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JOURNAL ON EFFICIENCY AND RESPONSIBILITY IN EDUCATION AND SCIENCE

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The Journal on Efficiency and Responsibility in Education and Science aims to publish perspectives of authors dealing with issues of efficiency and/or responsibility in education and related scientific disciplines. The focus is on topics such as:

- theory and methodology of pedagogy and education;
- theory and methodology of science;
- human resources and human relations management;
- knowledge management and knowledge engineering;
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HOW TO USE ACTION RESEARCH IN TEACHER TRAINING PROGRAMMES

Abstract

This article focuses on action research study which was conducted with the third class students of English Language Teaching Department ,which was completed in four weeks.The aim was to introduce action research to teachers-in-preparation and encourage them to use it after their graduation to help them to become reflective teachers..Before this action research began,teachers-in-preparation had been tutoring for five weeks.In the first week of the action research study,in the classroom, students tried to find common teaching problems they had while tutoring and they used data collection techniques such as video-taping and peer observation, and in the second week they shared what they had learned about their problems and what their action plans were.In later weeks they shared the results of their the action plans and how successful their plans were.It was hoped that teachers-in-preparation would become more flexible in their thinking,be more open to new ideas and would learn to develop professional autonomy.

Key Words

Action research ,reflection,self-assessment

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Introduction

Action research has grown popularity in recent years and it is becoming an essential part of teacher training, and it is in the center of professional lives of teachers as it enables teachers and teachers-in- preparation to reflect on their teaching, and allows teachers who want to examine events in their own classrooms to take constructive steps towards solving immediate problems. What is action research? Kemmis and Mc Taggart define action research as "trying out ideas in practice as a means of improvement and as a means of increasing knowledge about the curriculum ,teaching and learning."(1982:5 as cited in Thorne and Qiang,1996:255). According to Michael Wallace action research is " the systematic collection and analysis of data relating to the improvement of some aspects of professional practice."(1998:1). Action research nearly always stems from specific problems or issues arising out of teachers' professional practice. It is problem-focused and very practical in its intended outcomes. It is based on the following assumptions:

- Teachers work best on problems they have identified for themselves.
- Teachers become more effective when encouraged to examine and assess their own work and then consider ways of working differently.
- Teachers help each other by working collaboratively.
- Working with colleagues helps teachers in their professional development(Watts,1985:118 as cited in Ferrance,2000:1).

There are different types of action research:

1. Individual teacher research: It centers around a single issue in the classroom. The teacher wants to find solutions to different kinds of problems such as problems of classroom

management, student learning, the use of materials, teaching and learning strategies,etc. It is conducted by individual teachers in response to their own particular problems in their classrooms.

2. Collaborative action research: It includes two or more teachers and the issue may involve one classroom or a common problem shared by a lot of classrooms. Through sharing their ideas with colleagues teachers develop stronger relationship.
3. School-wide research: It focuses on issues common to whole school and the staff work together. As it becomes a part of the school culture ,there will be increased collaboration among departments.

Action research is an approach to collecting and interpreting data that involves a clear, repeated cycle of procedures (Bailey,2001:490).These repeated steps are:

1. An issue or a problem is identified.
2. Relevant data are gathered.
3. A plan of action is designed to bring about a change in the classroom behaviour.
4. The plan of action is implemented.
5. The action is observed.
6. Results are monitored and observation is reflected on.
7. If the problem has been solved, researchers may begin to work on another one; if not, the original problem is redefined and the cycle is repeated.

Action research aims at bringing about changes for the better in the specific situation being investigated. It is characterized as being a participatory, self-reflective, collaborative and context-based approach to research(Nunan,1994:63), and "action

research demands a high level of professional commitment from teachers"(Thorne and Qiang,1996:255).The idea of action research can be found in Kurt Lewin, a social psychologist and educator whose work on action research began in 1940s as a way of investigating social problems in the USA. Stephen Corey, a professor at Teachers College at Columbia University was among the first to use action research in the field of education:

"We are convinced that the disposition to study...the consequences of our own teaching is more likely to change and improve our practices than is reading about what someone else has discovered of his teaching."(Corey,1953:70 as cited in Ferrance,2000:7).

However, in 1950s it was attacked as unscientific and the work of amateurs(McFarland and Stansell,1993:15 as cited in Ferrance,2000:8).In the 1970s action research emerged again and began to hold great value. Since 1980s there has been a dramatic rise in its popularity, and nowadays it is seen as a vehicle for professional development with a greater focus on the teacher than before(Noffke and Stevenson,1995 as cited in Ferrance,2000:8).

"Action research emphasizes the involvement of teachers in problems in their own classrooms and has as its primary goal the in-service training and development of the teacher rather than the acquisition of general knowledge in the field of education."(Borg,1965:313 as cited in Ferrance,2000:8).

For the success of action research students are of crucial importance because they need to know that they can contribute to the quality of their education by showing willingness to be video-taped or interviewed.Students are a wonderful source of feedback because their information is based on a whole series of lessons and they generally have a quite clear idea of how well

they are learning and why.Furthermore,they usually try hard to give helpful feedback and this process enhances teacher-student relationship.

Recently a lot of action research studies have been carried out by language teachers to investigate issues in their classrooms. For example, Kebir(1994,as cited in Bailey,2001:495) studied adult language learners' communication strategies . Another one is by Helen Sitler, who tried to evoke students' verbal response to instructions. Sitler informed that no method course had ever presented her with such a stimulating possibility.She said that she has learned the value of becoming aware of her teaching behaviours and of investigating their consequences for students' learning. The action research study by Zübeyde Tezel is about getting students to talk during tutorials. Tezel reported that by doing action research she felt she addressed her students'needs much better because it helped to close the gap between the predetermined methods and her own class. She was able to choose what would work for her students rather than applying the most recent and popular methods.

Rebecca Wisniewski from Charlotte M. Murkland School in Lowell, Massachusetts wrote about her experience with action research.They worked collaboratively as a whole school and their question was "what can we provide for effective reading instruction for third and fourth grade English language learners who are limited readers or nonreaders?" As a team they interviewed their students and asked their views about which of their strategies helped them become stronger readers.She found that action research helped her to put some of her assumptions to the test.She said that she made unexpected discoveries about her own teaching by listening carefully to students.

In Thorne and Qiang's project they introduced the notion of action research into China to encourage reflective teaching and

classroom research among trainee teachers. Trainee teachers acted as real classroom teachers, and the project was divided into two stages: during the first semester the participants were familiarized with the action research approach and studied ways to collect and analyze data through learner diaries, observation sheet and questionnaires. During the second semester trainee teachers carried out their own action research with their classes. Doing action research gave trainee teachers a strong desire to change. With constant reflection and modification of their techniques they succeeded in motivating their students.

Another example is an action research study about learner strategy training conducted by David Nunan. He decided to see whether incorporating a learner strategy and self-monitoring dimension into the classroom would help students develop the self-reflective orientation they would need to realize their potential as university students. Students reported on their strategy use and personal goals for strategy development. By the end of the 12-week period, students who took part in the action research project were more likely to exploit opportunities that existed for language learning and they also seemed to make greater connections between English and content courses.

These examples show that action research is based on problems that are real for teachers and relevant to students.

Generally teachers are taught different methods at university but they are seldom taught to observe the effects of these methods. These methods have been imposed on trainee teachers and teachers assuming that they would bring the best results in every teaching context and with any group of students. They do not take into consideration the unique nature of each class so they may not work well in each class. Action research could give both trainee teachers and teachers a means of doing it. Farrell

argued that language teacher education programs emphasized "how to teach" with its main stress on methods rather than what it means to be a language teacher (2006:218).

This study aims to introduce action research to teachers-in-preparation (how to collect data and how to analyse and evaluate data) and help them understand that through action research teachers can learn about themselves, their students and their teaching styles, and can find ways to improve themselves continuously. Action research could help them identify and examine their own ideas and attitudes about language and learning and identify areas for further research in their own classroom as trainee teachers should develop skills of evaluating, planning and monitoring their own professional activities. It is hoped that it would encourage them to use action research after their graduation in their real classrooms to learn more about and reflect on their teaching and solve their problems by using it.

Materials and methods

17 3rd class students of English Language Teaching Department in Buca Faculty of Education at Dokuz Eylül University used action research study with the students they had been tutoring for five weeks. In the first week of the action research study students tried to identify common problems they had while tutoring. They identified their problems by using the results of CATs (classroom assessment techniques) they applied before and the diaries they kept after each lesson. The problems they posed are gathered under three headings:

1st group's problem: "How can I use more English during the lessons and make my students understand it?"

2nd group's problem: How can I increase the amount of my students' speaking time in English in the classroom?"

3rd group's problem: "How can I motivate my students?"

They also discussed about ways of data collection and used video and audio taping, peer observation , teacher-student interviews and questionnaires as data collection techniques.In the second week they shared what they had learned about their problems and what their action plans were.After this lesson they implemented their plans of action for two weeks,video or audio taped their lessons or used peer observation and then they viewed the tape or read their peer teacher's notes to find out whether their action plans were effective or not.In the third and fourth weeks they shared the results of their implementing the action plans and how successful their plans were.

Results

The details of the results of 3 teachers-in-preparation's action research study(they were in the 2nd group), which is about increasing the amount of their students' speaking time in English during their lessons will be examined as it would not be possible to report about all teachers-in-preparation's action research studies . The followings are the details of their study:

A-Posing A Problem:

During their lessons all three realized that their students were not communicating with them in English and they generally preferred Turkish even though teachers-in-preparation gave verbal instructions in English and their students were able to understand their teachers' English sentences. Therefore, they accepted it as a real problem and raised this question:

"What can I do to increase my student's speaking time in English during the lesson?"

B-Seeking Knowledge:

Having identified a problem, they needed to discover more about their problem. All three used video-taping and beside video-taping one of them used teacher-student interview which included such questions:

"Was the lesson interesting? If not, how do you want to learn it?"

The student's answer: "Not so interesting. If technology and computer are included in the lesson, it may be more interesting."

Another one used a short questionnaire which includes some sentences such as :

a-I like speaking English.

b-I feel relaxed while speaking English.

c-I think speaking English is difficult.

and the student answered them by using "I agree, I don't agree, etc." When his answers were examined, it was understood that he wants to speak English but he doesn't feel relaxed while speaking English.

The video-tape was revealing also. During the lesson of one of the three teachers-in-preparation the student's talking time in English was 5 minutes and he used Turkish while he was doing the activities, and the teacher spoke for 20 minutes during the lesson. This teacher-in-preparation also realized that she used very long and complicated sentences for her student's level. Other teacher-in-preparation's student talked for 10 minutes during her lesson. The 3rd teacher-in-preparation's student

used Turkish as he was worried about making mistakes. The video-taping also revealed that she corrected every mistake of her student, which made him confused and anxious.

C-Planning An Action:

Based on the information they got, they decided to take some steps:

1st teacher-in-preparation's steps:

- a-Using simpler and shorter sentences in the lesson
- b-Using computer in the lesson
- c-Using the following speaking activities:

1-Telling stories:In this activity the teacher shows some pictures to the student and ask such questions:

- Who are the people in the picture?
- What is happening now?
- What happened before?
- What is going to happen later?

2-Talking about a story book: The student chooses and reads it before the lesson and the teacher asks some questions and they discuss it.

3- What will happen?:The teacher chooses some interesting videos ,but doesn't play all the video,pauses at some points and asks the student to guess what will happen.

4-Guessing Game:The teacher keeps an object in the room in his/her mind and the student tries to find it by asking yes/no questions.

2nd teacher-in-preparation's steps:

- a-Activating background information related to their subject.

b-Information-gap activity:The teacher and the student have the same picture but with some differences.Without looking at the teacher's picture the student tries to find them by asking questions.

c-Famous People:The student thinks of a famous person and interviews with the teacher as if he/she were that famous person.

3rd teacher-in-preparation's steps:

- a-Using videos ,powerpoint slides:Watching a video and asking questions about it,both the teacher and the student asked questions.Watching slides and saying whether they like or hate the activities in the slides and why.
- b-Using colorful pictures related to their topic and talking about them.
- c-Songs: Listening to a song and filling in the blanks and asking questions about the topic of the song,what the title could be,etc.
- d-She decided to correct her student's mistakes less.

D-Implementing and Observing the Action:

They applied their activities and two of them video-taped, and one audio-recorded their lessons.

The following table shows the results of the activities of the 1st teacher-in-preparation.

	Total Time	Student's Speaking Time	Teacher's Speaking Time	Computer
Telling Stories	20	14	6	✓
Talking About a Story	13	9	4	X
What Will Happen?	20	13	7	✓
Guessing Game	15	10	5	X

She stated that when the table is examined, it is clear that the activities are useful for the student. He did not speak non-stop during the activities but in two weeks it is really a great success for the student to spend so much time speaking in English. During the lesson she tried to minimize her talking time. It was really difficult for her as her student usually wanted help while he was asking questions. She helped him by giving short and clear examples and she didn't speak more than he did. At the end of the lesson she asked her student some questions to get feedback:

Q1-Did you feel relaxed during your talking time ?

A:Mostly I was relaxed but when I couldn't find the word to express my thoughts , I was nervous.

Q2-Were the last two weeks useful for your speaking skills in English ?

A:Yes , I talked more than the former weeks and I think these activities were for useful for me .

Q3-Which type of lesson do you prefer ,speaking activity dominant lesson or workbook activity dominant one ?

A:Both of them should be included in the lesson.

2nd teacher-in-preparation audio –recorded her lesson and analyzed the tape in terms of the amount of the time the student spent talking. During the first activity(activating background knowledge)her student spent a total of 5 minutes talking.The student spent a total of 10 minutes talking during activity 2 (Information-gap) and lastly the student spent 10 minutes talking during activity 3(famous people).

She also found out her student's ideas about the lesson after the lesson was over by asking questions such as:

Q-Did the lesson cover your needs?

A-Sometimes yes,sometimes no, but I think I have improved my speaking by being involved in these activities.

Q-Did you like the activities?Were they useful?

A- Yes, I did,especially information-gap activity.They were useful to improve speaking.

The 3rd teacher-in-preparation video-recorded her lesson and viewed it later and noticed how her student tried to respond her questions in English. She used simple sentences while asking questions and she gave examples and background information about the topic and showed pictures so the student didn't use his native language.While watching videos and powerpoint slides her student spoke in English only four minutes.In the second lesson she used a song which he particularly liked as he was keen on talking about songs. She also realized that the amount of her correction decreased.The student's speaking time was 12 minutes,which was an important improvement when it was thought that the student had never used English with the fear of making mistakes.

After the lesson she interviewed with her student to find out his ideas about the lesson.The followings are her interview questions:

1. How did you find the lesson?
2. What did you enjoy most about the lesson?
3. Did you have any difficulty in the lesson?

The student said that the lesson was enjoyable and he enjoyed himself most while listening to the song, but he had difficulty while he was filling in the gaps in the song.

Discussion

E-Reflecting

All three teachers-in-preparation think that speaking skill has an important role in language teaching and learning. Learning English does not just mean listening to the teacher and taking notes .Learners have to be taught to speak as well as to listen. Therefore, they should be active participants, not passive listeners.Their students had limited language knowledge but the activities they carefully chose enabled their students to speak more.

They agreed that this action research study showed them that if a teacher wants to improve his/her students'skills in English, there is no obstacle to achieve his/her goal. They also believed that they improved their teaching skills as well as learning how to choose activities according to their students' needs.They have become more confident about their teaching , more aware of their teaching problems and how they could solve them. They began to ask questions such as "What do I know now that I did not know before? Am I closer to solving the problem? Is there a bigger problem that needs to be resolved?" One of them stated that before this action research study began, she had thought that it would not be useful for her student and would

not reach success at all, but after the project was completed,she said she could see the improvement .It was not so great but it was enough when the limited time was considered.

Conclusion

What They Have Learned About the Action Research

They stated that by doing action research they analyzed their students' needs and used methods and activities which were suitable for their students' needs. With the help of action research study their problems diminished. They informed that they would go on using action research after graduation to investigate how they can do their best to teach and help their students. Through action research teachers-in-preparation will have an opportunity to develop their professional autonomy and use classroom activities which they may not attempt to use otherwise.

Many teachers like action research because the emphasis is on problem solving and teachers can see the relevance of doing it (Gebhard,2003:76).Teachers can address real problems in their classes and can make teaching and learning process more effective. Van Lier (1993,as cited in Gebhard,2003:70) says action research "is a way of working in which every answer raises new questions, and one can thus never quite say 'I've finished". By conducting an action research study teachers "gain awareness of their teaching beliefs and practices and learn "to see teaching differently."(Gebhard and Oprandy,2003:4) .According to Aydan Ersöz self-inquiry and self-discovery are really important and effective in changing our behaviours and beliefs. Action research as a way of critical reflection enables us to take more responsibility for our actions and to develop professional flexibility(2012:42). Educators involved in action

research become more flexible in their thinking and more open to new ideas (Pine,1981 as cited in Ferrance,2000:15).The results of action research study are valuable not only for teachers' own learning and development but also they can contribute to the advancement of professional knowledge as a whole (Ur,1996:329). At university the curriculum should prepare trainee teachers as autonomous, analytical and critical teachers capable of carrying out classroom teaching and research, and of managing their own professional development.It could not be claimed that action research is the answer to all questions and problems of teacher education but it is plausible to think that a structured training programme for basic classroom research is a useful and motivating addition to teacher education programmes (Thorne and Quiang,1995:261).

In conclusion, some reasons could be listed why teachers should do action research (Sitler and Tezel 2003):

- a- Teaching can be accomplished if teachers follow students, not the packaged methods, to structure the learning/teaching process.
- b- Action research can narrow the gap between researchers and teachers (Lieberman 1986;Nunan 1995).
- c- Through the use of action research, teachers can find their own way among all those methods and theories and texts.
- d- The real issues and problems can be addressed (Nunan 1990).
- e- Action research is a part of professional development . It provides a means for teachers to become more aware and reflective in their teaching.

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RECOGNIZING PERSONAL LEARNING STYLES AND USING LEARNING STRATEGIES WHILE LEARNING ENGLISH IN AN ELECTRONIC ENVIRONMENT

Abstract

This paper describes the development of language skills among academics of VSB-Technical University of Ostrava in an LMS Moodle e-learning environment with regard to individual learning styles and strategies while learning a foreign language. A student's individual learning style plays an essential role in effective foreign language acquisition, therefore recognizing their own learning style and using the right strategies to reinforce their particular curriculum can lead to effective learning. The Department of Languages at the VSB-Technical University of Ostrava has decided to implement e-learning forms of education into English Language Teaching (ELT) in the form of optimized adaptive e-courses.

The paper describes the objective of providing an optimized adaptive e-learning environment respecting preferred learning styles with a narrower focus on the perceptual preferences (VAK) of the presented curriculum and with regard to recommended learning strategies to be used while learning. This e-learning environment is being developed in accordance with the Common European Framework of References for Languages and its key language competences divided into two main categories: receptive skills and productive skills.

