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Využití ICT ve výuce anglické výslovnosti

Bakalářská práce

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Using ICT for English Pronunciation Teaching

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Anotace a Klíčová slova

Tato bakalářská práce se zabývá tématy e-learningu a autodidaktiky. Přínosy e-learningu jsou zhodnoceny v případové studii provedené na Fakultě přírodovědně-humanitní a pedagogické Technické university v Liberci v rámci bakalářského předmětu Fonetiky a Fonologie. Obsah předmětu byl upraven pro potřeby samostudia a pro metodu převrácené třídy. Cíle této práce jsou následující: přiblížení tvorby zmiňovaného kurzu, zhodnocení důsledku provedených změn a zvážení možností výuky v nové multimediální laboratoři.

Klíčová slova: E-learning, autodidaktika/samostudium, fonetika, fonologie, převrácená třída, Learning Management System (LMS)

Abstract & Keywords

This bachelor's thesis deals with the topic of e-learning and self-directed learning in education. The benefits of e-learning were assessed in a case study carried out during a phonetics and phonology course in the undergraduate programme at the Faculty of Science, Humanities and Education at the Technical University of Liberec. The contents of the course have been adapted for the purposes of self-directed learning and inverted classroom teaching. The aim of the research is threefold: to illustrate the creation of this course, to assess and analyse its results and to evaluate the opportunities provided by a new multimedia laboratory which has been installed.

Keywords: E-learning, self-directed learning, autonomous learning, phonetics, phonology, Learning Management System (LMS), inverted classroom

Contents

The list of abbreviations

IPA: the International Phonetic Alphabet

LMS: the Learning Management System

MOOC: a massive open online course

PC: a personal computer

FE: the Faculty of Education

TUL: the Technical University of Liberec

The introduction

The advent of automation, industry 4.0 and machine learning is here and the current trend of globalization is at hand. The need for a more efficient and individual approach in the education sector is a hotly discussed topic nowadays and many scholars are clamouring for changes in this regard. The need for more efficient learning is critical. Schools are often criticised for low amounts of flexibility and not properly engaging in the student's learning process.

In an interview, Mr Hruda (the former Deputy of Minister of Education) claimed that schools in the Czech Republic generally fail to create an autonomous learning environment where students are motivated and take the responsibility for their own learning and progress and where the teacher assists them to achieve the desired level of knowledge (2017).

One of the proposed solutions involves more integration of e-learning options for courses and creating an individualized self-directed environment. According to Song et al., this trend will continue thanks to the technical possibilities available today (2011, 35).

The possibilities of e-learning and self-directed learning are vast and nowadays people can study and achieve a university degree without ever stepping outside their home, as they have the option to study whenever and wherever they are (Suzanne 2017). This is having a significant effect on the education market.

Personal computers

The advent of computers during the last century changed the world of education significantly at every level from primary school to university. The most important aspect

of this change is not the form, but the approach to learning and teaching as a whole. As Tantall explains,

> "Computers in schools cause a rethink of how teaching should be handled and of the role of the teacher."(Tatnall 2015, 754)

Therefore, the proliferation of computing technology and audio-visual technology in the last century and the ever-growing possibilities of the internet have led to the need to redefine how we approach the learning process and the methods we use when teaching a given subject at school.

The concept of self-directed learning is a huge paradigm shift. Many well respected brands and products such as Lynda.com (on-line course provider and certification authority) or the Khan Academy (primary to high school curriculum on-line courses) have entered the market and become very popular. This has allowed the creation of a competitive environment in the education sector and the provision of better and more engaging material. The key role of a university is to keep up with the demand for education and the diversity of the students and their needs (O'Neil, Singh, and O'Donoghue 2004, 314-315).

The relevance to ELT

The need for good and reliable communication across the globe is crucial (Gomelksiz 2017, 420). One of the key aspects of English Language Teaching (ELT) is to provide sufficient knowledge for learners to be able to develop the skill of communication and being understood among their partners.

With respect to this need, the computer is an indispensable tool when it comes to the learning process. The crucial role is to support schools in realizing their target learning goals and outcomes (Kong et al. 2014, 72). A computer can produce individual instructions and enable a student to progress at his or her own pace. Repetition and endless room to practice are also a very important (Levis 2007, 184). Computer-Assisted Language Learning (CALL) is a topic which has been studied since the very beginning, when first affordable computers appeared in the 1980's. (Higgins 1983) With the arrival of commercial Personal Computers and the creation of the first microprocessor, many scholars were able to create projects to enhance the learning experience through the use of computers (Levy 1997, 22). Furthermore, not many teachers in a foreign language teaching environment receive adequate training in how to teach pronunciation (Breitkreutz, et. al 2002). Computers could help in this regard by providing suitable learning material for the students and partially solving the problem (Levis 2007, 196).

In spite of the advantages of computers in the classroom, aim for a school curriculum should not be to transfer everything into an e-learning course. The presence and role of the teacher during the learning process is definitely a very beneficial and important one. However, the role has shifted. The teacher's role should be different to that of a text book. The teacher should present and discuss problems such as instances of controversial approaches among scholars and guide the students, while setting the pace and the outer limits of the learning process. The ultimate aim is to create an individual environment where active learning and independence will be encouraged.

In order to examine how suitable the use of a computer might be, it was crucial to create an effective way of using computers as a useful teaching tool in an ELT (phonetics

and phonology) course, while conscious use of the aforementioned benefits. A small team of students and one member of the staff worked together on an e-learning project for five months. The defined aim is described in the following section, but some modifications were necessary in order for the course to be feasibly implemented.

The aim of the research

The goal of this research was to redefine a phonetics and phonology course into as a blended learning course, leaving the good aspects of a teacher being present in the classroom and the great practical aspects of computers such as spaced repetition and its connectivity to audio-visual material and the development of self-directed learning skills in order to create a solid learning experience.

The aim of this thesis is to research possible adjustments which could lead to the enhancement of the learning experience for students taking ELT courses. As such, the compulsory phonetics and phonology course in the first year of the BA English programme at FE TUL was used as a testing environment. The aim was to expand the options of studying using the internet, e-learning and modern audio-visual technology and to evaluate the options, advantages and disadvantages of the new language laboratory room in the faculty building, not only from the perspective of the students, but from that of the teacher as well. Finally, there was a survey of the students which asked their opinion on the proposed changes and reflected upon them.

This thesis describes the process of creating such a project and illustrates the problems and challenges within the creative process of course content creation. One of the aims was to alter the course so that the student could apply the knowledge acquired during

the course in everyday life and in a teaching career, i.e. when distinguishing similar sounds.

The following research questions were posed in order to focus on the individual aspects of the research:

- What is the current state of the phonetics and phonology (FO1BE for short) course at FE TUL?
- How can the course be adapted to use the new language lab installed at our faculty and also to create a self-directed learning environment for long distance learners? Are there any technical problems?
- How are these changes perceived among the students and the teachers?

During the Winter Semester of 2016-2017, the FO1BE course was redesigned and taught in the new language laboratory classroom intended for thirty students, which had been set up prior to the beginning of the winter semester in July 2016, for the first time. Interactive theoretical, transcription and listening exercises were added to the course and expanded the original Moodle course. The new approach took its inspiration from projects such as inverted classroom and massive open online courses (MOOCs).

The aim of such a project is to let the students learn the basics and the theory at the lectures and at home with the support of the provided materials, so that more time and focus can be used on the practice and practical usage of the phenomena taught in the course during the lessons.

The aim is to create a friendly autonomous environment for the long distance students in the course, where they can actively participate in the course and affirm and assess their knowledge.

The course's final evaluation test was also modified. The final test now has a listening section and a theoretical section which are processed and corrected electronically by the LMS.

The team decided to create several criteria which were followed during the creation of the feasible solution in order to create a consistent course experience.

- The course materials and practice exercises must be available 24/7 in a user friendly format in order to allow for maximum flexibility of the individual learning
- The Materials, interface and completion of the course must be user-friendly for a standard computer users without thorough technical understating of the hardware or software provided.
- These changes and materials should be easily replicable and extendable in the future.

This thesis has been created to inspire teachers to implement and test some of the features in their classroom not only for teaching phonetics and phonology and other related academic subjects and courses, but also for standard EFL (English as Foreign Language) classrooms at primary schools, secondary schools or other language courses, where the correct pronunciation of phonemes is a topic in the curriculum.

1 Defining the key terms

1.1 Phonetics and Phonology

These disciplines can be summed up at a lower level as the skill of pronunciation. Phonetics is a branch of descriptive linguistics and the study of the individual sounds of human speech (O'Grady, Dobrovolsky, and Aronoff 1997, 15). Phonology is a theoretical linguistic branch dealing with sounds in languages or, more specifically, the function, behaviour and organisation of sounds (Lass 1984, 1). As Roach says in his book English Phonetics and Phonology on which the FO1BE course is based, there is a need for this distinction at a higher level and a deeper understanding is necessary (2010, 1).

1.2 The Importance of Phonetics and Phonology

In recent years, the communicative approach has been very popular among ESL teachers in the Czech Republic (Frydrychová-Klímová 2014, 85). Therefore, the need to communicate properly with the students and supply them with the proper skills is essential.

