibility of timing and the autonomy of a learner meet the requirements of life long learning in the information society.

⁴ Keegan, D., 1995, p. 7

⁵ <http://derekstockley.com.au/elearning-definition.html>, 23. 04. 2006

3 E-learning Environment

An ICT enhanced e-learning environment can effectively foster learning if it stands on sound strategic pillars varying from the technological to the tutorial ones. This chapter will focus on the modern technological solutions, the pedagogical aspects and the assessment factors of an e-learning environment. Furthermore, the managerial, the administrative and some other components can also be examined but these are not in our focus now.

3.1 Internet Technologies

In the mid 90s e-learning content was dull, not media rich, non-interactive mostly "page turners". The content was assembled from simple, purely static websites, which delivered certain pieces of information published and edited in the form of hypertext⁶ similar to printed books. These might include a table of contents even some internal and external hyper-links were also integrated. With the appearance of broadband internet in higher education as well as in households, two different trends have emerged in e-learning applications [7]. The spreading of new ICTs have made the delivery of more and more (dynamic HTML – DHTML based) interactive pictures and movies available on the web. First these contents could be accessed only via intranet but later modern technologies and modems enabled service providers to transmit these contents via the internet as well. Afterwards, thanks to the speed of PCs and the size of broadband, three dimensional (VRML based) pictures and pages could be developed and transmitted. The other group, who deploys internet based e-learning have discovered the need for systems that can deliver proprietary content easily and efficiently to their end users, and strive to offer learning content management systems with a full range of training management options like administration, monitoring and system level transparency. In this case system level programmes run on the web-server enabling central service supervision.

Another open technology solution suggested by the international W3 consortium to store files and publications that might become the backbone of a technological trend is the Extensible Markup Language (XML), a simple, very flexible text format, which was "originally designed to meet the challenges of large-scale electronic publishing"⁷. "XML is the lingua franca of component application interoperability, data transformations, and meta-data—data about data"⁸. At the

⁶ The hypertext is not a sequential and linear electronic text which has a beginning, a middle and an end but a unified network of text units arranged by determined associations, which association changes the time and space dimensions of the text.

⁷ <http://www.w3.org/XML/>, 23. 04. 2006

⁸ http://www.wbtic.com/trends_technologies.aspx, 15. 04. 2006

same time “XML is playing an increasingly important role in the exchange of a wide variety of data on the web and elsewhere”⁹.

In internet based language teaching, a new feature is to collect and record data about the end user. In order to realise a satisfactorily data collection, a database management system is a must. The most commonly used database systems at the backbone of these e-learning frameworks are Oracle, DB2, MS SQLServer, Postgres etc. These systems are all SQL based relational databases.

According to some studies and research papers it is assumed that web based e-learning will overcome CD-ROM based learning. While CD-ROMs work from fix and static information, web based applications enable dynamic and ever evolving applications. It is assumed in a study by Eduweb that web-based (internet based) e-learning will become the most widespread form of e-learning in the future.

3.2 Teaching-learning Process

Focusing on language learning with the help of multimedia the model drawn by Miller and Padgett [8] has to be considered. Distance learning along with three dimensions namely **time**, **place** and **group size** are examined. In their case distance learning is always meant as e-learning since the primary technological component for them is the computer mediated communication system.

The **place** factor (same or different) distinguishes distance learning from the conventional way of education. The tutor delivers information through multimedia tools or uses other means of communication to deliver information.

The **time** factor (synchronous or asynchronous) represents a significant feature both in traditional and distance education. The learner can choose to participate in the learning environment in real time or decides to adopt individual time scheduling. In both cases the participation of a tutor is unavoidable who guides and helps the learner to cope with the learning material.

Taking the nature of language learning into account, the **group size** factor might become a determining factor in adult education. Since a language is spoken by its users, language learning has proved to be more efficient if it is learnt in groups. Learning in groups may motivate the members of the group to take an active part in the learning process. In an e-learning environment the sense of belonging might encourage the student’s attitude to learning in adult education thus resulting in more efficient learning.