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CEFR, ESP, ELT, e-learning, learning styles, language learning strategies, perceptual preferences VAK (visual, auditory, kinesthetic), optimized e-courses

Introduction

Due to the changing environment of education in terms of using new technologies, particularly information technologies, and their possibilities, our department has no choice but to react to this situation by accepting the role of Information and Communication technologies in the educational process and by making the best possible use of them. In February 2012, as a response to the current situation, we launched the first part of thematically oriented e-learning courses in the LMS Moodle environment for each individual faculty of the university (seven faculties). Before the launch and in gradually implementing the entire e-course we had several basic questions to answer:

1. Who exactly is the target group of future e-learning participants and how can the complete concept of e-learning courses in terms of content, language methodology, and language competencies as described in CEFR be organized?
2. How can the success and usefulness of e-learning be ensured in practice?
3. How can English for specific purposes be taught more effectively? What can be done better?
4. Would optimized e-learning courses respecting learning styles and strategies lead to more effective learning of ESP?

In looking for all these answers, we had to consider the fact that the learner stands at the center of our attention, and with all the possibilities of ICT we have to provide a learning environment suitable to the student's professional needs, individual learning style, perceptual preferences, learning strategies and the ability to learn at their own pace, while at all times taking into account new trends in the field of ICT in education.

Cohen and Weaver (2005) describe and divide "language learning strategies" as conscious processes used to learn a language while "language use strategies" are conscious processes selected to use the material that is learned (however incompletely). Garrison (2011) suggests the goal of e-learning in the 21st century is to provide a framework for understanding the application of e-learning in higher education. In his work he outlines the challenges of exploring and understanding the potential of e-learning, makes the point that e-learning is not just another learning technology, and believes it will transform teaching and learning respectively. Cohen (2011) draws attention to issues of theoretical debate and demonstrates how case study research can contribute to understanding the process of language learning where he explains that viewing strategies in isolation is not as beneficial to learners and instructors alike viewing them at the intersection of learning style preferences, motivation, and specific second language tasks. E-learning has the potential to provide "student-centered learning" and tends to be designed based on the pedagogy of providing learning environments according to the students' needs, abilities, preferences and styles rather than providing uniform education without any consideration of individual needs and differences (Nishino et al, 2010). Another approach in the form of an adaptive environment represented by a virtual teacher adapted to the individual type of student has recently been introduced (Kostolanyová, Šarmanová and Takács, 2011a). In further work they have even introduced a new methodology of creating and formulating expert's rules to assign the learning style of a student to suitable teaching styles of the virtual teacher (Kostolanyová, Šarmanová and Takács, 2011b).

Over the years, numerous approaches have been used for conducting research into language learner strategies. Oxford

(2011) provides an updated discussion of both quantitative methods involving experimental, quasi-experimental, and non-experimental research, and qualitative methods involving phenomenology, grounded theory, case studies, ethnographies, and narratives, all of which we have found very inspiring for our project.

In light of all the references mentioned above, question 4 has become the focus of our attention. We have divided the whole concept of e-learning courses into three phases followed by intended research and pedagogical experiment. Each phase consists of five different units and one review test. The whole course ends with a Final Progress Test covering all 15 units for each individual faculty. The overall concept of courses and units (105 units, 21 Review Tests, 7 Final Progress Tests) has been completed and preliminary evaluation results will be described and discussed here. We are intensively working on the following phases of optimization which will be put into effect in April 2013 and May 2013 respectively. In this paper, we outline research steps included within the phase of optimizing the e-learning environment. Currently (March 2013), we are assessing the reaction and satisfaction of participants from all courses and the results will be reflected in the design of optimized e-learning courses for ESP learners at the university level of education.

This paper aims to introduce an approach to teaching English for Specific Purposes (ESP) at the VSB-Technical University of Ostrava through its Department of Languages. Using various forms of e-learning and viewing the process of learning a second language as a comprehensive approach including motivation and self-discipline, we intend to verify, optimize and finally

implement these new forms of education into the practice of teaching English for Specific Purposes, mainly in technical fields.

Materials and Methods

Professional content: English for Specific Purposes

To fulfill one of the most important criteria, the professional content of English for Specific Purposes, we intensively cooperated with experts from individual faculties of the VŠB-Technical University of Ostrava, which consists of seven faculties:

- Faculty of Economics
- Faculty of Civil Engineering
- Faculty of Mechanical Engineering
- Faculty of Electrical Engineering and Computer Science
- Faculty of Mining and Geology
- Faculty of Safety Engineering
- Faculty of Metallurgy and Materials Engineering

The topics to be prepared for an electronic environment in the form of e-courses and e-lessons were specified by deans, vice-deans, assistant professors or doctoral students to ensure a direct link to the major fields of studies or to the content of major subjects. Such themes or specified topics from various foreign sources were further presented to ELT experts (English Language Teaching), and the creators of the e-lessons (units). Their task was to create and form units with respect to the fundamental methodology of e-learning and blended learning, as well as with respect to Common European Framework of References for Languages and its key language competencies.

The theory of learning styles of a student while learning EFL/ESL (English as a foreign language or English as a second language), and recommendation of language learning strategies and with assistance from Information and Communication technologies, especially LMS Moodle and its technical possibilities, were also taken into consideration.

All these important factors played a significant role in the process of the project/system development life cycle using the ADDIE Model (Analyze-Design-Develop-Implement-Evaluate) as shown in Figure 1. Methodology of development for information systems (IS) is a summary of stages, approaches, policies, procedures, rules, documents, methods, techniques and tools that covers the entire life cycle of IS. The methodology determines what needs to be done, when, by whom, and why, not only during the process of development, but also during the operation of the IS (Klimeš, 2010).

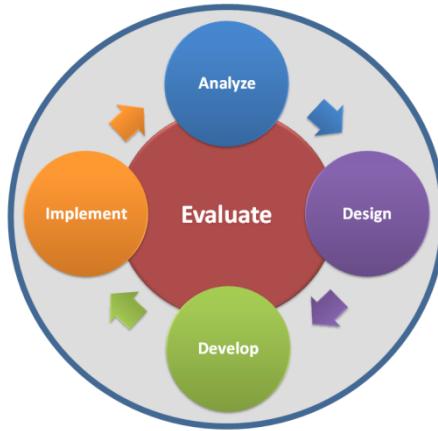


Figure 1: System development life cycle- ADDIE Model

We have evaluated the results from the whole process, modified necessary parts, designed new parts and are currently working on an optimization, taking into account the acceptance of users' comments expressed via an evaluation questionnaire with a further focus on pedagogical experiment using the technique of parallel groups (Chráska, 2007). Further parts of the whole project will consider requests or suggestions of both students and teachers with the aim of creating a user-friendly learning environment for modern EFL/ESL studies of applied languages.

Common European Framework of References for Languages (CEFR)

When trying to respect the Common European Framework of References for Languages and the development of language competences described as skills, we came across some technical problems in terms of the LMS Moodle environment and its possibilities. Throughout the work, we had to bear in mind the limitations of LMS Moodle (version 1.9 at the beginning of whole project and version 2.3 available now), even with some implementations of external software which will be described later in the section entitled Technical Solutions. Basically, we were limited by the number of exercises and their variations, which made it difficult to fulfill all areas of language skills development.

Language skills are divided into three main areas. They are categorized and described as skills and are the subject of development by each student individually (Ivanová et al, 2006):

Understanding	<i>reading and listening</i>
Speaking	<i>interaction and production</i>
Writing	<i>general or professional</i>

Table 1: Language Skills by CEFR (simplified version)

We had to choose the types of activities and exercises that are feasible in the selected LMS Moodle environment even without the direct participation of a tutor and where an automatic evaluation with immediate feedback is applied. It mainly proved to be appropriate in the development of understanding skills (the understanding of reading and listening) implemented in the electronic environment.

In the area of development of speaking skills (interaction and production) we tried, at first, to cover speaking production skills with the possibility of self-recording and comparing pronunciation with a native speaker (even the storage of one's own recordings and comparing them later to see if they have developed is possible). We are now trying to cover the area of speaking interaction development as well. We are currently and intensively working on the possibilities of implementation of other communication tools into the environment of LMS Moodle, such as Skype (video/audio chat) or other social networks to be able to put synchronous communication into action in real time, mainly for the purpose of the intended experiment. At this point asynchronous communication among all participants including tutors is possible in the form of Chat, Moodle Mobile, Forum, Blog, and Notes or simply via e-mail if necessary. We have also applied the form of blended learning and have implemented these e-courses into the curriculum of the subject "English for Engineering" taught in its present form to our full-time students, where a total of three tutorials during one semester were carried out and where face-to-face communication was possible.

The area of writing is now covered in the form of gap fills, writing words or letters again considering the possibilities of the automatic evaluation of such an activity. Other communication tools involving writing without automatic evaluation are also

available. To develop real writing skills would involve the intensive participation of a tutor skilled in this area of ELT and therefore we are preparing another e-course aimed especially at writing for academic/scientific purposes. In such a course, writing activities would play a primary role and would provide our students with rules and tips on how to write a conference paper, for instance. The target group for this would mainly be doctoral students of our university.

All the submitted study materials in the form of the e-lessons for each unit are graded according to the standards of CEFR Levels A1-C2. However, a minimum level of A2/B1 is required to be able to understand the core of a unit, to be familiar with the terminology of a presented topic, and to be successful in making any progress. Due to the level of difficulty in the field of English for Specific Purposes, these e-courses are not suitable for beginners.

Learning Styles Preferences - the value

In designing and creating optimized e-learning courses, individual differences and learning style preferences are taken into account. In professional literature aimed at ELT, especially aimed at the EFL/ESL field, perceptual preferences are researched and described as the most significant indicator. According to Oxford (2003), learning styles are described as general approaches that students use in acquiring a new language (e.g. global or analytic, visual-auditory-kinesthetic/VAK, etc.). While learning a new language, sensory preferences in particular determine the general direction of learning approaches.

Cohen and Weaver (2005) describe the value of learning styles in their research and suggest that the greater number of styles students can use the more successful they will be at learning a

new language. Research also shows that we all have learning style preferences and thus may tend to favor our preferred approaches in learning.

Cohen and Weaver (2005) also suggest that when it comes to learning new vocabulary, students who learn visually may benefit from seeing a still picture or video of an object or action which involves the new vocabulary in some way; learners with auditory preferences may want to hear the words pronounced clearly several times or to hear themselves pronouncing them, and would benefit from any audio parts in the process. They also are more capable of using the words in real situations involving speaking. For kinesthetic learners it may help to perform the action or do any movement, even moving lips, fingers or any other parts of body in helping them to better remember new words. We are, therefore, working on the implementation of other ICT tools into LMS Moodle to enhance this preferred way of acquiring new vocabulary and to increase the number of possible activities for this type of student.

Other psychological and linguistic studies (Lojová and Vlčková, 2011); (Ehrman, Leaver and Oxford, 2003) also lead to classification according to perceptual preferences, which substantially affect access to information, its reception and recall. In the process of studying EFL/ESL internal images are connected with linguistic entities and very often a combination of two or more styles is used. Despite this fact, for the vast majority of learners, one learning style is more or less preferred.

Language Learning Strategies - the tool

There are two key factors affecting the process of learning a language. The first is the preferred learning style; in the field of learning a language perceptual preferences mainly dominate the process of approaching the language. The second is the

language learning strategy or strategies used to enhance the language learning. These main factors influence the student's ability to learn in a particular instructional framework and help to determine how and how well students learn a second or foreign language.

Learning strategies are defined as specific actions, behaviors, steps, or techniques (e.g. seeking out conversation partners) used by students to enhance their own learning (Oxford, 2003).

Mareš (1998) describes learning strategies as one part of a large-scale process where students make a particular plan in a distinctive way for solving a given task when they try to achieve something and to avoid something else resulting in learning, as shown in Figure 2.

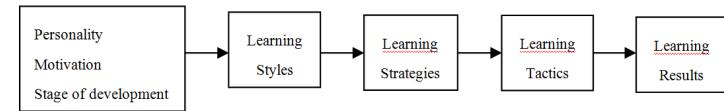


Figure 2: The relation model of individual differences and learning process, (Schmeck in Mareš, 1998)

When the learner consciously chooses strategies that best suit their learning style (mainly VAK in languages), these strategies become a useful and powerful tool for an active, conscious and self-regulated process of learning the language.

According to Oxford (2003) and Cohen and Weaver (2005), learning strategies while learning a second language can be classified by function:

1. *Cognitive strategies* enable the learner to manipulate the language material in direct ways, e.g. through reasoning, analysis, note-taking, summarizing, synthesizing, outlining, reorganizing information to develop stronger schemes (knowledge structures), practicing in natural

settings, and practicing structures and sound formally.

2. *Metacognitive strategies* (e.g. identifying student's own learning style preferences and needs, planning for foreign language task, gathering and organizing materials, arranging a study space and schedule, monitoring mistakes, and evaluating task success) are employed for managing the learning process overall. Metacognitive strategies have an executive function over cognitive strategy used.
3. *Memory-related strategies* help the learner link one second language item or concept with another but do not necessarily involve deep understanding. Various memory-related strategies enable learners to learn and retrieve information in an orderly string (e.g. via acronyms, sounds, images, a combination of sounds and images, body movement, mechanical means or location).
4. *Compensatory strategies* help the learner make up for missing knowledge (e.g. guessing the meaning from context of listening and reading, using synonyms or gestures).
5. *Affective strategies* help students regulate their emotions, motivation, and attitudes and are often used to reduce anxiety and provide self-encouragement. Research shows that learner's self-motivation capacity is a major factor contributing to success.
6. *Social strategies* involve learners' choice to interact with other learners and native speakers, such as asking questions to clarify social roles and relationships, asking for an explanation or verification, and cooperating with others in order to complete tasks.

Language learning strategies can also be classified by language skill area, which includes the *receptive skills* of listening and reading and the *productive skills* of speaking and writing-

skills needed for using second language successfully in any professional area. To recommend possible learning strategies feasible in electronic environment, we had to modify the arrangement of Table 1 into Table 2.

From a pedagogical perspective the fact that language learning strategies are flexible, learnable and when compared with learning styles can be easily changed or developed is important. Strategies used are influenced by many variables (i.e. age, gender, language level, preferred learning style, motivation, experience of strategies, etc.) and because we are working with adults at the university level of education, certain strategies will be practiced or recommended throughout our experimental e-learning course. From the previous phases of this project and research, we have discovered that most of our academic staff participating in some way in this project are not sure or aware of the existence of theories of learning styles and learning strategies but have been using them either intentionally or accidentally. In this paper we extend the information from Juříčková (2012) with the introduction of a new design and model of an optimized adaptive e-learning environment by adding new features and functions, mainly by shifting towards language learning strategies where we aim to make the process of learning more effective and user-friendly.

Skill area	Skill	Recommended strategies in electronic environment
Receptive skills	listening	Listen to audio materials (with/out text script) Watch video materials (with/out subtitles) Visit other related websites/sources
	reading	Read as much as possible about the topic of your study/interest Skim the text first to get the main idea Scan the text to find the specific piece of information Read for detail Use dictionary Read for pleasure
Productive skills	speaking	Practice saying new expressions Record and compare your pronunciation with native speaker Use tools for conversation in electronic environment Ask questions Answer any questions Encourage others to correct you Try to express your idea Use synonyms if you can't think of the proper word
	writing	Practice writing new words Keep a glossary Record important collocations, prepositions, synonyms Take notes in the language Use patterns of writing Use dictionary Use revision tools Try to get feedback
All skills	translation	Translate in your head to/from language Translate parts of conversation Think in the target language Try to understand the context instead of word for word Make a plan when translating any written work Use dictionary

Table 2: Language skill areas and recommended strategies

Results

Optimized e-course

In our optimized e-courses we intend to help our students/participants to discover their individual learning preferences with a narrower focus on discovering their perceptual preferences while learning a second language and to expand or widen their learning approaches and to recommend suitable learning strategies. Knowing their own learning preferences should help them to study EFL/ESL successfully. When using ICT while teaching or learning EFL/ESL, sensory receptors dominate the process, which is why these dimensions occupy the center of our interest.

Perceptual style dimensions:

- **Visual (ICT + eye):** learning best through visual means- text based resources, spatial information such as charts, diagrams, pictures, flashcards schemes, videos, and other verbal sources
- **Auditory (ICT + ear):** preferring listening and speaking activities- audio activities, recordings, reading aloud, read-listen-describe, dictations, dialogues, discussions
- **Kinesthetic (ICT + hands-on):** benefitting from any possible movement, using keyboard or mouse, moving objects, doing projects, cooperating with others, also saying things aloud and writing into the texts, drawing schemes or maps

When enrolling onto an e-course, a valid diagnostic questionnaire will be applied (Cohen and Weaver, 2005), followed by a description of the information acquired and further recommendations on how to work within the e-course with respect to the results of the questionnaire. Figure 4 shows the proposed scheme of the optimized e-course containing 15

units, dividing a complete e-learning course into three phases, or modules. Each module (1, 2, 3) consists of five different units and one review test. To continue to the next module, students need to get at least 60% in the review test. If they do not get 60% they will be advised which parts to revise before taking the test again. The course ends with a final progress test covering all 15 units for each individual faculty. Figure 5 shows the scheme of an individual e-lesson with its individual parts according to the fundamental pedagogical rule of presenting the material to practicing acquired information, transferring it to knowledge and finishing the unit with a self-check and unit test. Figure 6 presents a detailed view of the exercises part of a unit within the process of learning, knowing the student's learning styles and respecting recommended strategies. The optimized e-course will provide three different versions of study material, which is especially important in the practice part of the unit. In the practice part in particular, participants will be able to learn the language the way they perceptually prefer and will be instructed about the strategies they should use to further develop the language being learned. In the review test, they will find a combination of the presented material that they will come across in their field and in real life.