> "Many teachers and teacher educators *have* recognized that some L2 students need direct assistance with pronunciation: for the last two decades, considerable numbers of people have come out of communicative classrooms who, despite large vocabularies and good comprehension skills, have difficulty making themselves understood."(Breitkreutz, Derwing, and Rossiter 2002, 52)

Breitkreutz further claims in her research that few teachers are competent and have special training. For that reason, the aim of the course is to give students the competence so that they can support their future career in the field with proper pronunciation practices.

1.2.1 The International Phonetic Alphabet (IPA)

The IPA has been created by the International Phonetic Association to provide a unified alphabetic system to consistently describe and represent phonetic sounds in written form (Association 1999).

1.3 Personal computers - PCs

For the purposes of this thesis, the term personal computer includes all personal devices which can be used to access the internet and the World Wide Web. Phones, tablets or desktop solutions are not significant for the purposes of this research, because their use could not be controlled and the course should be accessible from all modern devices. The architecture, hardware specifications and operating system platform are also not a concern. The students should choose their preference according to their options, preferences and budgets.

1.4 Learning Management Software

The essential application for managing learning using computers and the web is Learning Management Software (LMS). The LMS is an application which enables the administration, tracking, creation and management of content (Ryann Ellis 2009, 1). In other words, this enables the creation of a course, the addition of relevant materials and invitations to the participants to see and interact with the content. Unlike traditional basic websites, this software enables the tracking of individual progress and engagement with individual students.

The market is full of providers and solutions (Ryann Ellis 2009, 7) (EdTech 2017). The LMS can be sourced from a provider for a recurring fee (Blackboard) or purchased as a final product. Some LMS solutions are free under a general public license (GPL),

such as Moodle. Many offer cloud based services in case the institution lacks the necessary infrastructure to maintain an LMS.

1.4.1 Moodle

Moodle is a free LMS solution with an estimated 19% market share among US colleges and universities. (EdTech 2017). Although this is an open source and community developed application (Community contributors 2017), there is very rich and resourceful technical and user documentation (Moodle contributors 2016) which describes every aspect of the system very thoroughly.

1.5 E-Learning

E-learning, in one of its definitions, is a method of providing education over a distance. As Horton argues, the concept of learning or facilitating the learning process over long distances originally developed in the United States and other Western European countries thanks to the postal service (2000, 3). The technology has progressed and with the advent of personal computers in the 1980s and the internet in the 1990s with the World Wide Web (WWW) service quickly became dominant and it now provides very good conditions for e-learning.

It is important to note that the definition and perception of the term e-learning varies significantly. In other words, e-learning can be viewed as a multimedia teaching aid in the educational process (Kopecký 2006, 6), thus suggesting a different perception of the roles of E-learning in the educational process.

As these definitions suggest, there is an important distinction between the design of e-learning solutions which include or do without the role of an instructor/teacher. (Horton,

2000, 54) For these reasons, it has been suggested that the concept of e-learning should be roughly divided into two categories:

- autonomous e-learning / learner centred
- blended e-learning / instructor centred

1.5.1 The important aspects of a good E-learning course

When it comes to e-learning in general, there are 3 major obstacles to tackle; the technical skill level as it applies to the operation of a computer and the application, the willingness of the students to take responsibility for their own learning and resistance to any change in the more classical learning methods (Piskurich, 2003, 24).

The students' technical skill can be assessed by means of a questionnaire and extra explanatory classes aimed at tackling any possible problems which might arise during the course. It is highly advisable to check all the equipment and test it beforehand and, if there are any issues, to contact the responsible personnel to fix them.

The second challenge involves preparing the students to take responsibility for their own learning process, as teaching them how to self-direct their learning is the key to a successful e-learning project. Learners need to be motivated and have self-discipline. As mentioned before, it is very easy to lose track of the course.

Therefore, an e-learning course needs to have clearly defined course content and a manual or automated system to remind the students of their progress. There should also be a clear visual representation to enable them to assess their knowledge and the state of their learning process.

> "Be available for continuing support and encouragement. If you are seeking to move the learner into e-learning, strongly encourage the use of the computer as means of communication." (Piskurich 2004, 12)

In a study done by Motorola regarding e-learning courses for its employees, only 7% of the trainees finished the courses they signed up for (Piskurich, 2003, 36). This was later attributed to the fact that the trainees failed to manage their learning process and gave up. One of the reasons for this was because there was no benchmark or scale to measure their progress and nobody reminded them that they should continue and plan the time they should spend learning in advance.

The learner in an e-learning course must not feel abandoned and face difficult questions alone. It is important to encourage the community to help each other by creating study groups or simply by having the option of contacting the lecturer directly.

1.6 Autonomous (self-directed) learning

Autonomous self-directed learning is an approach to learning, where there is no teacher or instructor physically present during the learning and teaching process. The learning and teaching time is completely in the hands of the student, as is the responsibility for his or her learning. Computers and e-learning software help to create the optimal individual environment to enable students to learn the topic or course they have enrolled in.

> "The characteristics which is most frequently associated with success in e-learning in the literature is variously referred to as independence, self-direction or autonomy in learning" (Piskurich 2004, 22)

This quote sums up the whole idea behind self-directed learning. The key element of this approach is the student and the efficiency of this method relies on the discipline and self-determination of the individual. In other words, if the student is not eager, does not know how to operate individually, does not know how to manage the learning process, and does not have a healthy degree of confidence in themselves, the self-directed approach can lead to a disaster.

The negative side of self-directed learning is that it needs learners with a certain mind-set in order for it to be successful. This mind-set consists of competence, confidence and the belief that continuous self-improvement is possible. Independent and creative learners have the best results and will thrive in such an environment. On the other hand, learners who are less independent and are not able to accept responsibility for their own learning usually fail or drop out of these courses or are left behind significantly. As Kopecký says, it is important to emphasise good pedagogical skills, improvements in self -directed learning and the creation of suitable materials for a successful e-learning project (2006, 111).

These negative side effects can be compensated for in several ways by the design of the course, but they can never be entirely eliminated.

1.6.1 MOOC – Massive Open Online Courses

MOOCs (Massive Open Online Courses) are a good example of a self-directed approach in real life. These courses usually consist of carefully curated video materials or podcasts where the topic and the theoretical section is usually introduced along with practical examples. There is a test or a challenge after each major chapter. The whole course is set in a timeframe (which allows the easy tracking of progress) with tasks and

assignments which have to be submitted and assessed (usually in the form of a peer review).

It is important that the role of the teacher has not been replaced by the computer or the application. At the beginning of a well-prepared MOOC, a guide/mentor or mentors are introduced and they explain and present the contents of the course. This allows a learner to relate to a human, at least in the audio-visual form.

Self-directed courses are especially popular in the technology industry, with mothers returning from maternity leave and with people who need to retrain in a new field. The open market on the internet has brought products and brands such as Lynda.com or Coursera.com (Empson 2012). These products constitute an opportunity to learn topics which are sometimes not even taught in a conventional school environment, such as machine learning or the creation of android applications.

This form of e-learning is very comfortable and very suitable for long distance learning programmes and instances where a student cannot be present in the school building for whatever reason. A good example is Lynda.com. Lynda.com is a paid subscription-based product where participant can create their own curriculum and assign courses according to their own choice. Creating their own individual study curriculum with the option to achieve a certificate which can be linked to a LinkedIn account and be instantly visible to a potential employer.

These courses bring competition to the education sector and the wide audience and the open market mean that this is a great environment for educators to create excellent content and alleviate the rigid state of the contemporary education sector.

1.6.2 Blended learning

Blended learning is an approach to education where the role of the teacher is different when compared with self-directed learning. The courses are usually teacher-centred and the students attend a brick and mortar school building. The teaching and learning process is set according to a regular schedule and timetable. Therefore, the need to self-direct the learner's time and schedule is not over demanding or is not present at all.

The role of the computers and the e-learning software is usually used as a way to revise, affirm and test the material presented by the teacher during the lesson. The computer is less of a facilitator of learning, but more of a teaching aid, which helps the teacher to present and provide teaching and practice material to the students.

A pitfall of blended learning is that the computers are often used to deliver the same raw and unedited materials to students in a digital form. Teachers very often merely copy and paste their notes into a PowerPoint presentation (Sørensen 2017). The fact that there are computers in the classroom does not of itself improve the quality of the education and it is considered bad practice without any assessment and evaluation (Trucano 2010). These bad practices are very unprofessional and do not bring any benefits over conservative teaching methods. Spitzer argues that computers in the classroom might even have harmful consequences, if used improperly, and that teachers need to have sufficient education in order to be able to use computers efficiently in the classroom (2013, 66–70).

1.7 The inverted/flipped classroom

This concept is also a recent addition to the range of modern teaching methods. The key idea of this approach lies in the fact that the students are exposed to learning material in the form of presentations, videos or texts at home and they have to prepare for the next

class. Each class session is devoted to problem solving, analysis, answering difficult problems and assessment (P. Schmidt and Ralph 2016, 1).

In research done by Mason, Shuman and Cook, the surveyed students, who had a linear algebra class in the inverted class format, recognized that the new approach was more efficient and that there was greater emphasis on self-discipline. Students also reported that the approach helped them to prepare better for engineering practice. Students who took the course generally had better results than the students from the previous year (2013, 433).