In the language learning process the active participation has to be promoted and the sense of contribution must be encouraged. “The student becomes a contributor

⁹ <http://www.w3.org/XML/>. 23. 04. 2006

to the course content and not just a passive observer”¹⁰ [8] with the help of such ICT like “live interactive chat sessions, asynchronous bulletin board assignments, and web-based computer assignments”¹¹ [8]. Naturally, the electronic literacy skill should also be developed in the student, thus enabling the language learner to communicate freely in both synchronous and asynchronous d-learning environment. According to Warschauer, “learning to read, write and communicate via computer has become an essential feature of modern life in the developed world.”¹² [9]

3.3 Learning Modules and Components

There are some other factors apart from the ones mentioned above that should be considered in case of e-learning. The learning must be planned and guided. The learning material must be controlled by adequate tools. The language learning material should include practice tests, examples, control tests, and other obligatory exercises that have to be sent to the tutor via electronic means. The learning material should be customised according to the features of the target group, so such a material, in our case multimedia language learning material, can be elaborated that could meet the demands of students with different skills, different level of language command, motivation, learning pace and strategies. In adult education students’ “added knowledge” should be taken into account. The structure of the learning material – in the form of hypertext and hypermedia¹³ – guides the individual learner through the material to be learnt in a problem solving way where the student is obliged to use his/her already gained knowledge, to give advice or be creative. The learning material should include such multimedia components that enable video conferencing or group activities in a virtual classroom. The essence of multimedia appears in the process of language learning in a way, that the information is transferred to the student via more channels and it has proved to multiply the efficiency of learning. However, learning is efficient only if the pieces of information supplement each other and are not repeated [10]. The modules of multimedia e-learning are built on each other; however, certain modules can be left out without losing the efficiency of learning.

3.4 Tutor – Student Attitudes and Behaviours

The relation between the teacher and the students differ from the one in the traditional classroom. The focus shifts from teacher-centred to learner-centred

¹⁰ Miller, D., Padgett, T., <http://www.westga.edu/~distance/>, 23. 04. 2006

¹¹ Miller, D., Padgett, T., <http://www.westga.edu/~distance/>, 23. 04. 2006

¹² Warschauer, M., & Healy, D.: 1998, p. 58

¹³ The multimedia version of the hypertext

approach, from product-oriented to process oriented learning. The main objective of e-learning courses is to give base for further productive thinking and work. The mentor/counsellor – usually a teacher of an educational institute – adapts other than traditional roles since the teacher is not necessarily present at the time of studying. The use of email, mobile phones, online communications and other communication technologies help tutors and students to build up a continuous learning environment where the tutor gives professional advice and guides the students through the material. E-learning systems require certain features from the student's side as well. The student determines the time schedule and the intensity of learning. The structure of e-learning material allows students to return to certain more difficult modules while easier modules can be learnt more quickly. If the student is an autonomous learner who feels responsibility for his/her studies, is motivated enough, is eager to learn, creative, active, has organisational skills and flexible enough then he/she would certainly be able to acquire the knowledge that e-learning education provides.

It is assumed that e-learning will result in an impersonal teaching-learning process, however, the regular consultation with the tutor via email or chatting brings back the personal contact to the learning process.

3.5 Testing, Assessment and Feedback

The individual scheduling and selection of modules are usually supported by continuous feedback and assessment that closes a given block [11]. Tests and assignments give a comprehensive picture about the momentary knowledge of the student. Tests serve as self assessment tools and inform students to return or to go on with the course. In case of web-based applications, results of tests and assessments must be collected and managed on a central server in order to gain information on the learning pace and the language improvement of the student. The examination of such recorded data helps block or module developers to update or restructure the learning material accordingly. Naturally, the student can move on with the material only if he/she passes the test.

4 A Special E-learning Standard and Framework

The mushrooming of different e-learning systems and technological solutions as well as the trend of globalisation pushed the market of e-learning towards standardisation. Various e-learning councils and associations have been formed such as the International Council for Distance Learning (ICDL) or the European Distance Education Network (EDEN) while, at the same time, the most influential market players strive to introduce their own e-learning standards.