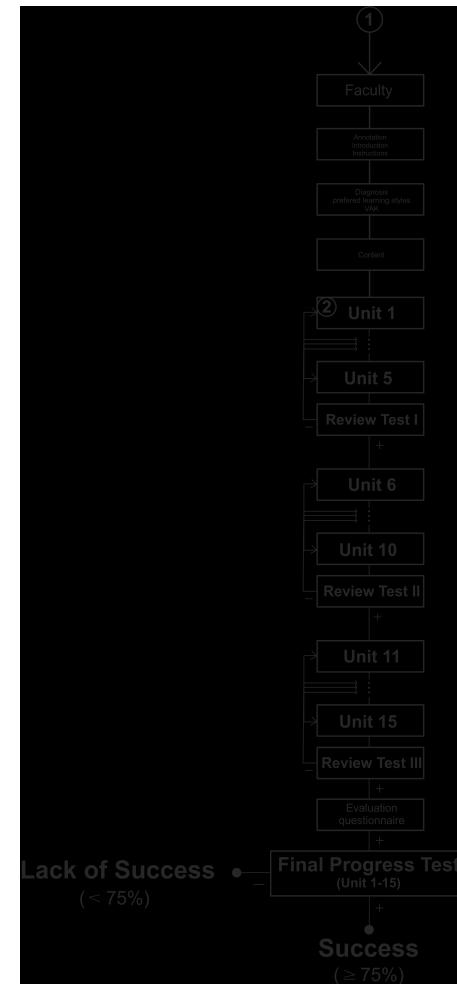


Figure 4: Flow chart of optimized e-course

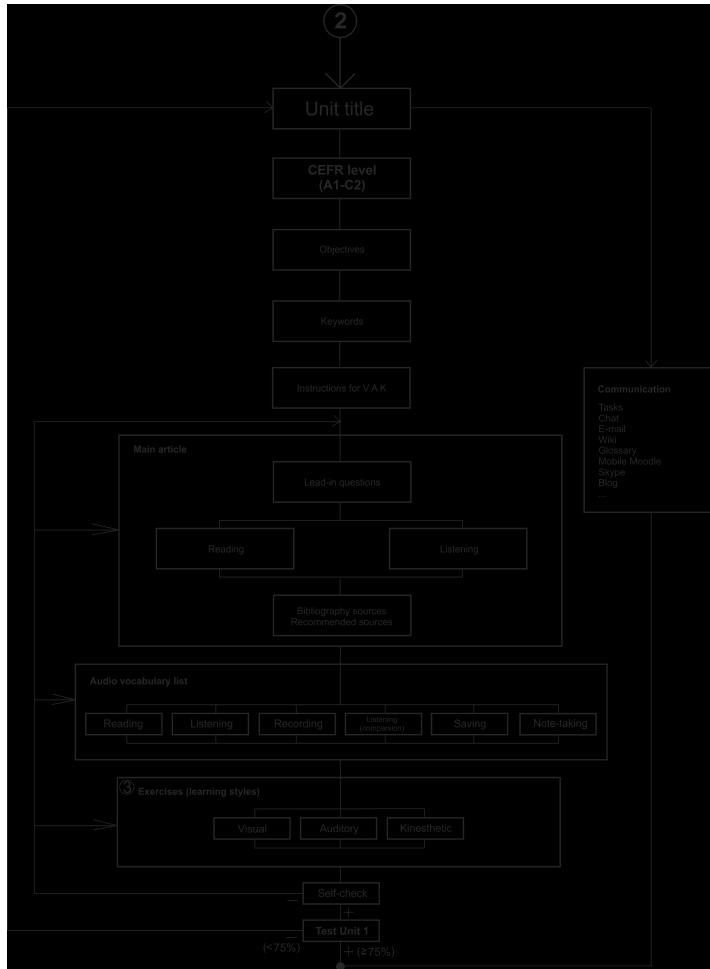


Figure 5: Flow chart of optimized e-lesson

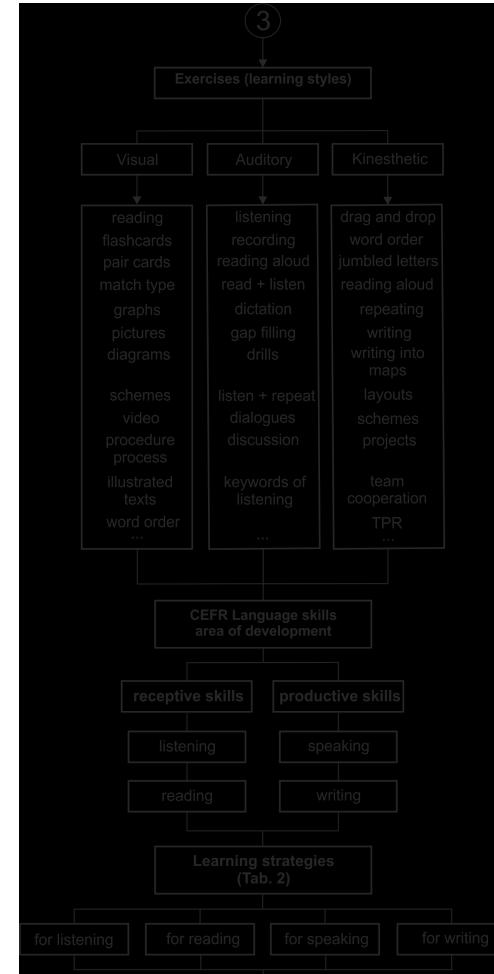


Figure 6: Optimized part of language acquisition

Discussion

Aspect of motivation

Since February 2012 all of the e-courses have been running and we have registered 347 participants in total (up to February, 2013). Table 3 shows the number of participants at each faculty who are willing to develop their language competencies for their professional career in their free time. All of these courses are optional and therefore self-motivation and self-discipline play essential roles in the process. As we can see, the greatest interest in this form of language development is indicated by academics of the Electrical Engineering and Computer Science faculty (55), followed by the Faculty of Economics (53) and the Faculty of Mining and Geology (53). Those are the faculties we will focus on closer by doing analyses obtained from the reports and statistics from LMS Moodle, and if they are indeed the most active and interested, they will become our new target group for the intended research and experiment. This aspect will cover the area of necessary motivation and self-discipline, which is absolutely essential for any form of e-learning activity or education.

Faculty	Number of participants
Economics	53
Civil Engineering	33
Mechanical Engineering	51
Electrical Engineering and Computer Science	55
Mining and Geology	53
Metallurgy and Materials Engineering	52
Safety Engineering	50
Total	347

Table 3: List of registered participants by faculty

In the process of preparing the intended optimized e-courses and their subsequent implementation we are already considering a future evaluation and expecting an update of both forms and topics. We also intend to further align the selected topics with individual fields of study to their professional needs where we already are discussing the possibility of a direct link to topics and themes for the degree examination, at least within a common basis for all disciplines. According to Kučírková, Vogeltanzová and Jarkovská (2011) the development of vocabulary that can be applied in business and economics (or other specific field in our case) is of primary importance. By learning and practicing specialist vocabulary the students more or less receive a guide, or a key about how to perform other activities like speaking, reading, writing and last but not least, listening. However, in accordance with the results of an experiment carried out by Kučírková, Vogeltanzová and Jarkovská (2012), we intend to prove that optimized e-learning will have a significant impact on language acquisition.

At the forefront of our interest is also the language development and training of young doctoral students, new academic staff and the development of their "Academic Skills". If we can prove that this approach (a combination all the above mentioned key factors - ESL/EFL, student's learning styles, CEFR, ESP, and e-learning methods) leads to a greater efficiency and the improvement of EFL/ESL teaching, this method can be applied to other languages taught at the Language Department of the VSB-Technical University of Ostrava, such as German, Russian, French, Spanish or Czech for Foreigners. Even the Chinese language is now available at the department in the form of full-time course in response to the current needs in the globalized

economy. Achieving this aim could lead to a recommendation for application of the model to other teaching institutions as well.

The outcome of this research should either prove or disprove the hypothesis that optimized e-learning methods and forms of studying foreign language in accordance with individual learning styles while learning foreign language has a positive and significant impact on the development of language competencies.

We are currently working on our first statistical analysis and from the results we expect to discover the most common type of student with regard to their preferred sensory perceptions and to further focus on that specific group of students to either prove or disprove the hypothesis. At this point (April 2013), we are monitoring all the activities of all enrolled students with the tools available for administrators of the courses and will further analyze the gathered data in detail.

Technical Solutions

To be able to carry out the proposed types of exercises and activities while working with LMS Moodle (2.3 version) we implemented several external software applications. For audio features, we used Java Applet, and for some other activities we used elements from the programs "Hot Potatoes from Half-Baked Software" and "Wordle™" and Skype. For video activities a flash player and speakers are needed, and a headset with microphone for speaking and recording. For intended optimized e-courses a web camera will also be an important feature.

Conclusion

To achieve the desired results we suggest taking into account the learning methods, materials, tools and environment which suit a student's learning style, and their preferences at least in the presentation and practice areas of language acquisition in order to develop their language skills effectively. Feasible language learning strategies were also introduced in the form of recommendations. All possible activities need to be done frequently or as often as possible. Therefore we stress that self-motivation and self-discipline are essential for achieving any possible success in learning a second language. Recognizing the preferred learning style, using recommended strategies and the student's personal input should lead the student towards the desired accomplishment.

In this paper the issue of ESP and EFL/ESL at the Language Department of the VSB-Technical University of Ostrava was introduced. English today is viewed and accepted as a *lingua franca* in today's globalized world and is used with overwhelming dominance as a tool for communication. For our graduates entering their professional careers, the improvement of language skills is an absolutely necessity. This fact has led to the expansion of ICT into all subjects taught, English included, and these tools are playing and will play a significant role in the learning process. LMS Moodle is an open-source tool and its development will continue. In other words, we can look forward to new possibilities and challenges to face in the near future.

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CONFIDENCE MASTERY AS THE FUNDAMENTAL TASK IN LEARNING A FOREIGN LANGUAGE

Abstract

The aim of language learning is not only to achieve academic success carried out by fluent speaking and mastering the grammar and vocabulary, but is also to focus on psychological comfort of students to participate in their education - to receive and perform. Learners' self-esteem plays the fundamental role in any language classroom. How students feel about learning is closely related to their ability to learn. The teachers' task is thus not only to provide knowledge and information but also to immerse themselves into the student's mind and discover the best way to awake the learner's will to communicate. This paper focuses on two aspects that impact the emotional state of the learner, the academic and the psychological. The students of two different levels of English have answered the questionnaire assessing their attitude, anxiety and motivation towards learning English. Each opinion has been evaluated and put into relationships with the ability to relax, understand, learn and enjoy at the same time. Their (answers') analyses have become the base of several teaching techniques that build and encourage students' confidence as the main condition to start any cognitive process. Confidence mastery has thus played the fundamental role in the present survey.

Key Words

Academic success, ethical teaching, motivational factor, positive attitude, self-esteem and belief, the role of confidence, worthiness

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Introduction

Everyone accepts the notion that language is a means of communication, but there is much less agreement about just what is involved in the ability to communicate, Dr. Leon James (1971) points out. When talking about learning a foreign language, this work focused on the speaking skill as a way of gaining learners' self-confidence first, even though mastering a foreign language also involves listening and writing abilities. Oral communication in the foreign language has been shown to be especially anxiety provoking (Horwitz 1991, as cited in Arnold, 1999). When it comes to expressing students' thoughts, teachers find themselves being challenged from two sides of the problem. One side of mastering the communication skill is to support an 'individual's originality and skill (E.De Bono, 1970) while provoking students' thinking as well as to teach them to have their own opinion by having them explain things and situations. This process deepens their cognition and learning itself (Kotekova, 2010), and it creates the other part of teacher's challenge. However, speaking a foreign language is not simply the ability to produce words and sentences. Learners have to find courage to express something in a different language, so gaining confidence to speak becomes the fundamental requirement. This is a task in itself. Confidence can have many different meanings. It could be defined as belief in one's own abilities, in which case confidence in speaking English would really just come down to not being afraid to speak. This particular reason of students' disability to speak was an important inspirational point why the author of this paper decided to analyse the reasons of anxiety and develop certain techniques that would help students get rid of this fear. The author's long-term experience in challenging her learners to speak has taught her that students need a very positive and relaxed approach of a

teacher first, but how to obtain positive attitude in students themselves was the task for particular techniques of this paper to discover. This paper's main tool was the author's observation during her teaching process which was consequently applied into the questionnaire and its specific questions given to students. Each student is an individual that is why each answer given by him/her was carefully analysed, and accordingly new techniques developed. Techniques presented in this paper are accompanied by concrete samples of students' answers that significantly influenced their (techniques') development. The outcomes of their (techniques') successful influence were then gathered, and their impact on students is illustrated at the end of this paper (section Results) with concrete quotes of learners who were interviewed after these techniques had been used in author's teaching process. The interview contained conformable to questionnaire enquiries. In the field of communication studies oral, communication apprehension has been associated with low self-esteem (McCroskey, 1977, as cited in Arnold, 2007). The way one thinks has an astronomical impact not only on the whole journey through life, but it is an integral part of the learning process. The contribution of the individual himself to the learning process, according to James Leon (1971), is inherent to the nature of the mind as information processing and storing device about which little of the substance is known today. Thus English teaching and learning a foreign language need to be looked at not only from an academic point of view but also from a psychological view. The students' answers to the questions in the questionnaire were of a very strong proof of this. They were divided into two groups, psychological and academic, according to factors influencing students' anxiety. These factors then have become the base for new technique. One of them developed and applied in the present study was certain psychological approach of a teacher towards the learners in order to obtain

their confidence. The teacher, as Odera (2009) sees him, has many roles; he is an academician, a specialist, a methodologist and also a caregiver, and an ethical mentor among many others. The teacher has to consider emotionally relevant individual characteristics that influence how she/he will respond to a situation (Gardner, 1993). According to Casselmann (1967), the social teacher respects individual thinking and decision making of students, he/she supports their activity, and he/she gives them an opportunity to show their personality. The rules of lectures and mutual cooperation are made together. As the author of this paper has observed, students usually face anxiety when asked to communicate in English even though they have already spent several years studying it. Teachers usually have to deal with quite a few problems concerning confidence which most often puts the class into a silence when having to react. The reasons are various. At this moment in language teaching history, as Horwitz (2007) points out, the necessity of focusing on the emotional states of learners falls into the most important demands. Understanding the emotional vulnerability of language learners (Horwitz, 2007) becomes a crucial influential factor in teaching process. The present research aimed its focus at finding out why students do not talk and consequently what would help them express what they really think in a foreign language. An interesting issue whether self-esteem is a cause or an outcome of an academic achievement (Rubio, 2007) was the leading principal of the present survey so was the conceiving the idea of how to bridge the gap between the areas of self-esteem and a foreign language learning (Rubio, 2007). Motivation affects self-confidence, which in turn influences proficiency in English, says Yashima (2004). The most effective method to evaluate success (psychological and academic achievement) and reasons of non-success (lack of self-confidence) in learning a foreign language is to ask questions. A questionnaire

which, as mentioned above, was created and provided by the author while observing learners' reactions during traditional teaching, was aimed at specifying the questions in a way that would help a teacher not only to identify what components self-esteem consists of, but also at, according to the students' answers, developing the motivational techniques to encourage confidence in the language classrooms. The final step of this paper's methodology was applying new techniques in teaching process. Their impact on learners was then revealed when interviewing the students themselves and documenting their positive quotes illustrated at the end of this paper. "Healthy" self-esteem, as Arnold (2007) emphasizes, is when the students have both a positive, accurate belief about themselves, and their abilities and also the commitment and responsibility that comes when they see themselves as able to complete worthwhile goals. Self-concept determines behaviour, says Arnold (2007). She then continues that what students feel about them will affect the way they approach the learning experience and also their relationship with others.

Material and Methods

The questions of why language learning is much more ego-involving than other fields of study and what can be done to assist the learners' emotional journey (Horwitz, 2007) were the focus of the first part of this study. The reason why students do not feel very comfortable expressing their opinions and thoughts including any kind of reaction in a foreign language is, as Arnold points out (2007, as cited in Fontech 2007), because they are deprived of their normal, familiar vehicle of expression. Arnold (1999, as cited in Fontech 2007) then continues that "in fact, *language shock* may occur when learners fear the new words, and the target language does not reflect their ideas

adequately, perhaps making them look ridiculous or infantile". The main tool of the paper's methodology was to observe how students feel during traditional learning process where positive attitude of a teacher was natural but not applied in any teaching technique particularly and then asking specific questions which would help identify components and reasons of learners' low self-esteem. Questionnaire with specific questions was created by the author and given to students of two different levels. Analysing the answers was the crucial step of methodology followed by their application into new teaching techniques. In the first part of this paper the answers helped to identify some of the components of self-esteem (i.e. reasons why students do not talk). Rosenberg (1965, as cited in Mruk, 2006) views self-esteem in terms of a feeling, attitude, or belief concerning one's worth as a person. Taking into account the psychological character of most of the students' constraints, it is necessary to think of an ethical approach in teaching. Švarcová (2011) presented the valuable quote by Ripley and Simpson (2007) who said that the aim of an ethical education is a positive influence on attitudes, value system, norms and rules, not only gaining knowledge, but particularly the ability to communicate, to accept ethnic and other differences, and to solve social problems in a socially acceptable way. Intrapersonal intelligence, according to Ripley and Simpson (2007), involves having access to one's own feelings, being able to discriminate them, label them and then use the knowledge to inform behavioural choices. After the main components from the learners' answers had been identified, they were divided into two groups, psychological and academic. Each answer was analysed and then applied in developing a new technique which would help to eliminate learners' anxiety to speak from the psychological point of view and at the same time compliment teaching techniques from the academic character of the students' reasons. The target group for

this survey was the students of the University of Life Sciences in Prague studying pre-intermediate (A2) and intermediate (B1) levels of English. Anonymous questionnaires with questions of exact interpretation have been answered by seven classes of two different levels of English (190 students in total), in which learners were kindly asked to answer honestly. A wide scale of possible techniques – as shown in the second part of this survey - has been developed inspired by the answers to these questions:

- Are you confident to speak English?
- If yes, what motivates you?
- If no, why not? What do you miss/need?
- What are the strong points of your English lesson?
- What are the weak points of your English lesson?
- What would you change/suggest doing in a different way?

As Vostra (2011) and her colleagues state, the evaluation by students represents an important source of information for teachers and the university's management. A personal judgement of worthiness that is expressed in the attitudes an individual holds towards himself, (Coopersmith, 1967, as cited in Arnold, 2007) has become the crucial inspirational information for the present paper.

The first step after obtaining the questionnaire with answers was to focus on negative feedback. The factors participating in lack of the students' self-confidence inspired the author in developing following technique. Technique1 has been developed based on the answers to the question:

- *Are you confident to speak English?*

As seen from the character of the question, it involved the psychological as well as the academic dimensions of the lessons

from the learners' point of view. The answers provided a valuable source for proposing suitable teaching technique. The following is the students' answers to the question:

Psychological factors:

- No, I am not confident; I am shy to talk in front of my classmates.
- I don't like when many people are looking at me, that's why I sit in front, so my classmates don't see me.
- I am afraid to say something because it is difficult to talk in front of many people.
- I am shy to express what I think; I am not sure if my opinion is correct.
- I am afraid I would say something stupid, and my classmates would laugh.
- I have a problem speaking in front of other people even though I understand the topic.
- I don't want to embarrass myself by saying something wrong.

Academic factors:

- I don't like talking because I don't think I can talk, I don't have the vocabulary, I am afraid I would make mistake, I don't want to be embarrassed.
- I don't want to talk because I don't remember the grammar.
- I am shy and when I want to say something, I usually forget what I wanted to say.
- I don't think I can say something that would make sense.
- I am not sure if I use the right words.

Methodology has been surveyed and applied on both levels of English (A2, B1) equally. Black and Wiliam point out (1998) that

teachers have to manage complicated and demanding situations, channelling the personal, emotional and social pressures in order to help students learn and become better learners in the future. Lack of self-confidence is a negative emotion that does not help students grow. Drawing on particular psychological failures of the students, the following technique was suggested to start the lesson with; as an important part of the positive influence on students' attitude:

TECHNIQUE 1: USING (POSITIVE) QUOTES TO INSPIRE TOWARDS POSITIVE MINDSET

Low self-esteem undermines the actual qualities and abilities of a student. Therefore, the teacher must act as an instrument of change in the learner's mind-set and put forth an effort to make it otherwise. As Fontechá (2007) emphasizes, particular attention must be given to understanding and enhancing the role of a teacher as a facilitator, a teacher who includes learners' inner processes into the instruction. The author of this paper has managed to perform quite a successful step by starting the lesson with a quote that supported the faith in each student: "*Whether you think you can, or you think you can't, you are right*" (Budha). The quote is written on the board and then asked to be explained. The aim is to evoke a positive attitude and an atmosphere of hope in the class. Many students have expressed (as seen in some answers) that they are shy to talk in front of other students, they are not sure and they don't feel comfortable for some reason. Arnold (2007) explains this factor saying that we may be judged by what we say, since we know that when we speak in the foreign language we cannot yet express ourselves fluently and we see the self that we present as a limited version of our real self. The positive quote should pacify learners' negative feelings. Even though the character of the answers also involves

academic reasons (i.e. lack of vocabulary, fear of disability to say something correctly), they naturally fall into the group of stress-causing factors. They can all be approached by learners' positive attitude taught within Technique1. After clearing up the quote's meaning for everybody, there comes another question from the teacher, trying to make students see relatedness of the quote with their studying: "What have you chosen to do? Are you going to pass an English exam because you want to or are you going to sit and wait if you are lucky enough to pass?" This specific quote truly pushes doubts aside if embraced correctly. Whatever one chooses to focus on becomes reality and if one's mind-set is positive, the outcome is positive. The teacher should guide them along towards an optimistic attitude.