1.8 Modular instructions

The modular instruction approach creates modules. These modules are independent units, which are processed, exercised and taught. The learner can process these modules at their own pace and restart them, if necessary.

> "Modular instruction is one of the latest innovations in the educational system. This innovation in the modular approach contains a series of activities, each of which start with teaching instructions addressed to the learners, an explanation, exercises and generalizations." (Guido 2014, 1127)

According to Guido, this approach allows the learner to create a self-directed environment, where the criteria for success are clearly defined and the learner can choose their own path and style of coping with the learning process. This should allow an easier identification of their strengths and weaknesses as well as the identification of any problematic sections within the course.

This previous source was a study done in a science of materials and engineering course. However, the concept of modular teaching methods, which Gomelskiz also claims to be very efficient in English language teaching and that it helps students reach their learning goals, could be easily implemented. According to his study, the vast majority of the students he surveyed felt more engaged in the learning process than when using traditional methods. The key aspect of this method lies in the fact that the topics are divided into digestible segments which enable the learner's progress to be tracked (2017, 423).

2 The research methods

A questionnaires and observation were the key research methods used in this thesis. These methods proved to be the most reflective and gave the most feedback for this kind of work. The questionnaire was chosen, because of the number of students taking the FO1BE course and it was the most convenient way to get the highest amount of data to analyse and consider. Observation was necessary in order to make sure that the classes took place as expected and planned.

2.1 The questionnaire

The first questionnaire was created at the beginning of the course and assessed in order to get some basic information about the students. The aim was to find out whether students appreciate the option of using computers during class in such manner. Another variable was the students' computer skills, which were not expected to be an issue during the course. Although the course was not prepared with the accessibility problems of handicapped students in mind, mainly because this is not the author's area of expertise, it was still desirable to know, if such students were taking the course and how the teacher could in some way help them to use the language laboratory.

The questionnaire was very brief and it was created and presented online via Google Forms during one of the first lessons. The output was a .cvs file (Appendix B) with the questions on each line. Several graphs illustrating the demographics of the course attendees were created from the results.

At the end of the course, a second questionnaire had to be created in order to assess the results of the new learning process and the teaching methods. It was desirable to know

whether the use of the technology made the students feel more prepared, whether the course suited student's needs and whether the blended learning was more effective or at least equivalent to the previous "chalk and talk" method.

The questionnaire was divided into two parts. The first part focussed on the e-learning site and the prepared materials. The questions were oriented towards the quality of the material, the sufficient quantity and the helpfulness when processing the contents of the course and preparing for the final test.

The second part of the questionnaire was aimed on the language laboratory experience. The questions tackled the topics of teacher interaction and the laboratory environment, the areas of concentration during lessons, technical difficulties during education and the assessment process and the user experience of the Moodle web application. The second questionnaire was created using the Typeform web service.

The questions were created in order to be relevant and easy to answer with closed scale questions. The choice of a Lickert-type scale means that an odd number of options on one scale was determined to be the most representative way of gathering data in this case (Chráska 2007, 167). Its online form made the questionnaire reasonably easy to compete. Honest, anonymous and relevant answers were therefore expected.

2.2 Observation

The laboratory classes were observed on several occasions during the semester. The aim was to assist the teacher with potential problems that might arise during classes using the technical equipment and to take notes on the issues and comments from the students concerning the prepared exercises and quizzes in order to improve them and correct any

mistakes. Further observation was needed in order to evaluate the features of the language laboratory and to assess the results of the students' progress during the course.

3 The practical section: the case study

3.1 The existing state of the FO1BE course

FO1BE is an essential and compulsory course for the students in the English teacher training programme at FE TUL. The course consists of the basic theory of phonetics and phonology which involves learning the 44 individual phonemes of the English language and reading and transcribing phonemic transcriptions of individual short words using the International Phonemic Alphabet (IPA). As the focus is only on Received Pronunciation, the standard pronunciation of English in the United Kingdom and speakers of British English, no attention is given to the numerous varieties of other accents spoken in the world. The FO1BE course is currently taught by Nicola Karásková M.A. who is a native English speaker.

In previous years, the course was taught in a very traditional way. The students attended lectures once every two weeks during the 14 week long semester. The seminar classes took place every week. The students enrolled in the English language programme were divided into 3 groups of roughly 30 students each. The lectures took place in a lecture room with a data projector connected to a PC. The lecturer had a presentation prepared in MS Power Point and presented the theory of phonetics and phonology in a monologue. The students listened and took notes. During the laboratory, the contents of the lecture were practiced using conventional teaching methods such as reading aloud, pair work, and individual transcription exercises on sheets of paper.

During the final assessment, the students were tested by means of a written test and they needed sufficient knowledge of the theory and the transcription and phonetic rules in

order to pass and receive the credit. Students received the credit, if they achieved 70% or higher on the final test.

By the end of the course, the students are expected to be able to do the following:

- be familiar with all the phonemic symbols carrying meaning in the English language.
- be able to read and analyse the phonemic symbols in books and dictionaries.
- produce the phonemic sounds competently.
- learn to discriminate between similar sounding words and sounds and be able to reproduce the differences.
- identify the key differences in Czech and English segmental phonology.

This course is followed by FO2BE course which focusses on suprasegmental phonology and covers more advanced topics such as word stress and liaison and is assessed with a final credit test and an oral examination.

3.2 The considerations

The following aspects had to be considered when planning the course:

- the actual technical capability of the individual stations
- the available software installed on the stations.
- the user skill level

One of the challenges involved the goal of creating a somehow universal platform for 107 students who attend regular classes on a weekly basis and for long distance learners as well. The goal was to create some form of environment where they could

reinforce their knowledge and stay in touch with the teacher. As mentioned before, staying in touch is one of the key elements for the successful completion of a long distance course.

Many meetings took place with the teacher at the beginning of the adaptation process and the following topics had to be taken into consideration:

- the visual aspects of the course
- user-friendliness for all students
- the form of the final test
- the contents of the interactive exercises

3.3 The state of the language laboratory

The faculty department transformed one classroom into a language laboratory and a multimedia room during the 2016 summer break. The classroom has been equipped with 30 Personal Computers running the latest Windows 10 operating system, including headsets, one extra computer for the teacher or presenter and a Smart Board (pen and touch enabled).

Each individual station in the language lab is equipped with basic input/output devices (a keyboard, a mouse, a screen and a headset). The screen does not support any pen or touch input, which limits the options considerably. The presence of a headset promised options for recording and sound analysis.

The classroom is organized in rows. There are 6 computers in 5 rows facing the front of the classroom. This layout is not optimal for this kind of course, because this course should be focused on communication and phonetics and phonology generally require deep concentration on short samples of sound within a quiet environment. This

problem has been partially solved with the use of individual headsets and the individual stations have been designed with quiet operation in mind. However, this room is definitely not intended only for the use of this course and it should also serve as general purpose computer room. Moreover, the room is too small to enable experimentation with other layouts, so it is reasonable that it is designed in such a manner.

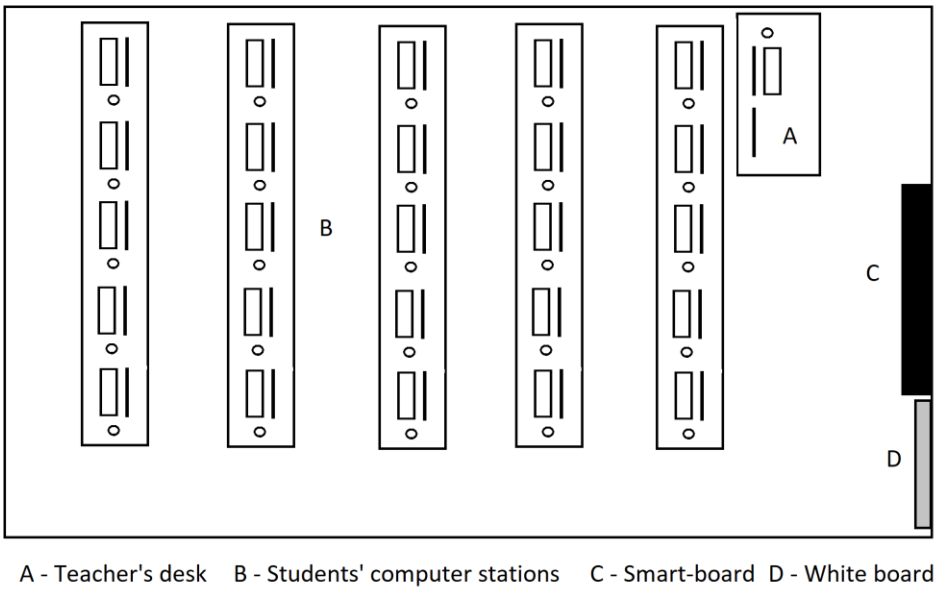

Figure 1: Language laboratory room layout

A SmartClass application by Robotel Inc. has been installed at all the stations. This involves the basic version of the application which requires Adobe Flash Player to run. This application allows the creation and management of discussions or pair work during lessons. The teacher can assign communication between individual stations or in groups depending on the current setting which creates great options for many group or pair activities and allows for variety during the conversation.

However, the individual student headsets are a big disappointment for the students and the teacher as well. The sound quality is unsatisfactory and rendered the option of

dictation over the microphone and any sort of discussion or pair-work over the network useless.