The USA, as one of the leading economic and political forces in the world, is definitely playing an important role in the world's affairs where new threats and challenges have emerged all over the world like terrorism, the proliferation of weapons of mass destruction, the illegal trade of drugs and weapons, the question of organised crime, the political and economic instability of various regions and migration. The above reasons and NATO enlargement necessitate the elaboration of such an e-learning environment that provides high level education regardless of time and space and creates or improves interoperability amongst NATO member countries and nations who wish to join the NATO [12].

In 1997, the American Department of Defence (DoD) kicked off the Advanced Distributed Learning (ADL)¹⁴ initiative which aimed at accelerating the adoption of advanced distributed learning technologies. The DoD intended to modernize education and training and to promote cooperation between government, academia and business to develop e-learning standardization. "The ADL initiative has defined high-level requirements for learning content, such as content reusability, accessibility, durability and interoperability to leverage existing practices, promote the use of technology-based learning and provide a sound economic basis for investment"¹⁵. The ADL initiative aimed at creating such a web based learning environment in which the learning content is customised to match the trainees' needs, it would adapt intelligently to the learner and is distributed from a worldwide knowledge database.

In order to integrate and "connect" work from other organizations the Sharable Content Object Reference Model (SCORM) was developed in the early 1999. "SCORM is a suite of technical standards that enable web-based learning systems to find, import, share, reuse, and export learning content in a standardized way"¹⁶. SCORM enables the development of learning content in places different from the place of learning. SCORM assumes the existence of a 'smart' Learning Management System (LMS) or often called a Learning Content Management System (LCMS) implying the existence of "a set of services that launches learning content keeps track of learner progress, figures out in what order (sequence) learning objects are to be delivered, and reports student mastery through a learning experience"¹⁷. A smart LCMS knows what is to be delivered to the trainee and when he/she has mastered a skill or competency, and can branch to the right content when needed. SCORM has adapted XML as it can fully satisfy all the criteria.

An integrated network lab – CoLab – was set up to support ADL, where the main trends, directives and standards are tested and assessed.

¹⁴ <http://www.pfpconsortium.org/>, 01.03.2006

¹⁵ http://www.rhassociates.com/adl_background.htm, 04.04.2006

¹⁶ <http://www.rhassociates.com/scorm.htm>, 04.04.2006

¹⁷ <http://www.rhassociates.com/scorm.htm>, 12. 04. 2006

Two other initiatives have to be mentioned, namely, the NATO PfP Learning Management System powered by ILIAS and the NATO Education Network (NATO EN). The Zrínyi Miklós Home Defence University (ZMNE) introduced the web-based ORACLE iLearning LMS in 2004 which together with other ORACLE software products makes the setup of an integrated ORACLE e-based infrastructure possible [12].

5 A Special Application of E-learning in Military English Teaching

The open door policy of the NATO and its enlargement have made NATO members realise that NATO compatible military English is of top priority in the national defence forces. The almost exclusive use of English as a “trade lingua” in each field of business, military and public sector as well as on the internet worldwide oblige end users to gain a good command of both general and specific English.

Focusing on military English teaching it can be argued that Hungary’s joining to the NATO and the modernization of the Hungarian Defence Force turning it into an all-volunteer professional force altered the language competence requirements facing the officers. Hungary’s participation in joint military operations and missions, and its participation in NATO meetings and summits require high level of language command. Officers are motivated to learn foreign languages since it is crucial in their carrier. In the all-volunteer professional force the officers are responsible for their carrier, their improvement, achievements and their language command. More and more officers in the armed forces require regular, on the spot and distant language training. Although they can be enrolled for courses at the University but due to their work practice the actual language training cannot be carried out in the buildings of the University [13]. “Due to the downsizing of the Hungarian Defence Forces and its increasing involvement in international operations and missions, trainees find it increasingly difficult to get away from their regular assignments in order to spend time on language training at the institution. Therefore English courses should be adapted to the needs of students by intensifying classroom training with the aid of enhanced technological standards and focusing on self-study phases during and after courses. In the field of teaching material development, projects ought to be designed to provide general and mainly military language self-study materials. Distance language learning should be encouraged as well.” [14]

Due to the trends in ICT and the changes in the defence forces stated above I claim that nowadays online courses and e-learning are slowly taking over the traditionally organised language classes in the education of military officers.