There are plenty of other quotations that can be used to encourage learners' self-esteem, for example:

'Always do what you are afraid to do';

'Nothing great was ever achieved without enthusiasm.' (Ralph Waldo Emerson)

'Be not afraid of growing slowly; be afraid only of standing still' (Chinese proverb)

'We learn wisdom from failure much more than success. We often discover what we will do, by finding out what we will not do.' (Samuel Smiles)

Techniques that were developed further have been inspired by factors given in the answers to the following questions:

- *What do you need not to be shy to speak?*
- *What are the weak points of the lesson?*
- *What would you change /suggest doing in a different way?*

Considering learners of both English levels (A2, B1), there was generally 'language anxiety' (Gardner, 1993) and lack of self-confidence expressed.

Psychological factors:

- The teacher always makes some fun comments; it makes the atmosphere to be fun and helps me relax.
- I think too much of other people what they would think about me when I talk, and they are faster and know better, it makes me nervous that I am slower.
- I am not really sure what to say because I am afraid the class will say I am not right.

Academic factors:

- I would like to talk about something that I am interested in.
- I know how to talk because the grammar is written on the board.
- It is so good when our teacher helps us when we do not know what to say, she gives us more supportive questions.
- I like when we practise new vocabulary a lot, using it in the topics being discussed.

Every single learner does possess confidence; it just must be awakened by proper means or listened to by a supportive teacher. The important part of this paper's methodology was thus revealing the reasons causing students' lack of self-esteem. Human understanding of people requires an ability to stand in relation to a person as a person, pointed out by Threvarthen and Hubley (1978). Drawing on key elements hidden in the answers above, such as positive atmosphere in the class, fear from being judged by classmates, notes written on the board, lack of vocabulary, this survey has developed techniques that include psychological and academic aspects together.

TECHNIQUE 2: ASSESSMENT IN THE SERVICE OF STUDENT'S CONFIDENCE.

In other words, 'SAY WHAT YOU SAY, AS LONG AS IT'S YOUR OPINION'. An integral part of this technique is having students understand that by saying their opinion, they cannot make mistakes. The teacher should make sure that every single individual in the class is aware of the fact that he/she participates on patchwork of different attitudes and that each approach is the right one as long it is his/her own. Supporting the idea of the positive quote technique (TECHNIQUE 1), learners should again be reminded that '*failure teaches success*'. Students usually have problems saying what they think because they are afraid of making a mistake or they are not sure if their opinion is correct. That is why they usually stay quiet. The teacher should not allow this to be an obstacle. This technique again provides a chance to gain contact with students by discussing and explaining another interesting quote: '*The biggest mistake in our life is to be afraid we make one*'. This encourages them to express their opinion even though they make grammatical mistakes. The teacher should create a relaxed atmosphere and let learners talk. Positive assessment from the teacher should follow a way of appreciation of creating learners' own opinions. Stiggins (1999) supports this idea of using assessment to build the student's confidence in the service of school improvement. Another evaluation of the teacher follows when he corrects mistakes and writes them on the board.

TECHNIQUE 3: NOTICES WRITTEN ON THE BOARD

This technique is thus closely connected with the previous one. Academic factors mentioned in students' answers only prove their preference and need for notes and vocabulary written on the board. For example:

- Grammar and vocabulary written on the board would help me to say more correct sentences.
- I miss vocabulary from the topic we should talk about.
- I wish I had all the words which I could use to make a sentence ready in my head.
- I don't talk because I forget the words I wanted to use.
- I don't remember how to use new grammar

New vocabulary and new grammar written on the board and left to be constantly seen and followed when needed by learners help them gain confidence to start talking. They have the frame which they follow, so they feel safely guided. In the meanwhile, they create their own opinion, they are sure that if they just add their words into the grammar pattern from the board, their announcement won't be such a disaster they would have to be ashamed of. This is a very important factor that positively influences their state of mind, and it is the hint for the teacher on how to overcome learners' initial fear from talking.

TECHNIQUE 4: 'OPEN MIND' TOPICS

Several answers of the learners have inspired this survey to promote more 'open-mind' topics for discussion during the lesson. When students have a chance to talk about the subject they are familiar with, their mood is immediately improved and encouraged. When students can relate to the topic, it is much easier and much more convenient for them to discuss it. The topics should include everyday reality, e.g. going shopping, meeting friends, their dreams, jobs they might have, ambitions, dialogues in the pub, problems at school. These basically substitute the English speaking environment that learners miss often. Also, if there is an unknown word, the teacher tries to explain that in English, not translate it for them. On the

top of that, this technique should definitely be supported by TECHNIQUE 3 (Notices Written on the Board). Each unknown word or phrase is put on the board to stay visible for learners so they can use it again at any time.

TECHNIQUE 5: DIALOGUES GUIDED BY MORE CONFIDENT STUDENTS

Not all students suffer from lack of confidence when asked to talk. These students were paired with less talkative ones who on the other hand were inspired by them to speak in a very natural way, keeping everyday reality present in their discussion. The point of this technique is to have more confident students in the role of the speaking guides. They thus subconsciously acquire responsibility for helping their weaker colleagues to answer their questions to complete the task properly. The aim is to shift their more energetic and knowledgeable approach off to their slower speaking mates by gently and inconspicuously teaching them new words in questions asked by them. The less competent student thus only follows the speaking frame of the stronger one, even using the same new vocabulary, to make it easier for him/her to participate in the dialogue. The goal of this technique is fulfilled when both students fluently discuss some 'open-mind' topic.

TECHNIQUE 6: SELF-ASSESSED TESTS

Stiggins (1999) asks what if a student decides to manage the risk of failure by cheating. Does that lead to the maximum learning? The academic factors of learners were considered.

- I don't like writing tests because I usually fail and then I look bad in front of my classmates.
- I can't remember all the grammar, so sometimes I try to see

what my friend is writing to make sure I get better results.

- I don't like tests; it always shows I don't remember many new words.
- It is so stressful to write tests; I don't like it. I prefer speaking.

This technique has tried to involve our learners in the assessment process. It is an important part of converting the weaknesses (fear of failure) into the strength and the inner belief (a will to progress). This technique has offered writing tests in the class followed by correcting them right after, with the important difference – they correct it themselves! This was shown to be very attracting to students (questionnaires have discovered). A student reads an answer aloud, to everybody, and if a mistake is made, other students try to find it and correct it. On the top of that, all mistakes are explained straight away, while still seen and reflected by students themselves. Another test which contains the same grammar from the previous test follows, so students have the chance to remember the corrected mistakes and not to make them again. The tests are analysed again and evaluated the same way as before - by shared assessment of the whole class.

Results

Even though the target group was the students of two different levels of English (A2-Pre-intermediate and B1-Intermediate), the work did not carry out any significantly different factors influencing the different levels of English, as was revealed in interviews with learners themselves. The present paper's aim was to look for the golden rule for language teaching (Arnold, 2007) and learning. Stevick (1980, as cited in Arnold, 2007) states that success in this process depends "less on material, techniques and linguistic analysis, and more on what goes on inside and between the people in the classroom". The author's

survey has put both aspects of the language mastering (techniques and mutual learners' intrinsic feelings) into relation where they are being reciprocally influenced. Some of the techniques have worked on the basis of academic achievement first (TECHNIQUE 3, 5 and 6) which in consequence worked very well in gaining students' confidence. In the empirical tradition, psychologists are most apt to refer to the non-drive-based motivation as intrinsic motivation, suggesting that the energy is intrinsic to the nature of the organism, (Deci and Ryan, 1985). Gaining self-confidence of a student requires getting immersed into the 'intrinsic' side of a learner. The teacher should adopt strategies that are gentle, considering a learner's personality. Teachers are there to become the important guides to break students' anxiety to speak and awake their self-esteem. Teachers should change and improve their teaching practise by making systematic observations. It is a form of self-evaluation (Sertl, 1998). This survey has gained the important weaknesses and strengths in students through anonymous questionnaires. Drawing on these outcomes, it has been suggested that the most important aspect is to work in a friendly and relaxed atmosphere which was obtained by analysing a positive quote at the beginning of the lesson (TECHNIQUE1). The present paper proved the technique's fundamental influence on the learners' positive self-esteem and relieving strains, as students had declared themselves within interviews organized by the author after new techniques had been applied. It has definitely encouraged them to start studying and realise the concept of willingness to give it a try with the possibility of making mistakes. When they tried hard, they soon found out that 'what goes around comes around'. 89% of students (out of 190 in total) have become positively thinking and were actively participating in the lessons, being an inspiration to less confident classmates. 11% missed some of the points of the quotes' meaning at the beginning, or were not sure about their own comprehension, but after clearing it out, they did not have any problem to follow and get inspired. Their teacher was also always participating, believing that if he just raises

his students' confidence, they will become capable learners (Stiggins, 1999). Introducing the lesson with a positive quote, followed by discussion, helped the teacher to evoke a different point of view in learners in order to achieve the goal and successfully fight the feeling of futility. Some of the outcomes said by the interviewed students, after techniques were applied, are as follows:

- When I am in a bad mood, I hear the sentence and it makes me laugh or think; I forget my bad mood.
- When I realise that teacher does not want to fail me and I can pass the exam even though I make mistakes, it gives me hope.
- I love it when I hear I am not the only one shy and scared because we talk about our feelings and discuss our problems in English with the whole class.
- When I hear other students opening their mind to us, classmates, I feel more comfortable.
- I did not understand the quote in the beginning, but the teacher gave us some hints and then it was such fun.

THE ASSESSMENT IN THE SERVICE OF STUDENT'S CONFIDENCE (TECHNIQUE 2) has shown the learners' true appreciation of the positive attitude of the teacher in spite of the fact they made a lot of mistakes. Stiggins (1999) strongly supports this idea by saying that re-evaluation must centre on how we use assessment in pursuit of the student's success. As soon as the learners found out no punishment or penalty followed their announcements, their own opinion, they relaxed and stopped being afraid. They felt supported emotionally, that failure did not mean anything, that it was fine to make mistakes. '*The biggest mistake in our life is to be afraid we make one*' was the quote that 100% of the students appreciated. They liked the idea of being able to make mistakes and at the same time being

natural and not wrong, because everybody can make mistakes. The present technique was also very much supported by the teacher – trusted academic guide – reminding the students that without their mistakes, teachers would have no job. After introducing learners with this particular quote their comments such as

- I am afraid I make mistakes, so I rather say nothing.
- I am shy to say what I want because I am not good at speaking.
- have changed into:
- No pressure is put on us, we can say what we want and nobody gets mad.
- If I say something wrong, the teacher says it is ok, he corrects my grammar and that helps me to relax and not be afraid of making another mistake.
- The feeling that it is not a catastrophe if I make a mistake; it makes the lesson so much fun, we correct our mistakes together.
- I am so proud of myself; I have just managed to put my own opinion together.

Since evaluation is necessarily involved in our sense of worthiness (Horwitz, 2007), self-esteem plays its distinctive role as a cause of academic achievement (Rubio, 2007) again. By contrast, Stiggins (1999) does emphasize that if these students are to come to believe in themselves, then they must first experience some believable form of academic success as reflected in a real classroom assessment. This reversed sequence of confidence being an outcome (and not the cause) of academic achievement (Rubio, 2007) has also been revealed thanks to OPEN-MIND TOPICS discussions (TECHNIQUE 4). Exposing students to topics to which they could relate and

discuss gives them another advantage of sort of the substitution of an English environment. This has been appreciated by them, as documented in the interview:

- I enjoy open discussions; we do not always talk about grammar but we still speak in English.
- What really helps me to talk is when I hear my classmates around me talking.
- I really love having to explain everything in English; even I am not sure how to say it and it is a completely unknown word. But I learn a lot how to think.
- Discussing familiar, every day topics in English, makes me feel as being in some English speaking country when I hear everything said only in English.
- It is so nice not having to speak grammar every lesson, but we discuss some fun topics too.

This particular technique has found out that students' familiarity with the topic helps them to find words easier. Their ability to speak is also enhanced by seeing notes and phrases on the board. Over 90% of the learners have found this TECHNIQUE4 as a perfect psychological support for their mind. The target group of this survey were language classes where English is a second language for all students. When learners compare themselves and are compared to native speakers, they will inevitably come up short (Horwitz, 2007). As Horwitz (2007) continues, such comparisons, in turn, likely contribute to poor self-esteem. Even though learners usually miss the real English environment, according to their answers, they very much appreciate when being able to discuss everything in English thus experiencing a nice substitution of it. Discussions thus bring not only practise in speaking but also learning new words from others, as most of the learners (90%) have expressed supportive feeling from

hearing others speaking. The process of explaining the unknown word in English is connected to TECHNIQUE 3 (NOTICES WRITTEN ON THE BOARD). It also subconsciously supports analytical thinking of the learners. The unknown vocabulary from different articles students have gone through lately was written on the board as well, and they could use it to explain what they needed, and at the same time they could see words' semantic connections to the actual topic. Without seeing the notes on the board, learners usually looked for some old words they had known for years. They relied on them and kept using them all the time. By being able to see new vocabulary and grammar structures on the board, they expressed themselves in a much more comfortable way and accomplished their task of explaining, following and putting the words together. They were found to immediately gain self-esteem; they started feeling more confident because they had achieved their 'little' academic success – they were not afraid to make sentences, not even their own opinion.

- When I see the words on the board, it is easier for me to put the sentence together.
- Grammar is always difficult to follow, but I can do it when I see it, and I just fill in the right words into the pattern seen on the board.
- Explaining everything in English, not being allowed to translate really brings much fun to the lesson because I think we all learn how to say it only using words we know. That is why we want to learn more new words.
- It is so much different and better not translating the new words straight into Czech, but we always have to find the way to explain it in English.

Fear of making mistakes comes from not being sure about grammar and vocabulary. If this is written and seen all the way through the lesson, learners have a chance to use the new vocabulary and thus practise it, as they have revealed when being interviewed afterwards. Most of the students did not feel disadvantaged because they did not know the words. They felt encouraged, managing to get rid of their fear to express what they think. As soon as they heard themselves speaking, they gained the first sign of courage that helped them to try again. We must strive to keep students from losing confidence in them as learners, emphasizes Stiggins (1999).

- I like speaking English in the class and I like hearing my classmates. It helps me hear new words I did not know before.
- Teacher asks really good and interesting questions, and they make us think about other things than just grammar.
- We discuss very interesting social topics. It helps me talk and reflect my life.
- I have learnt especially how to discuss things and what to think about things.

TECHNIQUE 5 (DIALOGUES GUIDED BY MORE CONFIDENT ONES) has proved that less confident students were inspired and motivated by the more confident ones who lead dialogue with them just like if they met on the streets, being friends, discussing and interested in usual things, if possible, using vocabulary written on the board. The students were put into the natural situation of an everyday dialogue so they did not feel discomfort from being the centre of attention by the classmates watching them talking; at the same time, language was seen as the tool for creation and maintenance of social relations, as mentioned by Richards and Rodgers (1987). Their *interactional*

view (Richards, Rodgers, 1987) sees the language as the vehicle for the realization of interpersonal relations which can, on the other hand, help in building a relaxed attitude and confidence in less language-competent learners. Pleasure from talking and lack of self-esteem were supported and strengthened reciprocally. With the responsibility shifted onto them, the stronger students felt good but not self-important about it because at the same time they had to make sure that their less competent partners in terms of speaking had to be able to express themselves thanks to them. On the other side, the less confident learners felt comfortable because they were not shut down by stronger ones speaking, they were not blamed for not saying a word but by contraries following stronger students' questions and exact words, they were able to express their thoughts. When considering the learner's self-esteem, it is necessary to recognize how learners feel about themselves and about language learning (Horwitz, 2007). Sonia Casal (2004, as cited in Rubio, 2007) also describes that classroom activities which incorporate goal interdependence, resource interdependence, and role interdependence can help to foster healthy self-esteem on a personal and a social dimension.

- I am not shy when everybody is asked to speak, so it is not just me talking.
- When we talk in pairs, when we have to make dialogues, and it helps me not to be shy.
- It helps me when my classmate asks me something and we can talk what we usually talk every day.
- When my friend uses a new word in the question, I try to remember it because I have to use it in my answer.

- It is so good when my friend who is good at speaking asks me something and I can only answer so that I don't have to make a sentence on my own.

TECHNIQUE 6 (SELF-ASSESSED TESTS) has followed Stiggins' (1999) statement which says that we have focused so heavily on the development of over sophisticated psychometrics and test development tactics that we have almost completely ignored the other 99% of the assessments that happen in students' lives. These tests (in Technique 6) have definitely destroyed the sign of present fear in the learners by shifting the role of teacher's test assessment to the students' task. Black and Wiliam (as cited in Stiggins, 1999) cite that if pupils are given only marks or grades, they do not benefit from feedback on their work. Once the student gets a chance to analyse his formal mistakes and then gets another option (within another test) to apply just gained knowledge, his self-esteem starts rising, inspiring him to try again and do better. Due to the possibility to share opinions and suggestions when evaluating their mistakes themselves, 99% of the students were not tempted to cheat. This feeling has strongly supported their positive self-esteem giving them more will to learn. Finding out that it does not have to be stressful or fearful to write a test, but that it can become fun and motivation to participate in their own education, has become the inspiration itself for all participants of the learning process. Confidence within TECHNIQUE 6 represents the cause of an academic achievement.

- It is unbelievable how relieving it can be to write the test.
- I love the feeling that I do not have to worry about the mistakes because I will have to look for them myself and that is such fun and different from normal test.

- Writing the test and then correcting my own mistakes is such a motivating factor because I remember mistakes more if I find them myself.

See the breakdown of the results in tables 1 - 6.

TECHNIQUE 1: USING (POSITIVE) QUOTES TO INSPIRE TOWARDS POSITIVE MINDSET	
Pre-intermediate level (A2)	
Before	After
I am quite stressed because I know I will not say much. I do not like languages because it is difficult to express my thoughts what I want to say. I am shy to speak in front of my classmates.	When I am in a bad mood, I hear the sentence and it makes me laugh or think; I forget my bad mood. I love it when I hear I am not the only one shy and scared because we talk about our feelings and discuss our problems in English with the whole class. I did not understand the quote in the beginning, but the teacher gave us some hints and then it was such fun.
Intermediate level (B1)	
Before	After
Speaking foreign language causes stress in my head. I do not feel comfortable talking in front of my friends.	When I realise that teacher does not want to fail me and I can pass the exam even though I make mistakes, it gives me hope. When I hear other students opening their mind to us, classmates, I feel more comfortable. Teacher asks really good and interesting questions, and they make us think about other things than just grammar.