It is suspected that either the headsets are of insufficient quality, mainly because the sound of a recorded sound sample was distorted and the coil whine or other electrical interference was very disturbing, or the problem might be caused by the sound cards in the PC units.

The aforementioned facts made the use of the laboratory somewhat constrained compared to what was originally anticipated. It was very unfortunate that many types of exercises could not be tried and assessed in our research due to this flaw.

Due to this fact, the students were also encouraged to bring their own headphones in order to achieve a more professional sound experience during the course. Students were allowed to use their own headphones during the final assessment in order to minimize the potential problem of students receiving bad results based on the faulty hardware configuration which was intentionally left out of the equation.

On the other hand, all the course materials were open to students throughout the duration of the course; therefore anyone could listen to the exercise again in the comfort of their own device which hopefully minimized the impact of this phenomenon.

On the other hand, all the course materials were open to students throughout the duration of the course; therefore anyone could listen to the exercise again in the comfort of their own device which hopefully minimized the impact of this phenomenon.

A SmartClass control panel application has been installed on the teacher's computer. This application allows the teacher to monitor the student's work, take remote control of a station and show presentation slides directly on a student's computer screen.

Altogether, this allows the teacher to see individual progress of each student in the course during the lessons and to see which parts of the course are difficult for students and where assistance is needed. This monitoring feature also enables great anti-cheat control during the final assessment.

The SmartClass app allows the teacher to group the students using headsets. Students can listen and communicate through these headsets. In theory, this allows for a dynamic group discussion without the need for students commuting around the classroom and finding discussion partners.

The downside of this approach lies in the fact that the discussion becomes impersonal. The lack of emotion and the visual side to communication degrades the quality of such contact. Furthermore, excellent audio quality and noise reduction is required for this method of communication to be effective or at least equal to more traditional forms of communication such as discussions in pairs.

3.4 The challenges

3.4.1 The teacher's technical knowledge

The language laboratory presented many features which the teacher had to learn in order to operate the lab successfully. The first objective was to become familiar with the use of multiple computer screens at the same time. As standard users, everyone is familiar with just one computer screen. The computer in the lab was installed with 2 monitors and

a Smart Board, so teacher could monitor the students work and the presentation as well. However, this requires at least a basic understanding of monitor and screen control in the operating system and the functions of the I/O switchboard installed on the wall.

Secondly the room was equipped with a Smart Board (pen and touch enabled monitor) which required some getting used to, especially for the older generation of teachers. Unfortunately, the pen did not have the same properties as a stylus on a tablet. The input lag was noticeable and very discomforting. The device could not discriminate between different angles and pressure being applied while writing on the board. The pens needed to be charged before use in the included dock on the side of the Smart Board.

3.4.2 Minimizing the problems with self-directed learning

The aim of any pronunciation-related course should not be to achieve a native level of pronunciation, but to practice and give more attention to specific problems for learners depending on their origin and first or mother tongue and to eliminate any bad habits and make their speech clear in sound and understanding.

Several precautions were taken to minimize the possible negative impact of self-directed learning. The results from the mini-quizzes and exercises after each content block were shown in a graph and the students could see, if they were up to speed with the course or if they were falling behind. This was supposed to create a benchmark and serve the purposes of self-evaluation.

For example, the two graphs below, Figure 1 and Figure 2 taken from the Moodle LMS application, show how successful the students were during the practice exercises. These results clearly indicate which parts of the curriculum needed to be practiced and accented further and which posed no significant difficulties for the students to master. In

this case, the short vowel listening practice exercise was much more difficult that the long vowel exercise.

In light of this result, the students were presented with shorter vowel exercises and revision materials to study with and more time was devoted to the topic of short vowels during the laboratory lesson time. The teacher could therefore measure the performance and level of understanding long before a major marked test or an exam and as such could further practice any problematic areas or recommend to the students which parts they should focus on during their revision.

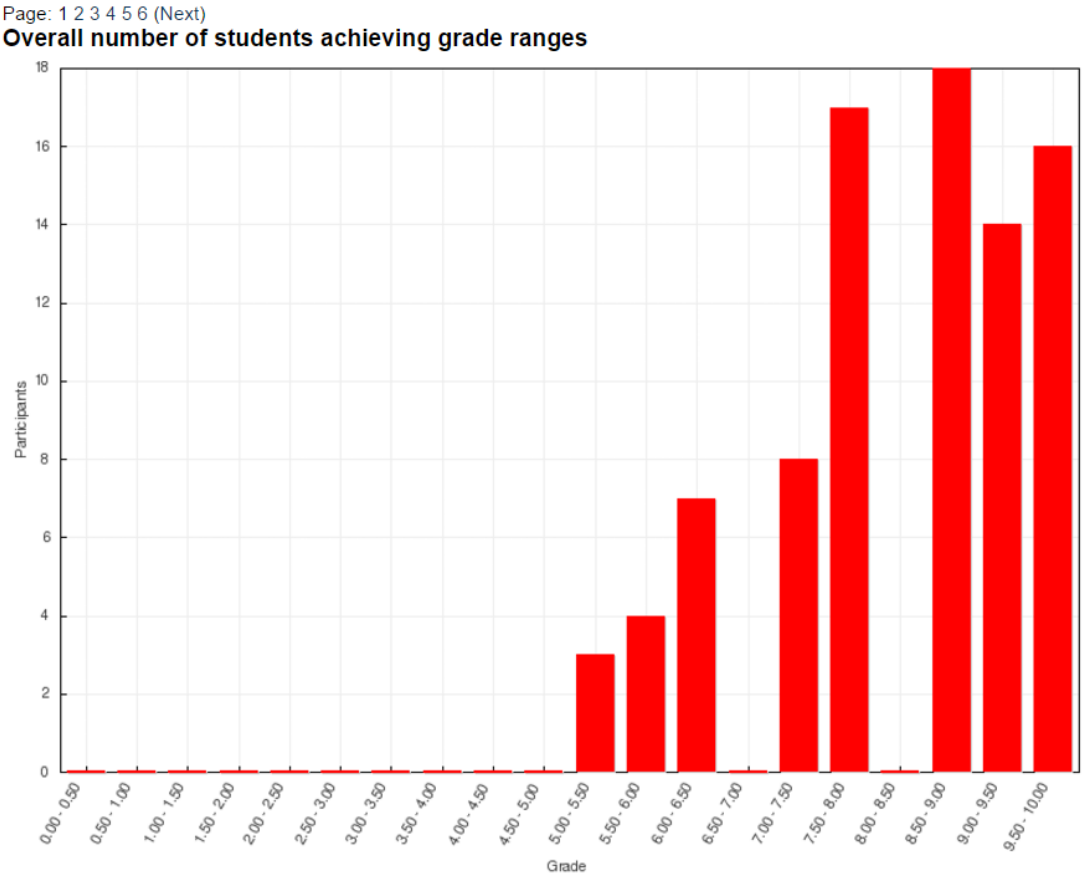

Figure 2: Results of the short vowel exercise

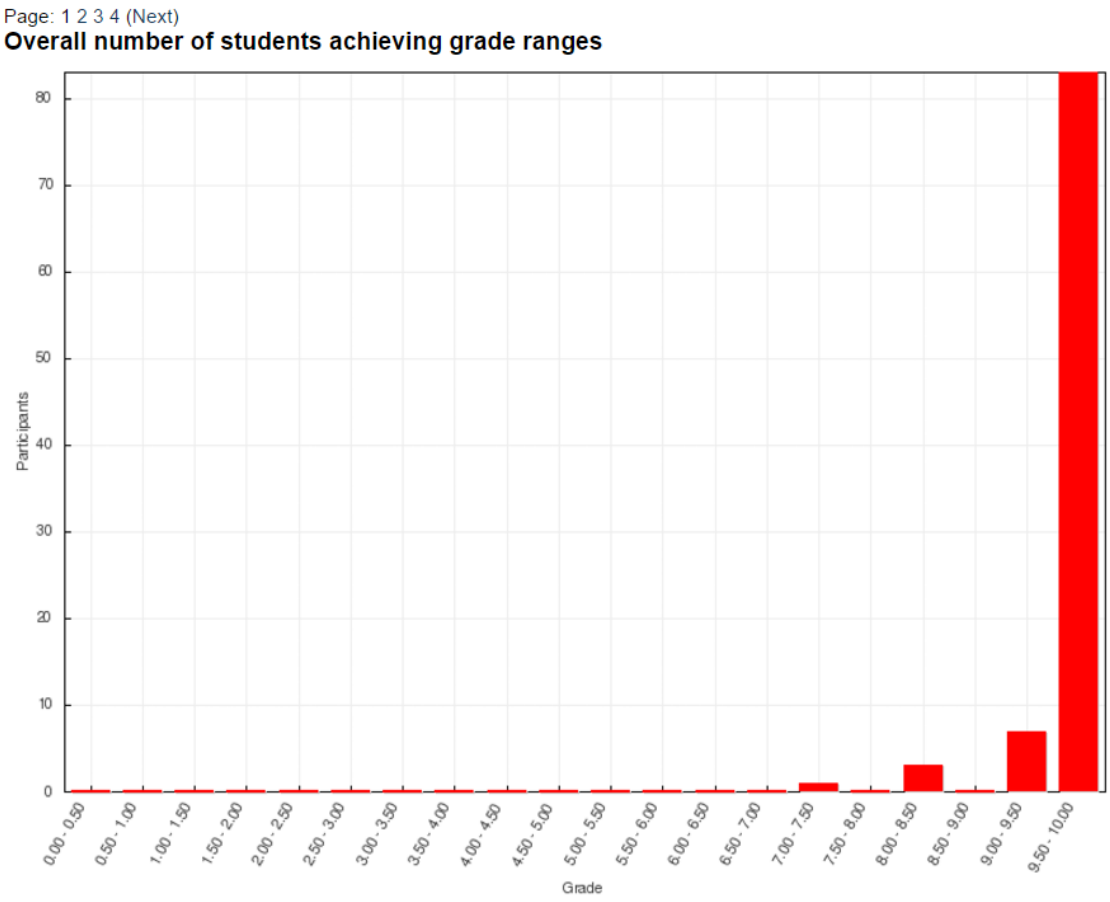

Figure 3: Results of the long vowel exercise

The blended learning format makes the interaction with the students more natural. Students can take lectures, where the theoretical fundamentals are covered in a traditional method, and, if they want to catch up on something they might have missed during the presentation, it is there for them in the e-learning LMS.