According to Géza Kádas [15], distance learning can be efficiently implemented in military English courses since its time factor does not put more work and time load onto the institution, it can fully satisfy the language demands of the language learners to its fullest potential, it can provide relevant level input to the learners of military English both in content and depth. It provides an excellent opportunity for the preparation for in-service language trainings and makes military English teaching of a higher standard possible. Furthermore, it provides a base for continuous language self training.

The commissioned and non-commissioned officers are motivated in language learning since it is of supreme importance in their carrier. According to a warning, the language competence of officers is tested after two months they have been ordered to a NATO headquarters and if they fail the test, two other months are available for them to brighten their command of the language. Then depending on the result of a new test the officers stay at the NATO headquarters or return to their basepoint. [16]

The collaboration of foreign and domestic partners is inevitable and while foreign guest lecturers and visiting professors join the team at ZMNE to train both commissioned and non-commissioned officers, civil servants and public administrators of the Hungarian Defence Forces, then the launching of e-learning multimedia English language courses could involve a high number of officers from the neighbouring and other NATO members to practise, sustain and improve their English skills and knowledge. This assumption is supported by the fact that a large number of officers enrol for the intensive language courses organised at PFP language centre and these officers can become the potential trainees of the e-learning courses.

The existing English self study material – preparing for STANAG 1.1.1.1 and STANAG 2.2.2.2.2 - is a multimedia learning material in a closed system, available on CD ROM. The language programme offered has some drawbacks and benefits at the same time. The learning programme was developed to help officers to prepare and practice for STANAG exams taking advantage of computer based technologies. The main objective was to develop such a self study material that can be used any time and any place. The focus is on individual learning.

5.1 Benefits

The programme integrates all features of multimedia that make the learning process enjoyable and comfortable, i.e. it is *illustrative and expressive*. The audio and video files will definitely motivate learning and the stand-alone feature of the CD ROM does not require any type of network or internet accessibility. The programme met the requirements of *interactivity* which presumes that the programme or application responds directly to the user, taking instructions and

giving feedback. It is *well structured*, namely, the learning programme is made up from stand-alone submodules, thus enabling flexible learning.

5.2 Drawbacks

The programme is stored in a closed system in static form. The structure of the learning material is independent from the level of English while the tests included give feedback only to the trainee and not to the teacher/tutor. There is no feedback on the efficiency of learning and learning styles and attitudes. The language learning process misses the interactivity between the tutor and trainee, and the tutor – trainee contact can be realised only by personal consultation.

5.3 STANAG via Web-based Learning

Considering the local facilities to create a web based learning environment the learning programme should be offered and accessible via a learning management system. It is practical to choose the ORACLE iLearning learning management system, which has been introduced at ZMNE, and has a sound e-learning centre in Budapest.

The self study material already fulfils certain criteria that a web based learning material should meet such as it is well structured and integrates multimedia into the learning programme i.e. it is illustrative and expressive. However, the learning material does not refer to the time scheduling and there is no interdependence among the learning units and there are no criteria to enter a higher level unit. The management of dynamic content in our case the tutor – trainee communication (synchronous and asynchronous communication) is not solved yet. A preset collection of static database is provided regardless of the needs of the trainee. The question of *tailor-made* content, the expansion or change of learning material *via adjustable web services* can be solved by using a central web server that both the tutor and the trainee have access to. Using a web based learning management system and offering the self study STANAG material as an e-learning programme, the number of users can be tracked, the trainee's improvement and his/her learning habits can be traced. Furthermore, the learning process could be controlled and the content could be adjusted accordingly.

Certainly this does not mean that no language courses should be offered at the University but it provides an alternative to those officers who due to their commitments cannot enrol for the courses. This methodology could efficiently support language training and could suitably contribute to life long learning.