Tab. 1: Breakdown of the results: technique 1

TECHNIQUE 2: ASSESSMENT IN THE SERVICE OF STUDENT'S CONFIDENCE	
Pre-intermediate level (A2)	
Before	After
I am afraid I make mistakes, so I rather say nothing.	If I say something wrong, the teacher says it is ok, he corrects my grammar and that helps me to relax and not be afraid of making another mistake. The feeling that it is not a catastrophe if I make a mistake; it makes the lesson so much fun, we correct our mistakes together.
Intermediate level (B1)	
Before	After
I am shy to say what I want because I am not good at speaking	No pressure is put on us, we can say what we want and nobody gets mad. I am so proud of myself; I have just managed to put my own opinion together.

Tab. 2: Breakdown of the results: technique 2

TECHNIQUE 3: NOTICES WRITTEN ON THE BOARD	
Pre-intermediate level (A2)	
Before	After
Grammar and vocabulary written on the board would help me to say more correct sentences. I wish I had all the words which I could use to make a sentence ready in my head. I don't remember how to use new grammar	When I see the words on the board, it is easier for me to put the sentence together. It is so much different and better not translating the new words straight into Czech, but we always have to find the way to explain it in English.

Intermediate level (B1)	
Before	After
I miss vocabulary from the topic we should talk about. I don't talk because I forget the words I wanted to use.	Explaining everything in English, not being allowed to translate really brings much fun to the lesson because I think we all learn how to say it only using words we know. That is why we want to learn more new words. Grammar is always difficult to follow, but I can do it when I see it, and I just fill in the right words into the pattern seen on the board.

Tab. 3: Breakdown of the results: technique 3

TECHNIQUE 4: 'OPEN MIND' TOPICS	
Pre-intermediate level (A2)	
Before	After
It is not interesting to talk about the subject which I do not know at all but it is in our textbook. I cannot find the words which would express what I want to say.	What really helps me to talk is when I hear my classmates around me talking. I really love having to explain everything in English; even I am not sure how to say it and it is a completely unknown word. But I learn a lot how to think. It is so nice not having to speak grammar every lesson, but we discuss some fun topics too.

Intermediate level (B1)	
Before	After
I miss English speaking environment where I could try to use new words from the lesson. I would prefer talking about my hobby which I know very well so I can talk about it.	I enjoy open discussions; we do not always talk about grammar but we still speak in English. Discussing familiar, every day topics in English, makes me feel as being in some English speaking country when I hear everything said only in English. We discuss very interesting social topics. It helps me talk and reflect my life.

Tab. 4: Breakdown of the results: technique 4

TECHNIQUE 5: DIALOGUES GUIDED BY MORE CONFIDENT STUDENTS	
Pre-intermediate level (A2)	
Before	After
I do not like when I am the only one speaking in the class, I do not like attention. I am not sure If I ask the right things about the subject.	I like speaking English in the class and I like hearing my classmates. It helps me hear new words I did not know before. It helps me when my classmate asks me something and we can talk what we usually talk every day. It is so good when my friend who is good at speaking asks me something and I can only answer so that I don't have to make a sentence on my own.

Intermediate level (B1)	
Before	After
I do not know what kind of questions I should ask. It is quite difficult to talk about interesting topics because I am not sure how to make a dialogue amusing.	I am not shy when everybody is asked to speak, so it is not just me talking. When we talk in pairs, when we have to make dialogues, and it helps me not to be shy. When my friend uses a new word in the question, I try to remember it because I have to use it in my answer. I have learnt especially how to discuss things and what to think about things.

Tab. 5: Breakdown of the results: technique 5

TECHNIQUE 6: SELF-ASSESSED TESTS	
Pre-intermediate level (A2)	
Before	After
I don't like writing tests because I usually fail and then I look bad in front of my classmates. I can't remember all the grammar, so sometimes I try to see what my friend is writing to make sure I get better results.	I do not have to be afraid to make many mistakes because we correct them together with the whole class. There is such a difference to discuss mistakes together, I can remember them better.

Intermediate level (B1)	
Before	After
I don't like tests; it always shows I don't remember many new words. It is so stressful to write tests; I don't like it. I prefer speaking. It's such a teasing feeling writing a test because I tend to look into my friend's paper not to make so many mistakes.	It is unbelievable how relieving it can be to write the test. I love the feeling that I do not have to worry about the mistakes because I will have to look for them myself and that is such fun and different from normal test. Writing the test and then correcting my own mistakes is such a motivating factor because I remember mistakes more if I find them myself.

Tab. 6: Breakdown of the results: technique 6

Discussion

Learner's confidence is an integral part of language mastering. Students were interviewed after new techniques had been applied and important results, based on the relationship between self-confidence and academic achievement (Rubio, 2007), were carried out. As Stiggins (1999) points out, students succeed academically only if they want to succeed and feel capable of doing so. If they lack either desire or confidence, they will not be successful (Stiggins, 1999). Research has come out with an inspirational set of suggestions hidden behind the answers. 84% of the total (190) students have expressed their lack of confidence when having to speak. The reasons of not being brave enough when asked something in a foreign language were of different kinds although they are definitely in the tight relationship. Self-esteem is a psychological and social phenomenon, in which an individual evaluates his/her

competence and own self according to some values, which may result in different emotional states, and which becomes developmentally stable but is still open to variations depending on personal circumstances (Rubio 2007). This only supports the principal idea of the present paper that successful academic achievement (speaking a foreign language) falls into both psychological and academic accounts of learners but it mainly comes out as a consequence of gaining a confidence. There were some reasons of the academic character; students do not really have an environment where they could use and practise English every day, because of which they are not able to react quickly. They are unable to put their thoughts into understandable opinions because they suffer from a lack of vocabulary and thus are afraid of making mistakes. This is consequently followed by a fear of speaking a foreign language which falls among the psychological reasons of problems with speaking. The psychological factors were found to be blend together with academic ones. The results perfectly correspond with Arnold's (2007) belief that our attitude about the self as a language learner includes what we believe ("I am capable of learning the language" or "I can never learn") which leads to our feelings about learning process ("pleasure" or "pain") and this in turn will determine our behaviour (approaching or avoiding opportunities of further learning). Some studies have shown that self-esteem is mainly an outcome of achievement (Calsyn, 1971 as cited in Rubio 2007). Present work does support this particular sequence (that confidence is definitely accomplished after students did something successfully, e.g. creating their own opinion, making their own sentence) which is well demonstrated by, for example, the ability to participate in the dialogue - TECHNIQUE5 – Dialogues Guided by More Confident Students; TECHNIQUE 2 – The Assessment in the Service of Student's Confidence or TECHNIQUE 3 – Notices

Written on the Board. These particular techniques have provided learners with the means to succeed in their language learning, as Arnold (2007) points out, while at the same time reducing any limiting false beliefs about their worth and their abilities. Learners must both *be* competent and *feel* competent, says Arnold (2007). Arnold (2007) continues that we cannot lead them to expect the road toward language learning to be free of obstacles. We – the teachers – can help them make the right step when faced with hesitation or doubt by using the right friendly techniques. Students following the vocabulary written on the board (TECHNIQUE 3 – Notices Written on the Board), felt more capable of making the sentence and expressing their opinion. Szynalski (2011) cites that the gap between 'knowing how it should be done' and 'doing the right thing' is small. He further states that once you have enough correct examples in your memory, it is relatively easy to transform and combine them into sentences (Szynalski, 2011). For students to be finally able to structure their opinion properly, even enriched by new vocabulary, it was found out that notes on the board are truly as much an academic as a psychological guide, awaking the learners' self-esteem. Thus can TECHNIQUE 4 (Open-mind Topics) join TECHNIQUE 5 (Dialogues Guided by More Confident Students) and support the learners' lack of confidence by putting them together with the more competent speakers in the class, thus strongly reducing their anxiety and fear from not being able to speak. Giving them an opportunity to discuss topics that are relevant made them feel comfortable and more competent also in vocabulary as well. Brown (1991, as cited in Arnold, 2007) calls this procedure "reframing beliefs through mental imagery". It means that visualizing speaking the language fluently and interacting with people (Brown, 1991, as cited in Arnold, 2007) helps the learners pretend and naturally be part of the imaginary English speaking environment which

consequently enhances their self-esteem and belief in themselves. As there exists a very close relationship between our feelings and our mental images, Arnold (2007) cites further, if students experience a strong mental image of themselves performing language learning tasks successfully, this can reduce negative beliefs and provide a good starting point for effective bottom up work on the language. TECHNIQUE 5 thus helps students from both aspects – those suffering with lack of confidence and those being stronger at speaking skills – by encouraging either of them reciprocally by being successful in dialogues, thus making them feel good about themselves. The ‘stronger’ one helps the ‘weaker’ one to be able to make the consistent speaking pair. The individual simply feels that he is a person of worth; he respects himself for what he is (Rosenberg 1965, as cited in Arnold, 2007). Another way to help students gain the positive energy was when TECHNIQUE 2 (Assessment in the Service of Students’ Self-confidence) was applied. When communication is a goal of language instruction, says Yashima (2004), such questions as “communication with whom?” and “for what?” arise, and a social psychological perspective becomes relevant, continues Yashima (2004). When the students found themselves in a situation where they could try to formulate their own opinion without focusing on the fear of making mistakes, they immediately relaxed and were found to communicate by sharing their opinions freely, even subconsciously eliminating grammar mistakes. Such enormous psychological effect was noticed when the learners’ anxiety had ceased thanks to the teacher’s appreciation of their own opinion. Analysing Rubio’s (2007) issue whether self-esteem is a cause or an outcome of an academic achievement, the survey has carried out the results that both factors work reciprocally although positive self-esteem still plays the fundamental role when confidence influences positive attitude. In spite of this outcome,

some of the present survey’s techniques make the author inclined to believe that even though the learners had been shy and not feeling comfortable in the beginning, they received a psychological (positive) support successfully provided by the positive quotes and their discussion. TECHNIQUE 1 (Using Quotes to Inspire the Positive Mindset) has carried out the results of self-esteem being the cause of academic achievement (Rubio, 2007), thus also an interesting motivational factor. Among the learner’s internal factors of central importance, is the image of self, Arnold stresses in her work (Arnold and Brown, 1999, as cited in Arnold 2007). She then continues that how we evaluate that self-negatively or positively – will determine our self-esteem. The perceptions one has of on self significantly affect attitudes, behaviours, evaluations, and cognitive processes, says Arnold (2007). That is why TECHNIQUE 1 being the starting point of each lesson, has helped to change the students’ attitude, their fear or anxiety about their self-concept into positive perspective on their academic competence. The learners immediately started trying to participate in the discussion supported by the teacher. He is the ‘trusted guide’ who by choosing positive quotes and trying to explain them evokes not only a supportive atmosphere in which he can better encourage learners to work hard to reach their learning potential (Arnold, 2007) but also inspires the learners to start believing in their own abilities. A student who has formed a belief that he can’t learn a language is right – he can’t...unless he changes his belief (Arnold, 2007) – nicely quoted by Budha and picked as the beginning of the lesson: “Whether you think you can, or you think you can’t, you are right”. Disposition to see oneself as competent enough to cope with the basic challenges of life and being worthy of happiness (Branden, 1994, as cited in Horwitz, 2007) defines some of the ‘confidence’ components discovered within this study – ability

to deal with a problem of lack of confidence through experiencing success by opening himself/herself to give it a try. No one can predict what will work, but people who try and fail have a higher probability of success than those who are doing nothing for the fear of failure (Szinalski, 2011). Thus, we cannot ignore the factor that "the highest human priority is the need for self-acceptance" (Ehrman and Dornyei, 1998, as cited in Arnold 2007). Beliefs are strong perceptual filters, cited by Puchta (1999, as cited in Arnold, 2007). They are so influential in the learning process because they operate on the level of our identity, Puchta continues (1999, as cited in Arnold, 2007), thus, if we, for example, correct students' errors in an insensitive manner, what they may perceive is that we reinforce their belief that they are not capable of learning the target language or even that they are not valuable human beings. Self-concept of each individual learner plays the most important role in any kind of learning. TECHNIQUE 6 (Self-assessed Tests) has tried to reduce the initial students' stress from writing the test and instead of getting a bad mark from the teacher, and it has offered a much funnier approach towards it by giving them an option to evaluate their own tests, explaining their own mistakes without being punished by a bad mark or negative assessment by the class, thus destroying their temptation to cheat. Even though the amount of mistakes was not lower (that is not the aim of this technique), it did not discourage learners in their willingness to try again and be better. Their self-esteem has definitely been positively stimulated and at the same time, it became the cause of the learners' academic success. Learners need to be aware of their worthiness and capabilities, but the more effective way than telling them they are capable is to help them experience how well they can learn (Arnold, 2007).

Conclusion

This paper has tried to create some new teaching practises that can possibly enhance and deepen students' understanding of themselves as individuals and how to overcome their own fear of speaking in a foreign language. Gaining self-confidence is a difficult task which needs specific attitudes and strategies. This survey has come out with some interesting components of self-esteem, such as worthiness, competence or belief in oneself. It is a challenge not only for the teachers but also for the learners themselves. As can be seen from all the techniques presented in this survey, they are reciprocally interconnected, supporting each other. They connect the psychological and the academic issues of the obstacles preventing students from speaking. By applying them into the structure of the lesson, they nicely build self-esteem in the learners step by step. Starting a lesson by introducing students with a positive quote awakes positive thinking which consequently fills the learners with energy and the will to communicate, which this survey has put as the main goal when learning a foreign language. If there is a case where students happen to see the problem in expressing their thoughts, they can immediately rely on the source of grammatical and vocabulary information written on the board and just follow the pattern. In the situation of having to make a dialogue, they on the other hand not only appreciate topics that are relevant to them, but they happily listen to their more competent - in terms of speaking - partners who naturally and subconsciously lead them to fluent reactions with latter's own skills and prearranged questions. When it comes to depending only on learners' own knowledge and abilities to write the test, students do not look for the best way to cheat and they are not even stressed out from the results. They know they will assess their own test afterwards; they do their best just to find out

what they are good at and what they should focus on more. All the techniques strongly support gaining the positive self-esteem as the fundamental cause of the academic success, and confidence becomes its consequential outcome. The influence of confidence or academic achievement still remains reciprocal where the teacher is given a very important role not simply as an educational-guide but also as an emotional one. Teachers should not just use traditional ways of passing knowledge to students. Teaching grammar and doing exercises being enriched by an enthusiastic atmosphere through positive sentences would make students give themselves a little thought. They start looking at the problem from a modified point of view, a positive one. It helps open their mind and be generally relaxed based on a friendly atmosphere from exchanging different opinions. This survey has also noticed that the students find talking about philosophical topics amusing. They make them think with pleasure and not within the threat of the negative assessment which is never likely to become part of the enjoyable way of learning. Their own opinion is truly appreciated. Modification of traditional teaching has been applied by the assessments done by the students themselves. This research has proved that it definitely shifts the character of the whole learning and teaching process into a more pleasant way. Lack of self-confidence and fear of negative assessment slowly but surely disappears, and learners show interest in improving, especially in noticing their mistakes and a strong support by the teacher. The techniques used in this paper tried to overcome the signs of frustration, as noticed or decoded from the questionnaire, by considering the emotional side of the learners. A fun and friendly approach is developed thanks to the concept of awakening the 'will' to speak. The techniques have confirmed the close connection

between self-confidence and the learning ability of the students. Confidence mastery thus should always play a prime role in the teaching process of a foreign language.

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ANALYSIS OF VIRTUAL ENVIRONMENT BENEFIT IN E-LEARNING

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Abstract

The analysis of the virtual environment assets towards the e-learning process improvements is mentioned in this article. The virtual environment was created within the solution of the project 'Virtualization' at the Faculty of Economics and Administration, University of Pardubice. The aim of this project was to eliminate the disproportion of free access to licensed software between groups of part-time and full-time students. The research was realized within selected subjects of the study program System Engineering and Informatics. The subjects were connected to the informatics, applied informatics, control and decision making. Student subject results, student feedback based on electronic questionnaire and data from log file of virtual server usage were compared and analysed. Based on analysis of virtualization possibilities the solution of virtual environment was implemented through Microsoft Terminal Server.

Key Words

Education, e-learning, remote access, virtual lab, virtual private network

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Introduction

The analysis of the suggested and realized solution 'Virtual Lab' is mentioned in the article. The solution is a part of two projects 'Virtualization' and 'Development of study programmes, didactic methods and innovation of management model in the area of part-time studies' at the University of Pardubice (UPCE). Realization of the solution ran in three phases. During the preparation of this project, we supposed that the new solution will be beneficial for the students, particularly for part-time students and will bring the improvement in better study results. All the above mentioned were evaluated on the basis of real log files of the users (students) and a questionnaire inquiry which covered five fields. The results were generalized according to the comparable group of students in the academic year 2011/2012 and 2010/2011 for the selected subjects. Virtual lab is used most in these subjects due to its syllabus. Virtualization has become a real social phenomenon (Cvek, 2005). In spite of this, the word virtual has become ordinarily used in education, particularly in the field of distance learning (El-Bakry and Mastorakis, 2009) and e-learning (Doulgeri et al, 2006). The mentioned forms of education contribute to the development of an educated society, which is confirmed in European (the i2010 strategy) and national documents.

There are the constructs like virtual learning environment (Zounek, 2009), virtual lab (Casals-Torrens and Bosch-Tous, 2010; Drigas et al, 2005), virtual class (Drigas, Koukianakis and Glentzes, 2005; Květoň, 2005; Michailidis, Margounakis and Politis, 2005) or virtual University (Průcha, 2003) in distance learning. Virtual learning environment (online learning environment) is possible to define as a technology (hardware and software (SW)), which is used for online learning pursued out of the traditional classroom (Mason and Rennie, 2006 quoted

in Zounek, 2009; p. 122). In case of virtual labs we meet the constructs such as: iLab (_iLab, 2011), online lab (_onlineLab, 2011), virtual lab (_virtualLab, 2011; _virtualLab, 2011a), web lab (_webLab, 2011), web virtual laboratory (Smutný, Farana and Smutný, 2005) etc.

The primary reason was to make accessible licensed software for part-time students for realization of this project Virtualization at the Faculty of Economics and Administration (FEA).

At FEA are not any dedicated courses to the virtualization. Basic principles of virtualization are discussed during the lessons of Computer Networks (CNs) and Operating Systems. Students will meet practical usage of virtualization in lessons of CNs. Virtual machines are used as complete independent computers for teaching basics about settings of CNs and network operating systems in this course. These completely independent virtual computers are used at labs computers to avoid any harm or incorrect setting of hosting operating system of lab computer (students of another courses needs to have perfectly working lab computer, not some testing computer with wrong setting of operating system). Oracle VirtualBox are used at student's labs computers for realization of virtual computers. Due to this desktop virtualization every student has full access to its own virtualization environment and virtual computers. Virtual computers are used during the whole semester; therefore students will learn every basic aspects of virtualization.