The practical classes in the laboratory enable the practicing of the covered material at each individual student's pace. The presence of the teacher is very important in this respect, because students can simply ask the teacher, if there are any questions or dilemmas, and the problem can be explained face to face.

3.4.3 The changes and additions

The Moodle LMS application was running (at the time of the research) on the university servers in version 2.7. Unfortunately, this was not the latest available release of the LMS and therefore there were some limiting factors in the Moodle application's pallet of options. Nevertheless, three core components were added to the course: listening exercises, theoretical quizzes and a final assessment. The listening exercises were used for sound discrimination using recordings featuring native speakers. Theoretical quizzes were utilised for practicing and revising theoretical concepts and discriminating between transcription symbols. Lastly, the course assessment was changed by creating an electronic version of the final test. The test was expanded with a listening section for discriminating between sounds. The phonetic transcription had to remain in written form, because no suitable user-friendly solution for typing phonemic symbols was found during the research period.

One of the tasks in the process of redefining the course was to investigate, whether it is possible to do phonetic transcription using the PC and if so, create exercises which would reflect this area.

Even though an extensive search was conducted, it proved difficult to find a feasible solution which would be user-friendly and could be easily implemented in the course and used in the final test without customizing any of the computer software or keyboard configurations.

Full IPA keyboard layouts can be found on the internet. However, IPA has 107 characters overall and it was not justifiable to invest a lot of time in learning the full IPA keyboard layout just for the purposes of completing the course and furthermore it would

have violated a key principle which was set at the beginning of the study, i.e. the simplicity for the end user. All the aspects of the course had to be replicable at the user stations and on personal computers at home. Installing a custom keyboard layout is no trivial task for an average student and it vastly varies in each operating system.

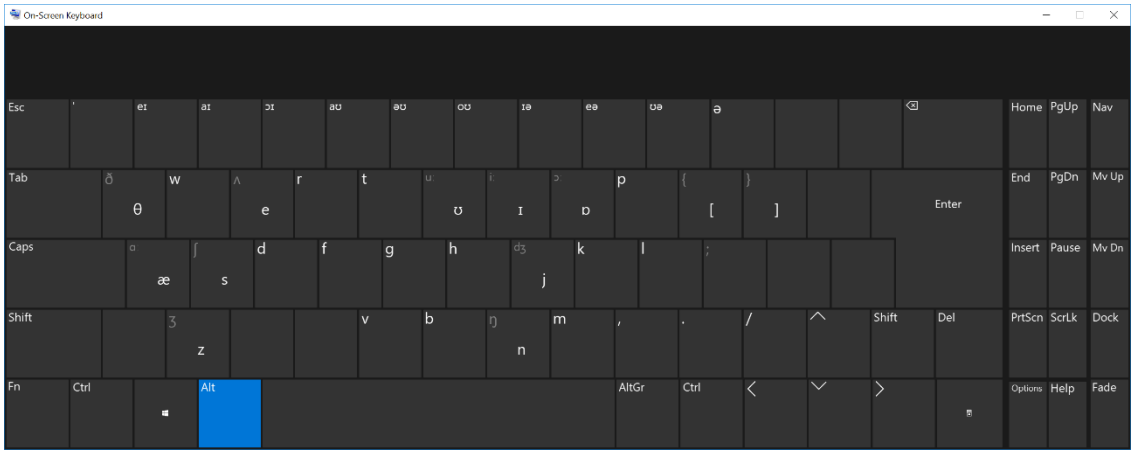

Figure 4: On Screen Custom IPA Keyboard Layout

Furthermore, one must first master the key layout as a typist in order to type effectively within a reasonable timeframe. The use of a software keyboard is required, because the keys are not labelled. This was a concern on the desktop computers provided in the laboratory.

Another solution would be custom 3D printed key caps; however the department does not have a 3D printer or enough expertise to undertake such a project. Perhaps cooperation with another faculty could yield a custom keyboard solution in the future.

However, a custom keyboard layout was created using the Microsoft Developer Network (MSDN) tool called the Microsoft Keyboard Layout Creator (The Microsoft Keyboard Layout Creator, 2017) for the purposes of this research.

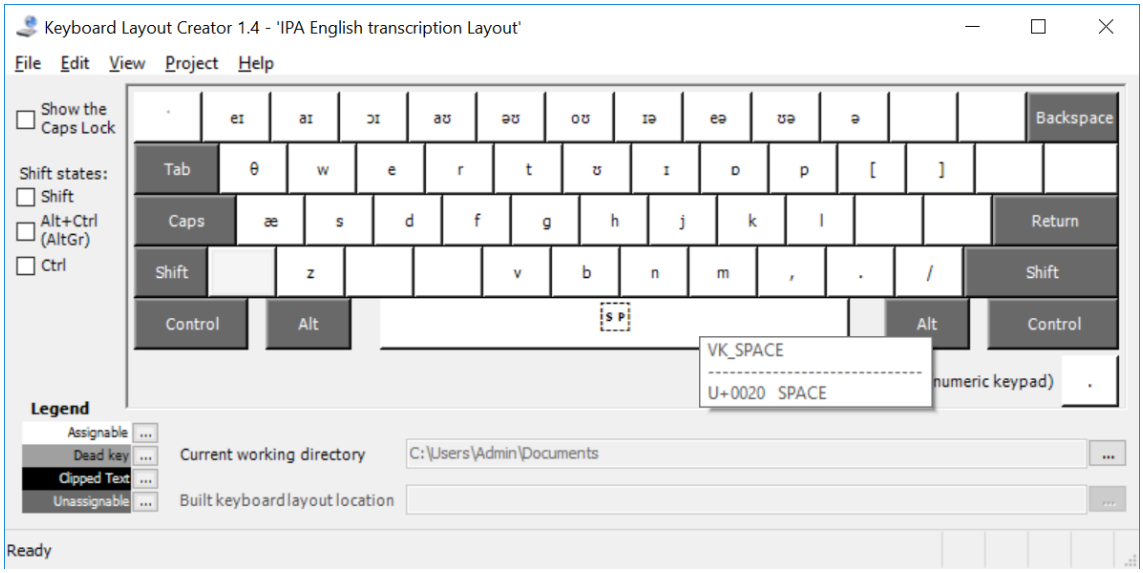

Figure 5: The user interface of the Keyboard Layout Creator

The Creator enables the creation of an entirely custom-made keyboard layout and installation package. According to the MSDN website, this package is compatible with all NT (Next Technology) versions of Windows.

Although this layout was carefully crafted so as to be as user-friendly as possible, it needed to be operated with the on-screen-keyboard accessibility option in Windows in order to be used properly.

The design was crafted to be non-invasive and useful as a standard US-English keyboard in order to minimize the need to constantly switch between them.

It is suggested that the layout can be tested in the next FO1BE course and that relevant exercises using this layout could be created. The creation of a cheat sheet or making the IPA custom layout typing part of the practice laboratory exercises might be a helpful solution for future classes.

3.4.4 Listening, comprehension and discrimination of sounds

Implementing a listening exercise into the course was one of the most important defined objectives. This was in contrast to previous years when listening exercises were not present in the course and a student could have theoretically completed the course and passed without learning to differentiate between the phonemic sounds at all.

Another step involved acquiring competent audio records focusing on the current topic. Books such as English Phonetic and Phonology by Peter Roach, Výslovnost angličtiny na pozadí češtiny by Dušan Melén and Fonetika současné angličtiny by Alena Skaličková were key sources where suitable materials for the interactive exercises and the final test were found.

The exercises were created using the Moodle LMS. The exercise questions were created as a "question bank" with all the necessary content (pictures and sound) and then assigned to individual exercise sets. The same procedure applied to the final test creation.

Although there were many audio materials, some of the examples which were presented in the relevant literature did not have the desired form. Some words were very difficult to say or were just rare in the current common neutral English language.

It was decided that some recordings had to be prepared purely for the purposes of this course. It was out of the question to use the school laboratory for this purpose, because the recording quality of the sound peripheral devices and the noise from outside the classroom was unacceptable.