Conclusions

The challenges of the Information Society, the growing boom of the digital era, the transition of Hungary's economy and the modernisation of the Hungarian

Defence Force have all influenced the process of language teaching and learning. In our case military English teaching and learning is slightly moving from organised language courses to in-service language trainings that serve the life long learning of an officer and provides a base for a continuous update of language competence.

This paper examined the e-learning environment focusing on internet technologies and pedagogical aspects. It also discussed what requirements a CD-ROM based self study military English material should meet in order to adopt it to an e-learning course.

In summary, it can be argued that due to a change in the society and the big boom in ICT the emphasis shifted from learning in a class towards learning individually or via network-based labs. The focus is on life long learning. A web based virtual classroom backed by virtual private network (VPN) that be accessed from distant base points would presumably satisfactorily serve the needs of military English language training. The application of the existing STANAG self study material to an e-learning course could hopefully efficiently contribute to the training of military officers with good language and computer skills and competences.

References

- [1] Dr. Selinger, S.: Távoktatás a világhálón, Az internet alapú oktatás egy kommunikációs folyamat, <http://www.szamalk.hu/E-learning/Program.htm>, 29.12. 2005
- [2] Moore, M, Kearsley, G: Distance Education: A Systems View, California, Wadsworth Publishing Company, 1996, <http://www.uwex.edu/disted/definition.html>, 23. 04 2006
- [3] Western Cooperative for Educational Telecommunications: Distance Education: A Consumer's Guide <http://www.uwex.edu/disted/definition.html>, 23.04 2006
- [4] Keegan, D.: Distance education technology for the new millennium: compressed video teaching. ZIFF Papiere. Hagen, Germany: Institute for Research into Distance Education. 1995, p. 7, <http://www.westga.edu/~distance/ojdla/fall53/valentine53.html>
- [5] <http://derekstockley.com.au/elearning-definition.html>, 23. 04. 2006
- [6] Felvégi, E.: Távoktatás, e-learning és nyitott oktatás Anglia, Az Egyesült Államok, Finnország , Németország, Svédország oktatási rendszerében, Új pedagógiai Szemle, 2005/12
- [7] Az e-learning jelenlegi helyzet, perspektívái és fejlődési irányai, Eduweb Távoktatási részvénytársaság, 2001, www.eduweb.hu/pdf/e_learning_tan.pdf, 23, 04. 2006
- [8] Miller, D., Padgett, T.: Redesigning the Learning Environment for Distance Education: An Integrative Model of Technologically Supported Learning

Environments. In Distance Journal Administration, <http://www.westga.edu/~distance/>, 23 April, 2006

- [9] Warschauer, M., & Healey, D.: Computers and language learning: An overview. In Language Teaching, 31, pp. 57-71, 1998, <http://www.gse.uci.edu/markw/nblt-intro.html>, 29.11.2005
- [10] Ósz, R.: Interakciók az e-learningben <http://www.szamalk.hu/E-learning/Program.htm>, 29.12. 2005
- [11] Sulyok, T.: Távoktatás, PTE TTK FEEFI, 2001, pp. 2-19
- [12] Vörös M, „ORACLE iLearning Internet alapú távoktatás a katonai felsőoktatásban”, In Acta Agraria Kaposváriensis, 2004/3, pp. 183-190
- [13] Vörös, M, „eLearning a katonai felsőoktatásban. ZMNE”, <http://www.szamalk.hu/E-learning/Program.htm>, 2004, 12. 12. 2005
- [14] Dr. Kovácsné Dr. Nábrádi, M.: National Report – Hungary_2005, BILC Conference, Bundessprachenamt Hürth, Germany, http://www.dlielc.org/bilc/Rep_Presnt/NATLRPT/Hungary_05.doc, 2005, 09. 01. 2006
- [15] Dr. Kádas G.: A katonai szaknyelvoktatás átfogó megoldása – a távoktatás, Új Honvédségi Szemle, 1998/8
- [16] Kovácsné Nábrádi M, „Az angolnyelv-oktatás jelene és jövője a Zrínyi Miklós Nemzetvédelmi Egyetemen”, In Új Honvédségi szemle, 1999/7, pp. 74-75