Within the study programme System Engineering and Informatics (bachelor's and master's degree) at FEA, full-time students process tasks in their seminars in the computer labs. These are assigned in different licenced SW, e.g. MATLAB. Part-time students have the same conditions for gaining the credit, so they process same or similar tasks. Within the part-time studies

however, number of hours spent in the labs per term (usually 5 hours) cannot be compared to the number of hours spent there by full-time students (usually 28 hours).

The aim of the planned solution was to cancel the disproportion in access to the licensed SW between the full-time and part-time students and of course allow the part-time students full access to the used SW.

Data and Methods

The research was aimed at the analysis of the virtual environment assets towards the e-learning process via non-stop (24/7) access of the licensed SW to the students.

The research was realized within selected subjects of the study program System Engineering and Informatics for the full-time and distant form of education. The group of subjects was connected to the informatics, applied informatics, control and decision making. We used the methods of analysis and synthesis.

We worked with the hypothesis that 'Accessibility of the licensed SW to the students will improve their skills and academic results'.

Study results of the year 2011 were compared with the data of the year 2010. The questionnaire in the environment of system Moodle was realized to obtain the feedback from the students about the convenience of the suggested solution.

Problem Formulation

There are many ways, how to allow students the access to the licensed SW, e.g. Figure 1. The left column shows the environment of the University (University), communication channel (Internet) and students' personal computers (Students).

In the picture there are three possibilities of licensed SW distribution for the students. Most of the possible solutions are very complicated and require certain network knowledge for the end users (students). For instance installation of the licensed SW directly to the student's computer is not possible, because the students themselves must also set the school license server after installing the SW. And this activity is not suitable for an ordinary educated computer user.

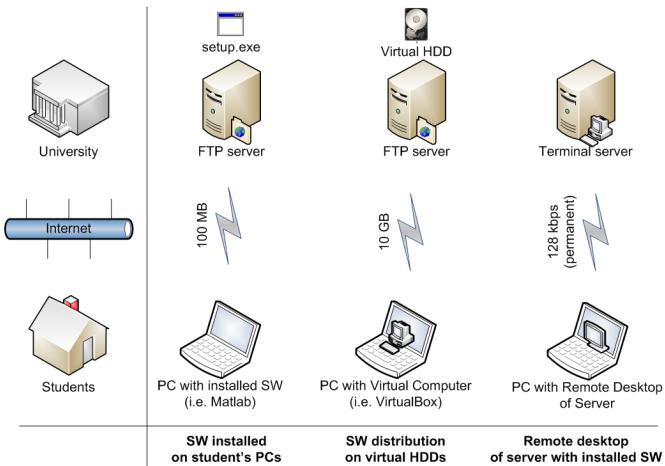


Figure 1: Possibilities of licensed SW distribution

Another possible way is to provide students the installed SW on the virtual computer. Student would only download the image of virtual computer harddrive (Virtual HDD), which would be used for start of the virtual computer in common desktop virtualization environment, such as Windows Virtual PC (it is part of Windows 7), then also Sun VirtualBox or VMware Player (both solutions are accessible free of charge).

Overall SW and needed settings for getting the licence from the university's licensed server would be the part of distributed virtual computer. Licence to operating system (OS) Windows for students is part of the program Microsoft Developer Network Academic Alliance (MSDN AA). One disadvantage is that there is a necessity to distribute a complete OS Windows, which usually means the usage of 5-10GB of data. Another disadvantage is that there is nearly no possibility to update SW or OS remotely, or to change their settings. Distributed virtual computers would be completely under the end user managing, without the possibility of remote maintenance.

The last mentioned way is our planned solution, via Terminal server.

In the past we solved this problem via allowing licensed SW MATLAB by proposal and analysis of application in MATLAB Web Server (Galčík, 2008). MATLAB Web Server (Galčík, 2008; Hamar, Kropík and Šroubová, 2003) presents the possibility of the Internet communication between MATLAB and the user.

In application (Galčík, 2008) it is necessary: to set Apache HTTP server, to create the input and output forms in HTML code and M-files examples in MATLAB and to prevent making mistakes from the users' (students') side. The advantage is the remote access of the students to the licensed SW. On the other hand the disadvantage is a laborious proposal of HTML forms and M-files for solved examples made by the tutor. Another disadvantage for the students is that there is a possibility to solve the solely defined assignments and their solutions.

Proposal and Solution Testing

The most advantageous solution for testing was the terminal server at OS Windows Server 2008 R2. At this server there is a

necessary SW used in the lessons installed. There are installed MATLAB R2011b and Statistics 10 and a performance of the server is designed to 100 simultaneously working users.

Students have the possibility to connect easily to the remote desktop of the server. At the desktop there are the icons for the program start, which are installed at the server. After the program starts, the student can work on it without any limits as if the program was started directly at their computer.

For connection to this server, there is a simple program needed. It is either part of the student's OS or accessible free of charge. The students can connect from OS Windows (e.g. program Remote Desktop Connection, which is part of OS), from Linux OS (e.g. program rdesktop, which is either part of Linux or accessible to download free of charge) to the remote desktop of the server and it is possible to connect also from Mac OS (e.g. program Remote Desktop for Mac, which is part of the Microsoft Office set for Mac or is accessible to download free of charge). Thanks to the possibility of connection from nearly any desktop OS, the problem with availability of needed SW for lessons, which students use on their computers, is also solved.

After starting the program Remote Desktop Connection for connection to the server, the students only enter the server address (fes-st01.upceuecebny.cz). They can also set a connection to any of their disk drives or a printer to this server. At this disk drive the students can save the example assignment or source data. It is also possible to write into this disk drive, which means that the solution would not be stored only at the server. After connection it is necessary to log in to the server, which will be done via student's NetID and the password. The server is accessible for all the students and tutors of FEA at the UPCE. There are no limits yet, e.g. access only for the students of the specific field or time limits, when the application in the server

would be accessible only during the night or at the weekends. It is possible to access the server at any time from the University's CN. If the student is connected to the Internet out of the University network, the server would be accessible after log in to Virtual Private Network (VPN) of University. The students log in to the VPN also via their NetID. The client for the VPN connection is also accessible for all three above mentioned OS, i.e. Windows (Windows 2000, Windows XP, Windows Vista, Windows 7), Linux a Mac OS.

Figure 2 shows user's connection from home via VPN to the terminal server from the OS Windows XP via program Remote Desktop Connection. At the virtual desktop there is MATLAB running, where the simple example is shown. The remote desktop window can be widened over the whole screen and provides nearly same comfort as if the students sit at their computers in the classroom.

Naturally to have the access to the remote desktop, within this project, the students' computers must be connected to the Internet. The minimal speed of the Internet connection is 128kbps for work in the virtual lab. For a comfortable work with the virtual lab the optimal speed of the Internet connection is 512 to 1024kbps. This requirement is accomplished by most of the commercially provided Internet connections in the Czech Republic.

More important factor than the Internet connection speed is actually response time called ping. The response time is the time, when the user gets the response to his request. Nowadays the Internet servers are very powerful and quick, so the most limiting factor is just the quality of the line, which the user connects the Internet with. Considering the work with graphic user's environment of the OS, the interactivity of the environment is necessary (the graphic environment must react

quickly to the user's requirements), the response time is a key parameter for the user friendly work with the remote desktop. The suitable response time is therefore 10 to 20ms, maximum 50ms, for the problem-free work with the remote desktop. Higher response time will be shown as slower response time of the remote OS to the user's actions. The user then thinks that the remote OS is slow and cannot manage the requests quickly enough; this can be compared to the work on the older and less powerful computers. There are no more serious failures and cut-offs, when there is higher response time, only the comfort of using it is lower.

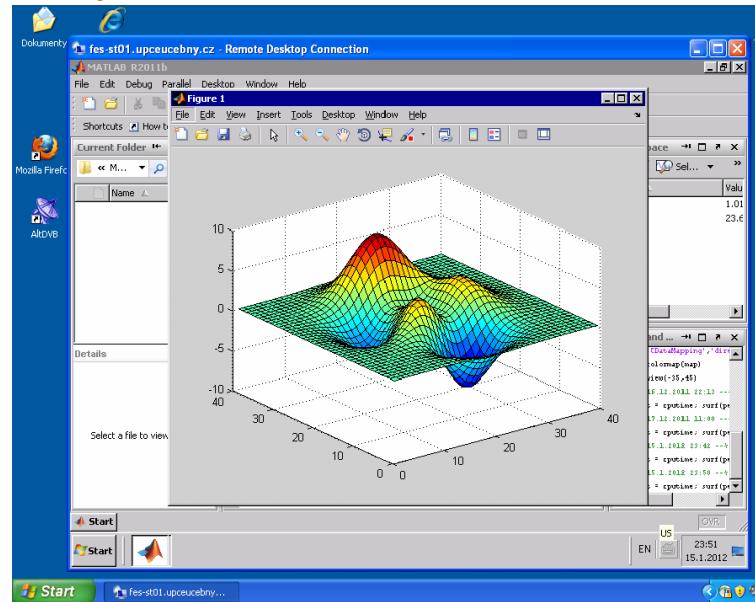


Figure 2: Remote desktop connection to virtual lab in Windows XP

If the user's (student's) connection to the Internet was low-quality, there would be failures of the connectivity (mainly at the Wi-Fi network in the highly interfered areas), this problem appears as so called image pixelation (usual at television broadcasting in DVB standard), or by the frozen image. In case of a complete cut-off of the Internet connection, at the first frozen image appears, and then will be the disconnection of the remote desktop. However, at the server there will stay the running programs. If the student logs in to the server soon after the disconnection, the sessions will be recovered and all the programs will stay in the former state. Within the saving of the server resources and licences of the terminal server, the users' (students') disconnected sessions will be automatically closed after some time. This setting has proved to be the compromise between the used licences and server's performance on one side and the user's comfort on the second.

The server itself is run as a virtual computer (Novák, 2012; Novák, Křupka and Petr, 2012) within VMware virtualization environment of the Information Centre (IC) of the UPCE. IC keeps this virtualization environment running, so after the end of this project there will not be any additional operating costs to keeping it running. Virtualization of this server brings many other advantages, such as e.g. very easy back-up of the whole machine, which is possible to be done during its running state. Also very easy transfer of the virtual machine to any other physical server and another advantage is that – in our purpose the most interesting one – its easy change of the virtual machine performance. The change of the performance can be set dynamically, or the change can be done manually. Currently 2 processor cores AMD Opteron 8220 and 48GB of RAM memory are assigned to the virtual server.

Performance and memory of the virtual machine was consulted with experts to MATLAB from the Humusoft and with experienced terminal server administrators. The experiences gained, while testing this solution at the low powerful servers and desktop computers, were also taken into consideration.

There are synthetic laboratory tests, how to test the load of the server, so called stress tests. All these tests are documented in detail and can be repeated, but only in the more or less similar conditions to the real. Due to the fact, that the simulation of the real environment of teaching is very difficult and the data gained by the synthetic tests would not be very relevant, the testing in real environment was proceeded. Testing was done during the lessons, when an example assignment was given to the selected number of students, which was then solved at the tested server. The load of the server really corresponded to the real conditions, for which this server was designed.

The results of the stress test of the server (Processor AMD Opteron 8220) with the licensed SW needed for the lessons at the server are mentioned in the Table 1.

CPU Cores	RAM	No. of Users	Result
1	16GB	30	Unusable slow
2	48GB	70	Quick responses

Table 1: Results of stress test of the designed virtual lab

Several tests were done with different number of users and different configurations of the server. For instance server with 16GB memory RAM and one assigned core processor AMD Opteron 8220 was already insufficient when 30 users work simultaneously. The most demanding test was done with 70 simultaneously working users in MATLAB and with server

configuration: 48GB memory RAM and both cores processors AMD Opteron 8220. The server persisted in this test and the work in MATLAB was fluent enough.

We processed the log file after five months of the terminal server operation to find out how the server was used during this period. The log file is a simple text file, which is created only by incremental addition of all events on the server to the end of this log file. Every event was recorded to the separate line. Log file was pre-processed, i.e. only those records were selected, which were connected to the login and logout of the specific user so that we would be able to say how long this user was logged-in at the server.

The structure of the log file was defined (each value is separated by the semi colon), and therefore it was easy to get the data from the log file into the prepared database table, as it is obvious from the column 'Table log' in the Figure 3).

Table log

Column	Type
date	datetime
loginName	tinytext
sessionID	tinyint(4)
IP	tinytext
eventID	tinyint(4)
description	tinytext

Table log2

Column	Type
ID	int(10) unsigned <i>Auto Increment</i>
login	datetime
logout	datetime
loginName	tinytext
sessionID	tinyint(4)
IP	tinytext

Figure 3: Structure of database tables for log file

SQL query was used for the copy of all the records about the user's login, which has the event ID number 21 into the 'Table log2' (in Figure 3):

```
INSERT INTO log2 (login, loginName, sessionID, IP)
SELECT date, loginName, sessionID, IP FROM log
WHERE eventID = 21;
```

It was necessary to identify the record for the logout of the user for the records matching, which has event ID number 23 (logout), then the same login name and the same session number, when the time of the logout must not occur earlier than the time of the login. This SQL query was used for records matching:

```
UPDATE log, log2
SET log2.logout = log.date
WHERE
log2.login      <= log.date AND
log2.loginName  = log.loginName AND
log2.sessionID  = log.sessionID AND
log2.IP         = log.IP AND
log.eventID     = 23;
```

At about 30% of the records with the login of the user was not found the specific record of the logout. In the log file were not recorded those occurrences, e.g. expiration of the specific relation thanks to the disconnection from the server with a mere closing the window with the remote connection to the server. This problem with the log file was solved after the discussion with the server administrators and since then all the actions, which are connected to the users' access to the server, have been logged.

After the records matching, the data from the database 'Table log2' were exported to Microsoft Excel, where graphs were made from the obtained data (Figure 4 and 5).

Results

Placing the server was done in three phases (pilot, testing and operating). In the months of January and February 2012, there was a pilot phase of the server run, especially for the distant form of education. In this phase the students only solved the partial project tasks and among the students an electronic questionnaire inquiry was asked. The partial result is possible to deduce from the respondents' answers, i.e. the accessibility of the licensed SW is a huge advantage and will help with the basic SW skills manage just before the practical form of education at the computer laboratory. However, comparing the academic results the average evaluation was not reached nor at any subjects neither at the frequency of the marks while comparing them with the Gaussian distribution.

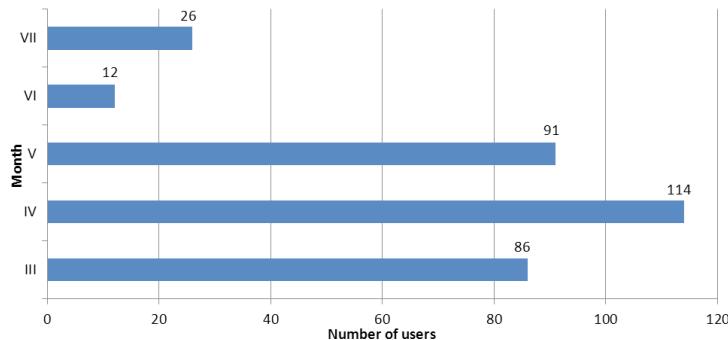


Figure 4: Number of users logged on the server

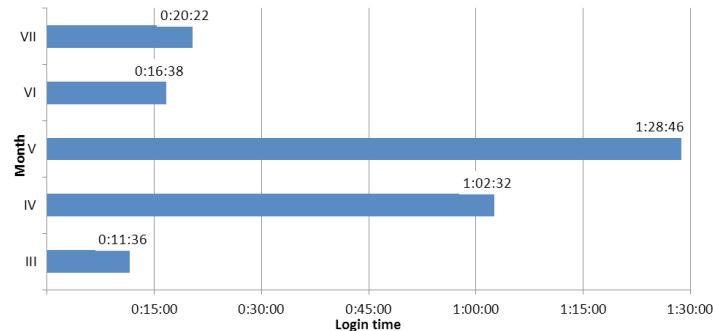


Figure 5: Average login time on the server

The server was tested from March 2012, so the average time of the server login was quite short (Figure 4 and 5). In April and May (the run of the server), on the other hand, the time of the login to the server was much higher. The students of the distant and full-time studies processed the given home projects with the joint denominator – using the SW MATLAB/Simulink. In June and July the server was used only occasionally again.

A questionnaire inquiry was realized in the testing and operating phase. Its aim was to find out the suitability or unsuitability of the suggested 'virtual' solution in the selected group of students. Students compared the virtual lab with the real lab at the university. Questionnaire related to these selected areas:

- Restrictions of work with regard to virtual lab connection
- Intuitive control
- Comfort of work and response time
- Preferred form of training (Virtual lab or Lab at university)
- Sufficiency of study materials for tasks solving

A different scale was defined for every area. The study group of subject Decision making processes in the summer term of the academic years 2011/2012 was chosen. This group was comparable to the group of students in the academic years 2010/2011. There were 38 students asked in the questionnaire inquiry. Frequency of the students' answers is in the Table 2.

Queried Area	Scale		Frequency of Answers [%]
Restrictions of work with regard to virtual lab connection	No	No restriction	60.5
	Yes	Exceptionally	28.9
		Occasionally	7.9
		Often	2.6
Intuitive control	A (the best)		5.3
	B		78.9
	C		10.5
	D (the worst)		5.3
Comfort of work and response time	A (the best)		21.1
	B		28.9
	C		28.9
	D (the worst)		21.1
Preferred form of training (Virtual lab or Lab at university)	Yes for Virtual Lab		26.3
	Rather Yes for Virtual Lab		39.5
	Do not care		2.6
	Rather Yes for Lab at university		10.5
	Yes for Lab at university		21.1
Sufficiency of study materials for tasks solving	A (the best)		21.1
	B		44.7
	C		28.9
	D (the worst)		5.3

Table 2: Results of questionnaire

Interpretation of the results for the area 'Restrictions of work with regard to virtual lab connection' is in the Figure 6.

When comparing the study results of the subjects, where the licensed SW was used, the basic improvement of the study average of marks (evaluations) was not reached unfortunately.

There is an example of subject Decision making processes in the summer term of academic years 2011-2012 and 2010-2011 (Figure 7 and 8). There is a change in frequency towards their comparison with the Gaussian distribution, the evaluation (mark) 'very well' occurred more often.