I purchased a new entry-level microphone Blue Yeti for content creators for 4000 CZK and paired it with a MacBook Pro 13" late 2014 which is "a silent computer"

(computer with passive fan-less cooling) leading in turn that the recording is not affected by fan noise. This laid the foundation for a small recording studio. The parameters for the correct choice of such a device were as follows: the compatibility, mobility, flexibility and quality of the microphone. The addition of a pop filter is a good idea in order to minimize the inconsistency of the sound level during the recording, especially when words containing phonemes with aspiration such as /p/ /t/ and /k/ are recorded.

With the help of Jakub Krejčí and Samuel Karásek, a mobile cardboard recording enclosure with sound-dampening material was created with outstanding acoustic parameters. The speech of two native speakers of English and one student with near native speaker pronunciation, Bc. Alena Nýčová from the first year of M.A English programme were recorded. I edited these recording into 253 sound files which were later used to create the exercises and test questions for the FO1BE course.

Any free, open-source software under a GPL (General Public License) can be used to record the sound and edit the audio files. One of the most popular is Audacity and it enables the sound to be recorded, the individual words to be cut and saved or the sound to be saved in separate files and exported in the mp3 format.

3.4.5 The options available in the Moodle platform

The LMS is the underlying component of most of the courses which are being taught at FP TUL. The Moodle platform is available to all the teachers. Moodle is an open source content management software for managing courses and e-learning programmes released under a GPL.

This web based application enables teachers to prepare educational materials for each course and for students to actively practice the subject of their study and it has the

features necessary to assess knowledge in the form of e-tests and store grades tied to each individual student account.

Students and teachers can log in using the LDAP (Lightweight Directory Access Protocol) which runs on the tul.liane.cz network, which in turn means that there is one university account to manage the whole university related IT infrastructure. This level of sophistication is not needed to run Moodle and use all its features. The application will run on a webserver with Apache and a MySQL database which are all available for free.

This web-based application has very good technical documentation,[1] not only from the perspective of the web-developer, but also from the perspective of the content creator or the teacher. This was a significant reason for choosing the existing Moodle platform, although very few of the teachers at FP TUL, who had been using Moodle for a very long time, admitted to having read the documentation, when asked about it.

Moodle is not a without its flaws. One of the common criticisms is that it's very complex and the learning curve for a teacher to manage and create a course is steeper than in comparison to other LMS solutions, while managing different study groups in one course is very difficult.

3.5 The teacher's point of view

The course teacher was interviewed on the topic of the user-friendliness and the user experience of the language laboratory for the purposes of this research. It must be mentioned that the results of this interview are purely subjective and that the realisation of similar projects may bring different results. FO1BE was also the only course which has

[1] https://docs.moodle.org

been purposefully adapted to the use of the language laboratory at FE TUL and has had materials prepared specifically for e-learning. The full interview can be found in the Appendix D.

Firstly, the topic of technical difficulties during classes was discussed. According to the teacher, there was a freezing issue during the classes, but the classes continued without any problems once the computer had been resolved with the TUL IT service. Nevertheless, students were encouraged to bring their own headphones to class, because the headsets were sometimes missing from their station.

Secondly, the important topic of student activity during classes was raised. According to the teacher, the students were more deeply engaged in the learning process. The lab classes were very calm, quiet and focussed. The students were less inactive than during classes. This might be because the computers served as individual assistants and provided individual feedback. The computers provided a competitive environment which made the students eager to get the best score they could. The teacher was still there for individual consultations, but the conversation was always on point and directly reflected the exercise on the Moodle platform. In contrast to the results of the first questionnaire, the teacher did not register anyone as having problems with using the computers and the teacher's perception of the classes was very positive.

Moreover, it was desirable to know how the teaching was affected from the perspective of the teacher. She mentioned that it took more time to prepare each class and to produce the materials for Moodle with the collaboration of the IT students. A stated disadvantage involved the fact that there was almost no eye contact during the laboratory classes which made the communication difficult. The messaging system in the SmartClass

proved rather comical. It proved rather difficult to create a good teacher-learner relationship.

The topic of transcription was suitably covered according to expectations due to the technical constraints covered in the previous chapter. This part of the subject had to be undertaken only in written form.

Surprisingly, the students achieved better results during the final tests than in previous years. This was probably due to the high focus which was necessary during the laboratory classes and to the fact Possible that the final test had very similar concentration requirements.

More oral work and drill exercises were listed as possible improvements which could make the course better in the future. Continued cooperation with the IT students, which should lead to the creation of more exercises and authentic materials to support the course, is desirable.

3.6 The evaluation of the first questionnaire

The first questionnaire was aimed at getting some information about the demographics of our course, helping to anticipate any possible issues, providing the necessary time to prepare for them during the course and evaluating the initial perception and opinions of the option for students to use computers during classes. The text and results of the questionnaire can be found in Appendix B.

The question on the use of electronic devices and the perception of them in the learning process: *"8) Do you learn a language using an electronic device?"* and the following open question: *"8a) If so, why do you use an electronic device?"* yielded some

very interesting results. The relatively high number of students, who do not use a computer as a teaching aid was surprising, especially as the age demographics and common trends would suggest otherwise.

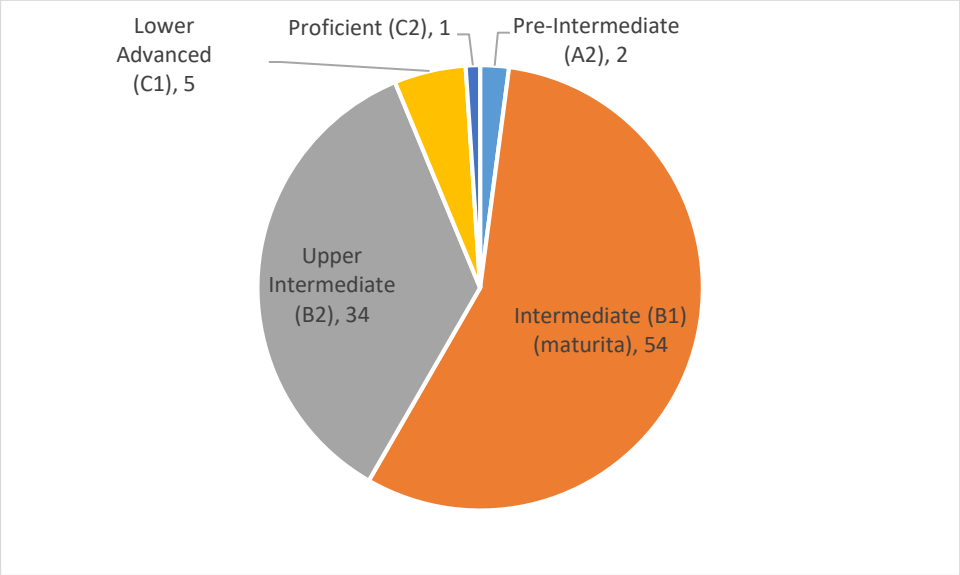

Figure 6: Perceived Proficiency of FO1BE students of 2016

Demographics by nationality

Table 1: Nationality demographics of FO1BE students of 2016/2017

Czech Republic	91
Russia	1
Ukraine	2
Greece	1
Slovakia	1

The responses varied significantly. The use of an electronic device in the learning process was very popular (the use of an online dictionary was praised mostly for the search speed). Other responses mentioned electronic devices used for entertainment, as well as for watching series and films in order to improve comprehension and pronunciation. Many

people responded that using a computer makes the learning process faster and more fun (probably more engaging). One respondent stated that the use of a computer and the internet was a much cheaper solution than using conventional student books.

On the other hand, there were a significant number of people who stated that they do not like using the computer in their learning process. The use of printed books in general was most popular and some respondents stated that a computer was a disturbing element and that it hindered the learning experience in their case. It has to be mentioned that many respondents simply didn't understand the question and entered the list of devices they use or left the question just empty. Therefore; many responses on this question were invalid.

The overall perception of the language laboratory was fairly neutral. Most respondents selected the neutral option, I don't mind being here. A significant portion (24) stated that they liked the language laboratory and only 5 respondents stated that they would rather have had only a teacher instead.

It is necessary to mention that it was later discovered that the question was not well prepared and was against the research rules; the number of options was odd and the question's tone was not optimal.

The last topic worth paying attention to was question number "*12) What do you expect from learning English in a language laboratory? (Please, be specific.)"*. The aim of this specific question was to gather an initial perception among students towards the course in general within the context of the new language laboratory. With the exception of the obvious answers regarding the improvement of English pronunciation in general, here are some of the most interesting responses from the results sheet. Mistakes, largely

in spelling, have been corrected for ease of reading. The full sheet with all the raw responses can be found in the Appendix B Questionnaire1.xls file on the enclosed DVD.