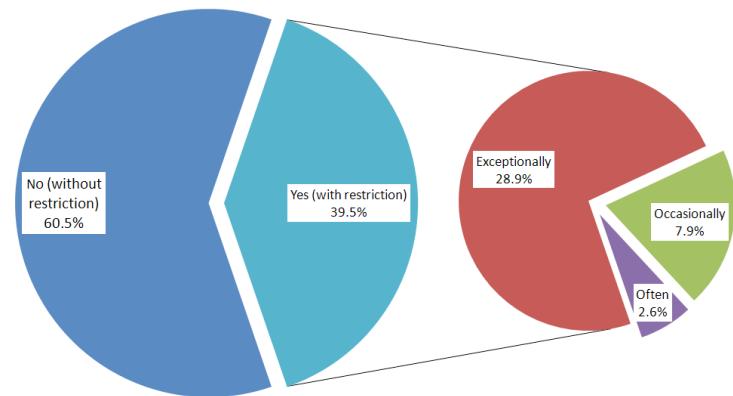


Figure 6: Frequency of the Restrictions of work with regard to virtual lab connection

An electronic questionnaire inquiry was given to selected students group. From the respondents' answers is possible to deduce that:

- The accessibility of the licensed SW is the improvement to the students

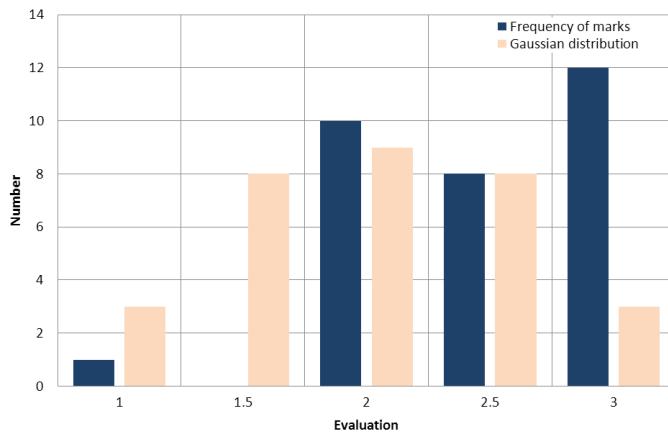


Figure 7: Frequency of the marks in the subject evaluation in 2011

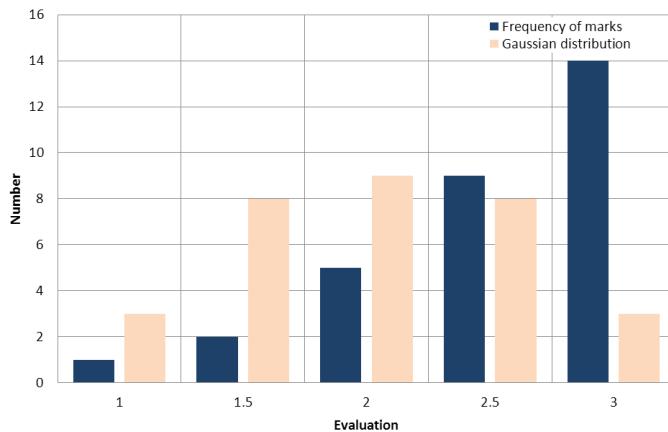


Figure 8: Frequency of the marks in the subject of evaluation in 2010

- The students evaluate positively the possibility of homework correction from the computer tasks from 'home' environment
- SW was used for writing their thesis

From the overall view of the server, the number of users in all three phases was quite low. It is probably caused by the announcement about the server existence only to the small groups of students in the selected subjects. The possibility of using the installed SW from anywhere at the suitable subjects at the beginning of the term will be announced in the following winter term, which means that we expect much higher usage of the terminal server. Thanks to the 'small' amount of students using the SW we have not had to solve the problems with overloading the server yet.

Discussion

The program ArcGIS was installed (from August to September) after the other development and higher usage of the terminal server in the winter term. This software is used at the subjects like Geographic Information Systems, Space Regional Analysis, Map server services and Basics of the Geographic Information Systems. Thanks to the number of students in these subjects it is likely, that the usage of the terminal server will rise by minimally 100%.

GIS applications are very demanding to the drive space (approximately gigabytes) and therefore it was necessary to make other changes at the terminal server. There was added another drive to the virtual server, which is 50GB big and is seen as drive D: at Windows environment. The size of this drive can be dynamically increased according to the requirements. At this drive D: there is the right for the teachers to write, but

the students have only the right to read. The data is shared this drive at the moment, at the units of gigabytes for the need of GIS subjects teaching.

Every user has also their own home directory, where they have their own access rights. These home directories are placed at the other drive at the size of 50GB. The users share this drive space. There have not been set any drive quotes for each user yet within the testing run of this solution. Data of the users at this drive also stay there after their logout. It is then possible to leave the unfinished work. From the view of the other development and terminal server run, especially for the reason not to have drive full of users' data, it will be necessary to set the drive quotes or automatic data deleting, which will be older than the set time. Disadvantage of the drive quotes will be inadequate drive space for one student (number of students might be higher). Data deleting can be very easily got around by changing the time of the last access to the file, which means that the suitable solution has not been chosen yet.

Technical solution of the drive space connected to the terminal server is possible thanks to the external disk array, which is connected to the virtual computer via reserved 1Gbps network. Resistance towards the HW failures, power supply and back up of the data is globally solved within the disk array. Speed of the disk operations at the terminal server is comparable or better than the speed of the current hard disks at the common personal computers.

Future development of the terminal server

It is possible to install other SWs, which are used at FEA, UPCE for teaching, after the successful installation of the ArcGIS program. Scaling of the selected solution (i.e. increase of the operational memory, capacity of the hard drive, performance

of the processor) is large and the dynamic changes are possible according to the actual loading of the virtual computer. All the administration work provides IC UPCE, which runs the virtual server within the virtualization infrastructure.

Data in the amount of gigabytes, shared for the students at the drive D, are commonly used also at the teaching the students at full-time studies. The students of the distant studies have the same data and do not have to take gigabytes of the data to their home computer and have also the accessible computer with the installed SW needed for their studies.

Program ArcGIS is very demanding for the system resources (tens of gigabytes of RAM and hard drive space approximately). It is quite demanding for the performance of the computer and mainly the time with these requirements to even practise in the ArcGIS program and do a relatively easy task. If we compare the performance of the computer in the laboratory, performance of the students' computers and our terminal server, the terminal server is the number one in performance (see the Table 3).

Computer	Time
Terminal server (AMD Opteron 8220 2.8GHz, 2 cores, 48GB RAM)	41 minutes
Desktop PC (Intel i3 3.3GHz, 2 cores, 4GB RAM)	6.5 hours

Table 3: Time for merging 3GB data ZABAGED in ArcGIS

Students have very effective work station (terminal server), which performance is incomparable with the common PC. This effective station is shared by the students, so that the actual performance depends on the number of connected users at the specific moment, but generally it is the accessible resource for quick solution of also very demanding tasks.

Speed and accessibility of ArcGIS SW at the terminal server is also appreciated by the teachers with the GIS topics. Teachers

can easily practise the tasks for the students at the effective device, where they do not have to wait for counting the task and have the result nearly instantly.

Conclusion

The aim of proposed solution of the virtual laboratory, to make licensed SW needed for the lessons to the students' access, was gained. All the students of the FEA UPCE have now programs MATLAB R2011b, Statistics 10 and ArcGIS accessible at the terminal server. Via logging in to the server the student will get the remote desktop. At this desktop there are icons of each program, which are installed to the server. Having started the required program from the server, the students will get full access to the programs needed for their studies.

There were no problems during testing. The terminal server is in fully operating state now. The students have a description and a simple manual how to connect to the server and how to process the assignments, projects and the sources for their thesis.

SW needed for connecting the terminal server (virtual laboratory) is commonly accessible for OS Windows, Linux and Mac OS and it is free of charge. The students can also set access to their own selected disk drives, where it is possible to store the data and assigned tasks at their computers. Another possibility is leaving the data at the server, at the user profile space (i.e. in Documents folder).

The terminal server is accessible directly from the University's network (direct connection), or anywhere from the Internet (it is necessary to log in to the University's VPN and then log in to the server itself).

The speed, performance and capacity of the server are rated sufficiently to the current requirements to the number of users,

installed SW and also for the chosen OS including running services in this OS. In case of the lack of performance of the server in the future, upgrade can be made easily thanks to the chosen virtualization technology. Just due to it, the results of the project are permanently sustainable also with the other development.

Improvement of learning, knowledge and practical skills has been evident from results of examinations, too. It is true; it was very short time in this semester (approximately two months) when this software was made accessible to the students. An improvement of 15 to 20% per subject by tutors has increased and also the better results have been demonstrable.

The response of part-time students has been mainly very positive. They have found main contribution in improvement of learning, saving of time and finance. They had to report to school and to verify theoretical knowledge at practical assignments in computer labs during previous semester. With regard to their workload, it was very complicated and time consuming. However, it was complicated for the tutors because they had to be at their workplace at the weekends, too.

This way of learning is supposed (to give access to other software, except MATLAB, IBM SPSS Statistics and IBM SPSS Modeler) to part-time students in other subjects, too especially in the following time period.

We expect that we will continue to monitor the change of the average marks in the subjects and students' opinions on the benefits of the proposed virtual solutions.

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THE STUDENTS' EVALUATION OF THE E-SUPPORT IN THE FULL TIME FORM OF STUDY

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Abstract

The assessment of the e-learning courses as supportive tools for a blended learning environment is important for making the courses more useful and effective. A questionnaire survey based on a multiple criteria model (HELAM) was developed and applied to 536 students in the full time form of study. The evaluated courses were based on the LMS Moodle system. The statistical analysis showed generally high satisfaction of the users with the courses. Some problems were found in the communication between the students and the teachers. The most important negative influence can have the low motivation of students who are ready to work at the minimal extent, only to pass the exam. Subsequent test dealt with differences in answers of students from different branch of study, different year, men and women. Dependency of the answers on gender was not statistically significant. The most remarkable differences in the e-learning courses evaluation were found for the groups of students from the second and third year.

Key Words

LMS Moodle, e-course, full time form of study, questionnaire survey, statistical analysis, tests of hypotheses

Introduction

The paper is an extension of the article presented on the 9th International Conference on Efficiency and Responsibility in Education (Dömeová et. al., 2012).

The aim of this paper is an evaluation of the electronic support (HELAM model) from the student's perspective on the basis of a compiled survey. The methodology is derived from the HELAM Model (Ozkan and Koseler, 2009).

First part of the study concentrates on the frequencies of diverse answers. The second part evaluates relations of chosen variables. Following hypothesis will be tested:

- There are no differences in the students' attitudes towards the evaluated courses.
- There are no differences in the students' attitudes towards the teacher.
- There are no differences between the groups of students (e.g. men x women) and their relation to study.

The informational and communication technologies are highly developed and have spread into almost all human activities. The society prefers communication and knowledge orientation. The term "knowledge society" focuses on the need of knowledge and its exploitation for development and growth. Raising the educational level is an important priority of each EU member state and the goal of the Lisbon Strategy and agenda Europe 2020. The transition from the classical education to the computer supported teaching has changed the style of work of the teachers. The goal of the teachers should be creation of a functioning conception of education including the feedback.

The e-supported teaching builds up possibility for more people to enter the education. The new technologies as multimedia can

be included. There are also tools used for checking up the results of the students to let the teacher know if the students really have understood the lectures correctly. From the technological point of view the e-support is a set of mutually interconnected applications and processes.

The advantages of the e-learning courses in the combined education are in more effective exploitation of time. The students in the combined form of study have less contact lessons (about 1/3 or 1/2) comparing with the regular students. They can use the e-learning course for the preparation for the contact lesson and after the lesson they can use the exercises and self-tests for acquiring new information and skills. There are also other advantages as time flexibility, communication possibility, wide accessibility, interactivity, and illustrative nature. The disadvantage is definitely the fact that preparation of an e-learning course of a good quality is highly demanding on the teacher's time. The proper qualification and experience is also necessary. The e-learning is often connected with the combined or distance form of study. But it is successfully used in the full time form as well. In our article we focused on the views of the regular students.

The Czech University of Life Sciences Prague (CULS further on) supports the courses in LMS Moodle. These courses are oriented to basic principles of e-learning courses („multimedia principle, modality principle“) (Clark and Mayer, 2003). The content of courses which are now in operation can be divided into three groups: texts, videos, and software (Houška and Houšková Beránková, 2010). The main part of the study materials are the texts. These texts can be in a form of a web page (e.g. syllabus of the subject); text files, used before or after a concrete lecture (e.g. ppt format), assignments of exercises and homework (doc and xls formats).

Another form of the study support is multimedia presentations based on Adobe, Captivate, LaTeX, etc. These supports are useful for description of simple programs in which the authors record all activities on the desktop of the computer (Vydrová et al., 2010).

The electronic support is organized by a special department of the CULS „Department of Electronic Support“. The main goal is to develop the Moodle applications for different subjects. There are a designated person (called GAELP) for each other department who is responsible for the creation, maintenance, and coordination of the Moodle courses.

This support is used both for combined and regular students. The information on effectiveness and exploitation of the Moodle courses are very important for the teachers. The information can be obtained through various types of surveys or inquiries. The results of these surveys are important for the feedback from the student to the teacher. They can be used for:

- Implementation of e-learning into the education.
- Development of the educational activities.
- Diagnostics of further educational needs.

The goal of this paper is to investigate the satisfaction of students with the e-learning courses and to find possible relations between the attitude of the students and their devotion to a particular group (year of study, gender, etc.). Important is to find problems not only in the e-learning courses but also in the communication between the students and teachers.

The article contains a short introduction into the problems of the full time study with an electronic support. The methodology of the evaluation of courses using a hexagonal e-learning assessment model (HELAM) and applied statistical methods is described in the theoretical part. The main part incorporates

the application of the HELAM and the statistical methods and presents the results of the survey. The results are then discussed with the literature sources and the conclusions are formulated.

Materials and Methods

In our contribution we collected evaluation of e-learning courses from the regular students. To get their views we used a questionnaire survey based on a hexagonal assessment model. There were 19 questions and 536 respondents. The goal of the statistical analysis was to find out how the students evaluate the e-learning support, to determine the strong and weak points.

The questionnaire form has been constructed according to the HELAM hexagonal e-learning assessment model. This model deals with complex hexagonal evaluation of e-courses. The evaluation is based on six dimensions:

- System quality.
- Service quality.
- Content quality.
- Learner perspective.
- Instructor attitudes.
- Supportive issues (Ozkan and Koseler, 2009).

The scheme of the hexagonal e-learning assessment - see Figure 1.

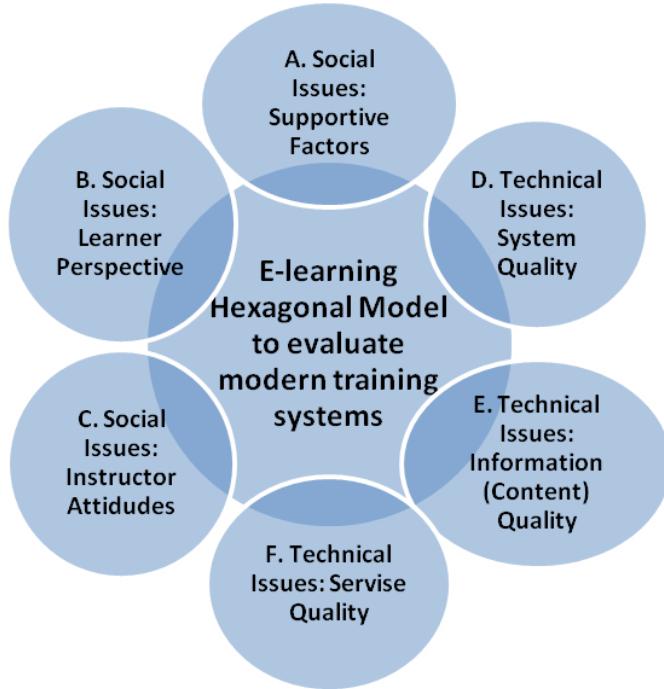


Figure 1: Hexagonal e-learning assessment model (Ozkan and Koseler, 2009)

Not all categories from the HELAM model were used in the question form. There were 19 questions from parts B and D which are oriented towards the students' views. The question form for all aspects would be too extended and the willingness to fill it is remarkably lower in such case. In our study, we reduced the number of questions and focused only on the students' point of view. The question was mostly formulated as a statement with

which the responder can express the degree of agreement or disagreement in a seven grade scale. The scale was used for the majority of questions and has the seven categories, see Table 1.

In the scale, the number of positive answers is equal to the number of negative answers. There is a neutral category "Cannot judge" for the case where the responder does not know how to answer. The scale is based on the ordinal information.

One group of questions contained complementary information for more detailed statistical analysis of outputs.

The last group of questions was identification of responders. The responders can be divided into group according to the branch of study, year of study, gender, and age. All students were from the full time form of study.

The answers were codified for easier manipulation with data. It means, each variant of answer got its code (Přibová, 1996). The codes are in the Table 1. The codes were spitted (see the last column of Tab. 1) for the test of statistical hypotheses.

We supposed for our survey that the responder takes the differences between neighbouring categories as the same. In such case the codes can be used not only as marks but also as numerical values of the answers. This presumption enables us to handle the scale as quantitative so that we get wider choice in the data analysis.

The statistical analysis was made by the statistical software SPSS version 19 and the MS Excel. The elemental analysis is based on the frequency distribution which gives the overview of the output values. The following analyses focused on the differences in answers between genders, age, branch of study and year of study. The significance level was $\alpha = 0.05$.

The dependency analysis of two variables was made in the contingency tables. The contingency tables are the basis for

finding dependencies (can be derived from the values in the table) and computation of the intensity of these dependencies (Pecáková, 2008).

The dependency analysis in the contingency tables was made with the Pearson's chi-square test, when the application condition for chi-square was not satisfied, the exact test Monte Carlo was applied. The test conclusion was based on the value of the p and the significance level α . The construction of the dependency rate was derived from the values of the Pearson's contingency coefficient (C_p).

Answer	Code	New code
Completely agree	1	1
Agree	2	
Partly agree	3	2
Partly disagree	4	
Disagree	5	3
Completely disagree	6	
Cannot judge	7	4

Table 1: Answer codes (Ozkan and Koseler, 2009)

The question form was distributed among the students of the CULS. They were students of the second and the third year of the branches "Agriculture Economics and Management" and "Entrepreneurship and Administration". They are quite experienced with the e-learning courses which are included in majority of the subjects.

There were 536 respondents, 194 males (32.2%) and 342 females (63.8%). The age of responders was between 19 and 31, majority (66.8%) were between 21 and 22. The gender and age distribution is in line with the distribution of all students of the target branches and years. The questionnaire was correctly filled by 227 students of the second year and 309 students of

the third year of the "Economics and Management" – further EAM (63.6%) and "Economic Policy and Administration" – further EPA (36.4%) of the full time form of study. There were 19 questions in questionnaire, 6 of them identification.

Results

Frequencies

The respondent can choose from the given scale (see Table 1). The frequency of answers is in the Table 2 in the attachment. Generally, the students see their e-learning support positively. The most frequent answers are positive: completely agree, agree and partly agree with the given statement. With the statement "The e-support of the contact education is a correct educational process." completely agree 236 students, agree 211 students, partly agree 79 students. The opposite views have 9 students and 1 is not able to judge. "With the e-support I can manage my study more systematically" – agree 93.1%; "E-support is generally useful for acquiring new knowledge and for preparation for concrete subject" – agree 97.4%. The students who are using the e-support for their self-study think that it is an effective educational tool in 94.2%, it is good for orientation in the contact lessons and the whole content of the subject in 94.7%. There are some reserves in formulation of tasks and questions, they are sometimes unclear (20.7%), and the e-support cannot capture attention (21.5%), and do not cover satisfactory volume of the study content (28.7%).

Some problems were found in the communication between the students and the teachers. "The teacher deals with the problems of students and tries to find solution" – agree 83%; "The teachers continuously update the study materials and correct the imperfections in the e-support." – agree 76.7%; "The teacher

immediately react to the emails and other questions" – agree 51.7%; "The teacher is advanced in the communication with students through Moodle" – agree 59.5%, "The communication through Moodle is important" – agree 72.9%. To make the data more clear we connected the fields "completely agree" and "agree" 1+2; "partly agree" and "partly disagree" 3+4; "disagree" and "completely disagree" 5+6; cannot judge 7 – see Table 2.

The Table 3 shows how the students prepare for the education and what are their relation to the study. Quite frequent were the answers partly agree and partly disagree, the answers completely agree and agree were less frequent. The most confusing result was obtained for the last question: "I occupy with the study in the minimal extent necessary to move forward to the next year." Positive answer was in 269 cases, negative 263 cases, 4 students could not judge.

Question	Answer						
	1	2	3	4	5	6	7
I prepare continuously, equally in all subjects	33	119	184	86	88	23	3
My preparation consists only of homework and projects	38	184	170	83	53	7	1
I occupy with the study in the minimal extent necessary to move forward to the next year	39	93	137	96	132	35	4
I am disciplined in my study with the e-course and I am able to organize my time for home preparation	95	230	131	50	20	5	5

Table 3: The frequency of answers on chosen questions (source: own work)

Hypothesis Testing

The following part deals with detailed analysis of the relations between the chosen indicators. The goal of the analysis is to confirm or refute the statements in the introduction of the paper. The analysis concerns with the differences in gender, age, field of study, year of study, and the attitude to the study. The question is if these characteristics have or do not have influence on the evaluation of the course (including the online multimedia support) and the teacher.

The analysis is based on computation and testing the relations between chosen identification questions and the questions expressing the evaluation of the course, electronic support and the teachers using the electronic tools.

A re-coding was necessary before the analysis starts because the chi-square test cannot be applied in the case of seven degrees' range. The new codes are in tab. 1 in the column "new code".

The respondents who answered "cannot assess" (original code 7, new code 4) were not included into the dependency analysis.

The dependency tests search for the relations between basic identification signs and the statements related to the general and concrete evaluation of e-course, evaluation of teacher, and of the supplementary questions dealing with student's attitude to the study in general. These supplementary questions can be given also to a logical context with the attitude to the teaching in the e-courses. This is the reason why the analyses are completed also with the proof of relations between these questions.

The questionnaire contained five parts plus identification part. The questions in the first four parts were tested with the variables gender, age, field of study, and year of study. The question from the last, fifth part were tested with the values of variables "I prepare continuously, equally in all subjects"

and "I am disciplined in my study with the e-course and I am able to organize my time for home preparation." Because of an extension of the survey only relations with the proved mutual dependency on the significance level $\alpha = 0.05$ were classified.

The students – responders evaluated different courses and different teachers.

Evaluation of the questionnaire - Part I

The first part of the questionnaire focuses on the general questions about the e-course. It contains six questions. The dependency was found between the answers to the question "E-support helps me to reach better study results" and the field of study.

This question was answered by 332 students from the field EAM, 59.54% agreed. In the study field EPA 43.52% from the total number of 193 agreed. The statistically important difference between the study fields was proved ($p = 0.002$). The other dependency was proved for the above mentioned question and the gender. 334 women answered the question; 50.90% agreed with the statement. The share of positive answers for men was higher by 7.74%. The total number of answers from men was 191. All mentioned dependencies are weak. The values are in Table 4.

Identification questions/General questions about the e-course	P-value	Pearson's coefficient
Study field / E-support helps me to reach better study results	0.002	0.154
Gender / E-support helps me to reach better study results	0.001	0.164

Table 4: The observed dependencies in the Part I of the questionnaire (source: own work)

Evaluation of the questionnaire - Part II

The second part of the questionnaire contains six questions concerned with a concrete course. There were found five dependencies out of all possible ones. The dependency between the answer and the study field was proved for the question "The content of the e-support is sufficiently comprehensive; contains everything substantial." 39.58 students of the field EAM and 31.25% students of EPA agreed. This is also in line with the results for first part of the questionnaire.

For the variable "year of study" three dependencies were found. There is the dependency for the question "The e-support helps me in better orientation in the presence teaching." The second year students agreed in 83.70% out of the total number of 227; the third year students agreed only in 71.75% (out of 308).

The other dependency was between the question "The content of the e-support is sufficiently comprehensive; contains everything substantial" ($p = 0.015$). The agreement came from 43.56% of the second year students and from 31.35% of third year students.

The third dependency is between the year of study and the question "I am generally satisfied with the e-support" ($p = 0.002$). 74.89% students of the second year and 61.56% students of the third year agreed. There was also a dependency between the mentioned question and the variable "age" ($p = 0.020$). The younger students agreed in 70.53% cases while the older in 63.46%. The strength of the dependency was weak according to the Pearson's coefficient. The values of p and Pearson's coefficient are in the Table 5.

Identification questions /Questions on concrete course	P-value	Pearson's coefficient
Field of study / The content of the e-support is sufficiently comprehensive; contains everything substantial	0.031	0.114
Year of study / The e-support helps me in better orientation in the presence teaching."	0.005	0.140
Year of study / The content of the e-support is sufficiently comprehensive; contains everything substantial	0.015	0.015
Year of study / I am generally satisfied with the e-support	0.002	0.153
Age / I am generally satisfied with the e-support	0.020	0.120

Table 5: The observed dependencies in the second part II of the questionnaire (source: own work)

Evaluation of the questionnaire - Part III

The third part of the questionnaire deals with the evaluation of the teachers with the focus to the communication between the teacher and the students. It is necessary to say in advance that the students evaluated several teachers in different subjects. The results therefore cannot be related to a particular person.

In this part 12 dependencies were proved. Due to the high number of dependency only the strong (Pearson's coefficient above 0.2) are commented here. All strong dependencies are related to the sorting variable "year of study".

The first proved dependency was found for the question "The teacher deals with the problems of students and tries to find solution". 74.32% of the second year and only 53.38% of the third year students agreed. The second dependency is for the question "The teacher promptly reacts to emails and other

questions". This statement is valid according 74.32% students from the second year and for 53.38% of students of the third year. "The teacher is proficient at communication with students through Moodle"- the statement confirmed 77.85% of the second year students and 53.27% of the third year students. The above mentioned dependencies indicate that the students of the second year are more satisfied with the communication with the teachers. The results of all proved dependencies are in Table 6.

Identification questions /Evaluation of teachers	P-value	Pearson's coefficient
Field of study / The teacher deals with the problems of students and tries to find solution	0.043	0.109
Field of study / The teacher continuously updates the study materials and corrects the imperfections in the e-support.	0.049	0.113
Field of study / The teacher is proficient at communication with students through Moodle	0.021	0.145
Year of study / The teacher gives clear and understandable information on the evaluation system	0.006	0.137
Year of study / The teacher deals with the problems of students and tries to find solution	0.000	0.210
Year of study / The teacher continuously updates the study materials and corrects the imperfections in the e-support.	0.000	0.181
Year of study / The teacher promptly reacts to emails and other questions	0.000	0.240
Year of study / The teacher is proficient in application of all the content of the course.	0.000	0.208

Year of study / The teacher is proficient at communication with students through Moodle	0.000	0.247
Year of study / I think that the communication with teacher through Moodle is important and helpful	0.001	0.169
Year of study / The results of examinations and other tasks are reported in time via Moodle	0.004	0.146
Age/ The teacher is proficient at communication with students through Moodle.	0.034	0.136

Table 6: The observed dependencies in the part III of the questionnaire (source: own work)

Evaluation of the questionnaire - Part IV

The part IV of the questionnaire concerns with the students' attitude to the study. Six dependencies were found. The first is the dependency of the answers of the students EPA and EAM to the question "I am disciplined in my study with the e-course and I am able to organize my time for home preparation" ($p = 0.048$). From the total number of 338 students of EAM 59.17% agreed; from 193 of EPA students agreed 64.77%.

There were also two dependencies on the year of the study. The first was for the question "My preparation contains only home works, projects, etc.". The positive answer gave 34.26% of the second year students and 46.75% of the third year students. The second dependency deals with the view of the second and third year on the statement "I am disciplined in my study with the e-course and I am able to organize my time for home preparation" ($p = 0.002$). 54.02% of the second year students and 66.49% of the third year students agreed.

The following three relations showed dependency on the gender. "I prepare continuously, equally in all subjects" ($p = 0.002$) was agreeable for 11.47% of women and 3.38% of men. The statement "I occupy with the study in the minimal extent necessary to move forward to the next year" ($p = 0.005$) was acceptable for 20.59% women and 32.29% of men. The last dependency was connected with the statement "I am disciplined in my study with the e-course and I am able to organize my time for home preparation" ($p = 0.007$). Positive answer gave 65.19% of women and 54.17% of men.

All the six proved dependencies are weak see Table 7.

Identification questions / Student's attitude to the study	P-value	Pearson's coefficient
Field of study / I am disciplined in my study with the e-course and I am able to organize my time for home preparation	0.048	0.106
Year of study / My preparation contains only home works, projects, etc.	0.001	0.161
Year of study / I am disciplined in my study with the e-course and I am able to organize my time for home preparation	0.002	0.150
Gender / I prepare continuously, equally in all subjects	0.002	0.153
Gender / I occupy with the study in the minimal extent necessary to move forward to the next year	0.005	0.141
Gender / I am disciplined in my study with the e-course and I am able to organize my time for home preparation	0.007	0.136

Table 7: The observed dependencies in the part IV of the questionnaire (source: own work)

Evaluation of the questionnaire - Part V

The last part of the evaluation deals with the e-courses themselves. In this part, 12 dependencies were proved. The classifying criterion was if the students are disciplined, if they prepare continuously and if they are able to schedule their study time. According to answers to these questions the students were divided into two groups: "disciplined" and "undisciplined".

Due to the high number of the dependencies only those with the Pearson's coefficient above 0.2 will be mentioned.

The statement "E-support is generally useful" ($p = 0.000$) was acceptable for 91.69% of student who are disciplined and able to organize their own time. The members of the groups who do not prepare properly agree only in 66.67%. The similar difference was for the statement "E-support helps me to reach better results in the study". The disciplined group agreed in 61.06%, the undisciplined agreed in 41.67%. 80% of disciplined students agreed with the statement "E-support helps me in better orientation in the presence education"; the undisciplined agreed in 66.67%. The statement "I think that the communication with teacher through Moodle is important and helpful" was acceptable for 66.04% of disciplined students and by 42.11% of undisciplined. All the proved dependencies are in Table 8.

Student's attitude to the study / Statements about the e-courses	P-value	Pearson's coefficient
I prepare continuously, equally in all subjects / The e-support is generally useful	0.003	0.171
I prepare continuously, equally in all subjects / I am generally satisfied with the e-support	0.002	0.175
I prepare continuously, equally in all subjects / I think that the communication with teacher through Moodle is important and helpful	0.017	0.163

I prepare continuously, equally in all subjects / The e-support of the contact teaching is a correct process	0.020	0.146
I prepare continuously, equally in all subjects / The e-support helps me to reach better results in the study	0.014	0.153
I am disciplined in my study with the e-course and I am able to organize my time for home preparation / The e-support of the contact teaching is a correct process	0.006	0.163
I am disciplined in my study with the e-course and I am able to organize my time for home preparation / The e-support helps me to study more systematically"	0.000	0.191
I am disciplined in my study with the e-course and I am able to organize my time for home preparation / E-support is generally useful	0.000	0.257
I am disciplined in my study with the e-course and I am able to organize my time for home preparation / The e-support helps me to reach better results in the study	0.000	0.212
I am disciplined in my study with the e-course and I am able to organize my time for home preparation / The e-support is an effective teaching tool	0.002	0,176
I am disciplined in my study with the e-course and I am able to organize my time for home preparation / The e-support helps me in better orientation in the presence education	0.000	0.210
I am disciplined in my study with the e-course and I am able to organize my time for home preparation / I think that the communication with teacher through Moodle is important and helpful	0.000	0.258

Table 8: The observed dependencies in the part V of the questionnaire (source: own work)

Influence of the study discipline

The dependencies found in the part V showed clearly that the disciplined students evaluate the e-course in more positive way than the undisciplined students. The students who work unsatisfactory see the courses more negative or do not have any own attitude – Table 9.

Statement	Agreed	
	Disciplined	Undisciplined
E-support is generally useful	91.69 %	66.67 %
E-support helps me to reach better results in the study	61.06 %	41.67 %
E-support helps me in better orientation in the presence education	80.00 %	66.67 %.
I think that the communication with teacher through Moodle is important and helpful	66.04 %	42.11 %

Table 9: The differences in evaluation of the e-support according to the study discipline (source: own work)

From the above mentioned results follows that the study discipline is weaker with the high year of study, more disciplined are women and students of the EPA field – Table 10.

Statement	Agreed	
	More disciplined	Less disciplined
I am disciplined in my study with the e-course and I am able to organize my time for home preparation	64.77% EPA	59.17% EAM
I am disciplined in my study with the e-course and I am able to organize my time for home preparation	54.02% 2 nd year	66.49% 3 rd year

I am disciplined in my study with the e-course and I am able to organize my time for home preparation	65.19% women	54.17% men
I occupy with the study in the minimal extent necessary to move forward to the next year	20.59% women	32.29% men
I prepare continuously, equally in all subjects	11.47% women	3.38% men
My preparation contains only home works, projects, etc.	34.26% 2 nd year	46.75% 3 rd year

Table 10: The differences the study discipline (source: own work)

Discussion

The evaluation by the users is crucially important. Taking into account the users preferences can rapidly improve the exploitation of any e-course or its part and consequently improve the effectiveness of the whole educational process.

Pituch and Lee (2006) argue that if users do not use a learning system or a website based on learner preferences, they will not benefit from it. Therefore, when conducting relevant research, one needs to take learner preferences into consideration as the following studies highlight: Ozkan and Koseler (2009), Shee and Wang (2008) and Yang and Chan, (2008). The importance of learner preferences is also in the study of Karoulis et al. (2006), in which they compared an expert-based evaluation methodology for a computer-based learning environment with an empirical (user/learner-based) evaluation methodology in order to see to what extent they differed from each other. Their results showed that both evaluation approaches perform adequately, but that the empirical evaluation approach was preferable, because this kind of evaluation can not only reveal the problems of real users.

This study does not investigate the preferences of different teaching materials but discovered that the relation to the e-support is highly dependent on the general attitude to the study.

To set up proper methodology of the evaluation is very important. The correspondence can be found in the suggestion of multi-dimensional set of criteria but the number of criteria and their grouping differs from author to author. As the e-learning presents an intersection between a world of information and communication technology and a world of education (Stankov et al., 2004) the application of criteria from these fields is understandable.

Ozkan and Koseler (2009) have six groups of criteria in their HELAM model. Five dimensions of the evaluation criteria proposed (Liu and Cheng, 2008):

- Learner preferences.
- Web usability.
- Learning materials.
- Technology integration.
- Functionality of assisting.

Shee and Wang (2008) present a hierarchical system with four dimensions:

- Learner interface.
- Learning community.
- System content.
- Personalization.

Their system led to a final evaluation using AHP multiple attribute decision model. An artificial intelligence fuzzy logic algorithm was used by Cavus (2010). Alkhattabi et al. (2011) conducted firstly an original users'

satisfaction survey. Following this, in the second phase, the proposed quality framework with 14 quality attributes was populated with the average scores for each quality attribute.

Another way of evaluation uses data mining techniques. The necessary modification of course content, structure and navigation can be based on students' usage information, preferably even following a continuous empirical evaluation approach (Ortigosa and Carro, 2003). Specific evaluation techniques are directly supported by the Moodle system including statistics, visualisation, clustering, and classification (Romero et al., 2008).

Regardless of the huge variety of evaluation methods with numerous common points used a detail analysis of the goal and the object of the evaluation is necessary prior to application of a concrete criteria. The ability and difficulty to collect relevant data might be also a determination.

Conclusion

The analysis of the survey generally shows that the students have commonly positive attitude to the e-learning support of the classical courses. The e-support is mostly taken as a source of information, a container of texts, pictures and videos. It serves also as a direction sign for the self study. It enables the student to understand better the content of the subject, continuities and relations.

The survey also proved amazingly low motivation for study, concretely low motivation to learn and understand new things without direct relation to the certification or graduation.

More surprising information brought the more detailed analysis of the mutual dependencies between the answers. It proved that the evaluation of the e-support as well as of the teachers is

highly dependent on the students' relation to his or her study duties. Relatively high percentage does not study continuously and does only the minimum to get to a following year. Many students are not able to organise their own work (see tab.3). The detailed analysis found that these less disciplined student are more demanding for a better e-support, they see the teachers less qualified and require more and better materials and faster answers from teachers.

The methodology of the evaluation is a task for a further investigation because there might be numerous approaches. It seems to be necessary to change the methodology of the survey. The results of this survey do not bring reliable evaluation of the e-courses because the answers were not dependent only on the quality of the courses but to a high extent on the students' attitude to the study. The survey gave evidence that the less the students are working (are interested, motivated, able to study) the more they are demanding, the more they are critical (see tab. 9). The improvement of the e-course probably will not solve this problem.

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Question	1+2	3+4	5+6	7
The e- support of the contact education is a correct educational process.	83.4	15.86	0.56	0.19
With the e-support I can manage my study more systematically.	64.92	33.02	1.68	0.37
The e-support is generally useful.	88.24	10.45	1.12	0.19
The e-support helps me to reach better results.	52.61	42.54	2.8	2.05
The e-support makes the communication with the teacher easier.	31.35	50.37	9.71	8.58
The e-support is very effective tool.	67.35	30.41	1.3	0.93
The e-support helps me in better orientation in the contact education.	76.68	22.2	0.94	0.19
I acquire better the content of the subject thanks to the e-support.	68.85	28.92	1.68	0.56
The examination tasks and questions are in the e-support clearly formulated.	47.95	43.28	3.92	4.85
The content of the e-support can capture attention.	36.57	55.04	5.6	2.8
The content of the e-support is covering all substantial.	36	53.73	8.77	1.49
I am generally satisfied with the e-support.	66.97	31.71	0.94	0.37
The teacher informs clearly and understandably about the system of evaluation.	75.00	22.95	1.12	0.93
The teacher deals with the problems of students and tries to find solution.	60.26	33.58	2.8	3.36
The teachers continuously update the study materials and correct the mistakes in the e-support.	52.06	33.03	2.8	12.13
The teacher immediately reacts to the emails and other questions.	34.89	23.88	2.05	39.18
The teacher is advanced in using all the content of the e-support of concrete subject.	70.9	19.78	1.12	8.21
The teacher is advanced in the communication with the students via Moodle.	42.72	22.2	1.68	33.4
The communication with teacher is important and helpful.	48.88	31.16	2.99	16.98

The results of exams and tasks are announced in time via Moodle.	64.74	24.82	4.29	6.16
I prepare continuously, equally in all subjects	28.36	50.37	20.71	0.56
My preparation consists only of homework and projects	41.42	47.21	11.2	0.19
I occupy with the study in the minimal extent necessary to move forward to the next year	24.63	43.47	31.16	0.75
I am disciplined in my study with the e-course and I am able to organize my time for home preparation	60.63	33.77	4.66	0.93

Table 2: Relative frequency times 100 in % (source: own work)