- better pronunciation, a native speaker´s voice etc., improving my listening and speaking
- talking to each other, because we (at least I think) learn as much as we can during conversation, because I don't know any more effective way.
- comfortable and effective learning. Pretty synoptic, understanding, clear. I also expect it will help me to "level up" my English skills and so on.
- I can hear English native speakers on the recording.
- I expect to watch videos or listen to music. Maybe I will discover some good programs for learning English.
- to be honest, I don't know what I should expect. Maybe to hear phonemes clearly with the headphones on?
- I want to improve my English and gain more confidence when speaking in public.
- I'd like to improve my speaking skills, because I'm really shy.
- I expect more conversation in the classroom.
- I expect I´m going to speak with a great accent without any pronunciation mistakes and to speak fluently in front of the public thanks to these classes.
- communicate with English speaking people at the highest level. Or be able to advise someone with English.
- I expect to have godlike pronunciation and sharpened hearing for phonetics. I expect to gain knowledge of articulatory, acoustic and auditory phonetics.

The relatively suboptimal level of English among the respondents is worth mentioning. The responses shown have had to be heavily corrected and sometimes significantly changed in order to create a meaningful sentence. The aim was to convey the meaning of the statements as much as possible. As a result of this, the way that respondents can fill in the next end of term questionnaire was changed so that they could use Czech in order to create less confusion.

Grammar and spelling mistakes aside, these selected responses illustrate the expectations quite well. Most importantly, the respondents understood the importance of pronunciation in the English language and recognized that there was room to improve. The responses where students were concerned with their ability to produce fluent speech and the proper pronunciation of the phonemic sounds were most striking. Unfortunately, the course does not really help directly with this phenomenon and the number of similar responses reveals that more attention should be paid to this phenomenon when planning the BA program in the future.

As the responses from the questionnaire suggest, the problem of a lack of skills to be able to properly express themselves is a very common concern among FO1BE students and the alarming quantity of such responses should be addressed.

The course needs to adapt to this fact in order to become feasible for the students. The aim was to adapt the course materials to the level of English of our control group and to make sure that the exercises and the final test are easy to understand even without optimal language skills.

3.7 The evaluation of the final questionnaire

The aim of the final questionnaire was to get some information to be able to reflect on the changes and the course in general. Unfortunately, only 56 respondents out of the 97, who filled in the first questionnaire at the beginning of the semester, submitted responses. This issue might have been caused by students simply dropping out of the programme completely, switching programmes or simply not bothering to respond. This fact might have affected the results in that only those students who passed and were content with the course responded and took the following FO2BE course, while those who were dissatisfied dropped out completely and did not mention any complaints directly. Graphical representations of all the results can be found in Appendix C.

The questionnaire in the first section asked whether students think that the material reflected the subject matter of the final test. The respondents were questioned and were able to choose their answers on a Lickert-type scale to show whether they agreed or disagreed with the following queries: *"Do you think that the final test reflected the content of the FO1 course at elearning.fp.tul.cz?"*. Nearly 98% of the respondents agreed or strongly agreed with this. The respondents were then asked to evaluate the helpfulness of each specific part of the materials; from quizzes through to transcription and theory, listening materials to other materials serving as supplementary optional content, such as video links and extra reading material.

The following questions dealt with the area of the quantity of the materials provided for the course divided into three questions. The results were quite surprising. The reception of the amount of the theoretical material was very good. 96% stated that they were satisfied and only 4% were dissatisfied. However, when it came to the listening

exercises, 21% of respondents were dissatisfied with the quantity. The amount and variety of the listening materials should be extended and further accented in the following years in order to reflect this fact. With regard to the extra materials and optional content, 22% percent were also dissatisfied. This would seem to indicate that students would actually like more content to practice the topic in conversations and listening to dialogs.

The next questions dealt with the area of the perception of the Moodle LMS and the experience of being in the language laboratory. The visual aspect (the user interface) of the Moodle LMS was mostly described as acceptable and only 7% stated that the experience was poor.

With regard to the user interface, a feedback note was received as to the fact that the item colouring could be different for each content type and that sometimes it was very hard to navigate among the long list of items.

The environment of the language laboratory received a pleasant or, in the worst case, a neutral reception revealing that the lab is perceived quite well. This might be due to the fact that the whole building has recently been renovated and all the rooms are in a good condition.

The sound quality of the provided headphones and the exercises were perceived relatively positively. This was a big surprise, because the initial testing at the beginning of the school year revealed significant sound problems and limitations.

Further questions asked the students' opinion of the used format of the computers provided in the language lab. The vast majority (87%) stated that they liked the desktop format with the big screen. Notably, 7% of respondents stated that they would have

preferred a smaller device such as a laptop. No one preferred learning via a smartphone or a tablet.

The open question regarding any technical difficulties encountered during the test revealed only minor problems. In the vast majority of cases there was an issue with the headphones and there was a need to change them or to restart the computer.

In a few instances the sound file had been misplaced and it had to be manually checked and reloaded into the correct position. This was solved immediately, when the problem was reported by the students.

Two students reported that the loading times were sometimes too slow in some cases. This issue can be solved by upgrading the Moodle LMS to the latest version and compressing the sound material to some more appropriate file sizes. Further analysis and debugging would be necessary to achieve more efficient bandwidth control.

A very notable question on the topic of the quality of the students' interaction with the teacher gave an interesting result. The vast majority stated that the presence of the computers didn't have any effect on the interaction at all or was in fact positive.

The open ended question asking for additional comments yielded some interesting suggestions. The links to individual documents which have been already visited should be more clearly visually distinguished. The composition of the user interface should be improved and made less confusing. Another important suggestion was that there should be more listening practice and more transcription exercises.

The Conclusion

To conclude this thesis, I would like to summarize the research questions which were set out earlier.

The state of the FO1BE course was such that the course had a focus on transcription and learning the basic introduction to the relevant theory. The aim of this case study was to shift the focus of the course slightly, add some e-learning and computer-use elements and evaluate the result. The prime reason for this was to create a self-directed friendly environment for the students to learn how to use the computer technology to their advantage and to create a connection and a learning environment for the long distance learners taking this course as well.

The course has been considerably enriched by the addition of the interactive features; mainly listening exercises, transcription quizzes (with the limitation addressed in the **Phonetic transcription on modern computers** section) and theoretical quizzes. The solutions for each exercise were made public after each week and discussed during the laboratory lesson time.

In the following years, further additions should be added to further enhance the learning experience.

1. The Moodle user interface should be improved in terms of responsiveness or substituted for a more user-friendly solution. A customised in-house solution would be ideal as an extracurricular activity for students taking the Informatics course as their second major.

2. The course content should be reorganized into weekly bundles with optional content. The completion of some key exercises should be compulsory.
3. Exercises dealing with the transcription of words using the customized keyboard should be added.
4. More listening exercises, including more natural and spontaneous speech.
5. More material dealing with the problems of American and British English with regard to pronunciation.

The students' feedback from the questionnaire was mostly positive and the changes were noticeable.

The creation of customised tests and recordings of native speakers gave us enormous experience with the preparation of study and test materials. The assessment of the final test was mostly automated, thus reducing time constraints on the teacher and providing more time to focus on other important aspects of the course.

The Moodle LMS proved to be a viable solution for use in our project and research and I can wholeheartedly recommend this application to all teachers who intend to build new courses. The Moodle solution is not perfect and the application has room for tweaking, mainly in the user experience and design of the user interface, if the education facility has some skilled programmers.

The future vision

FO1BE and FO2BE could be transformed and adapted into a MOOC and delivered to a service like Coursera or Ed-ex. This could boost the name and prestige of our Faculty of

Education and the brand awareness of our University and possibly create an additional revenue stream.

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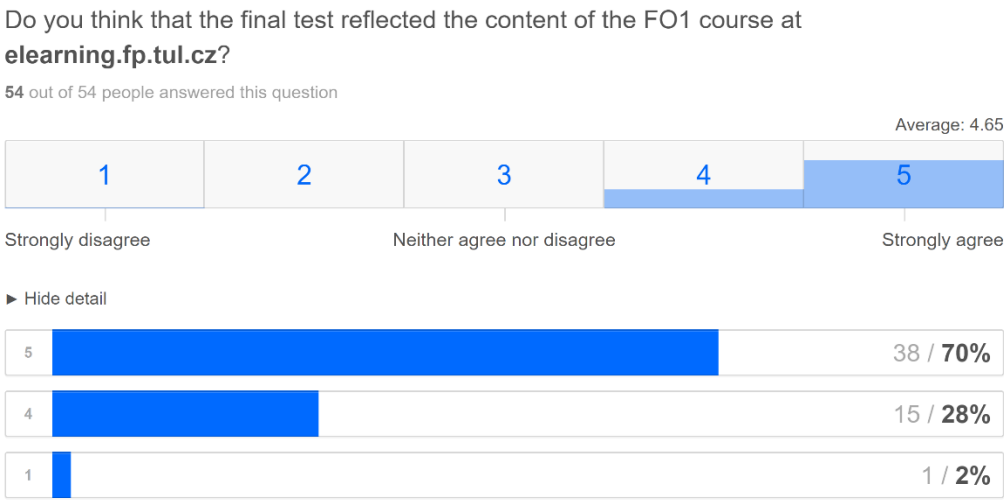
Appendices

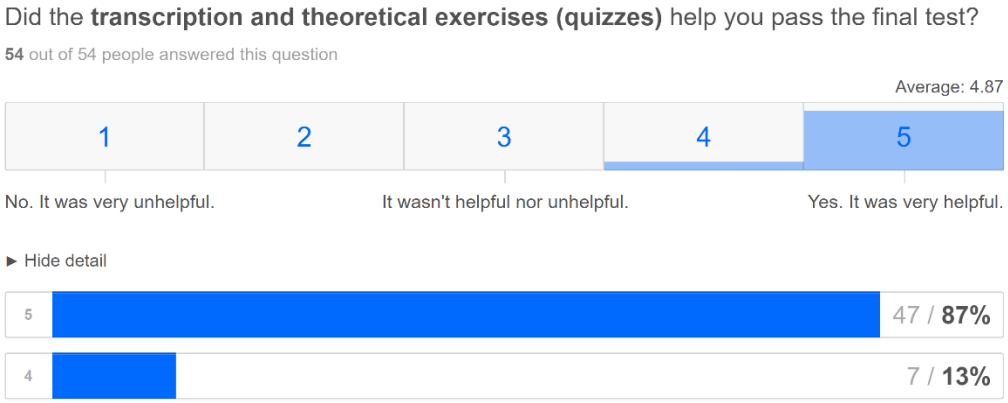
All the appendices can be found on the enclosed DVD and online at radislavsplichal.cz/media/bakalarka

- Appendix A: The visualised results of the second questionnaire
- Appendix B:
    - the .xls table with the raw data from the second questionnaire (Online/DVD)
    - the .xls table with the raw data from the first questionnaire (Online/DVD)
- Appendix C: Screenshots of the sample exercises from elearning.fp.tul.cz (Online/DVD)
- Appendix D: An interview with Nicola S. Karásková, MA

Appendix A

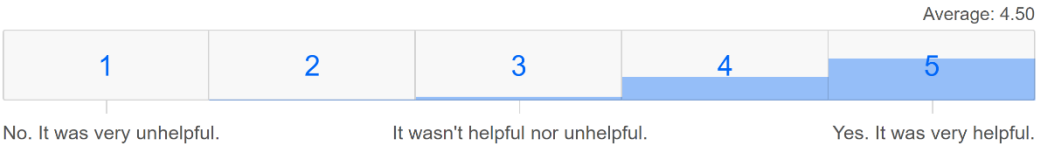
The visualization of the results of the 2nd questionnaire, including the questions.





Did the **listening exercises** help you pass the final test?

54 out of 54 people answered this question



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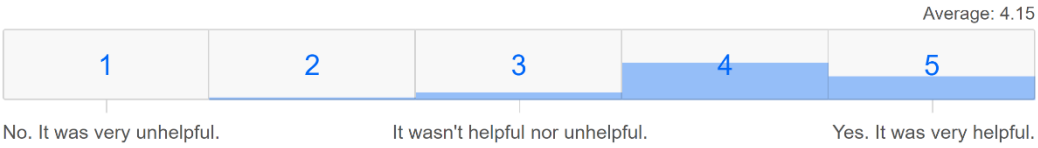
Did the **other online course materials** help you pass the final test?

54 out of 54 people answered this question



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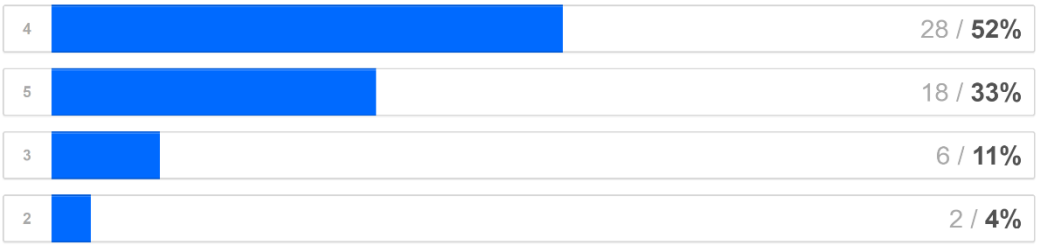
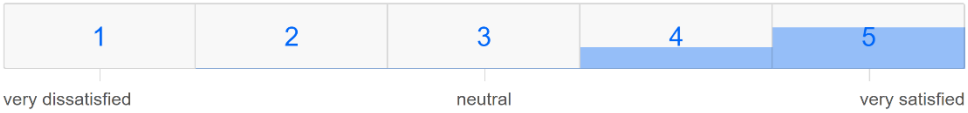


Were you satisfied with the quantity of the **theoretical exercises (quizzes)**?

54 out of 54 people answered this question

Average: 4.57



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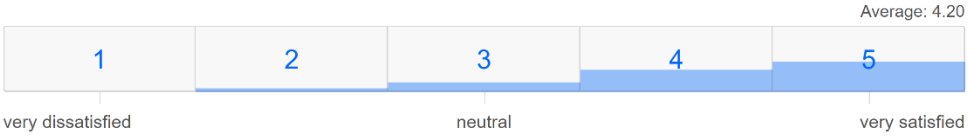
Were you satisfied with the quantity of the **listening exercises**?

54 out of 54 people answered this question

Average: 4.20



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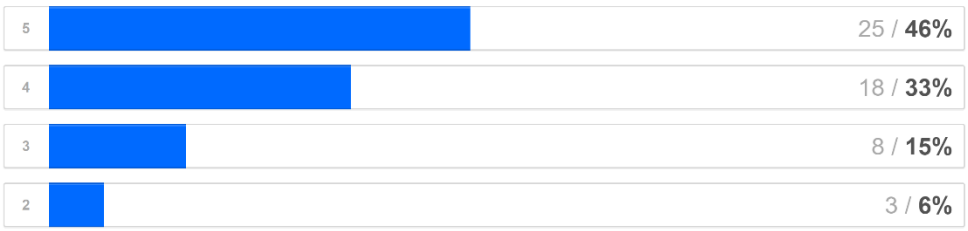

Were you satisfied with the quantity of the **other online course materials**?

54 out of 54 people answered this question

Average: 4.19

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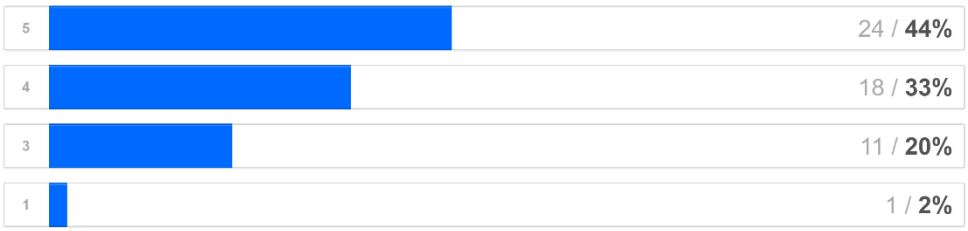
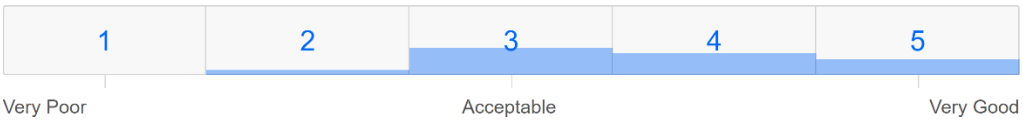


How would you rate the quality of the user interface (visual design) of **elearning.fp.tul.cz**?

54 out of 54 people answered this question

Average: 3.69



Very Poor Acceptable Very Good

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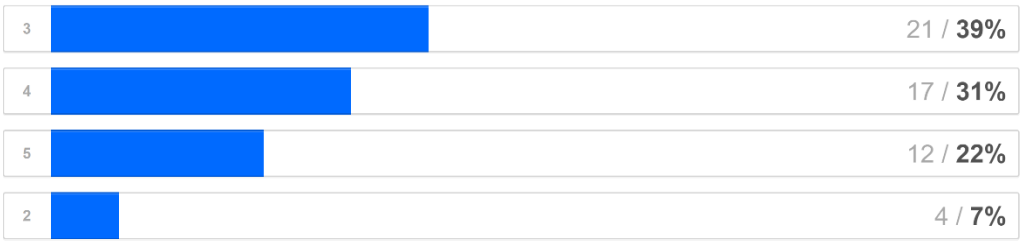
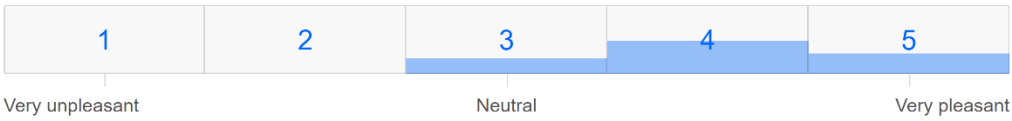


How pleasant was the environment in the language lab?

54 out of 54 people answered this question

Average: 4.07



Very unpleasant Neutral Very pleasant

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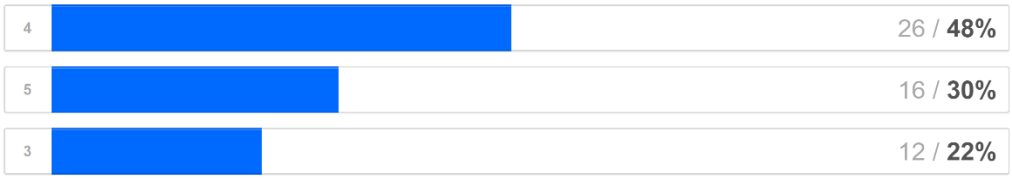
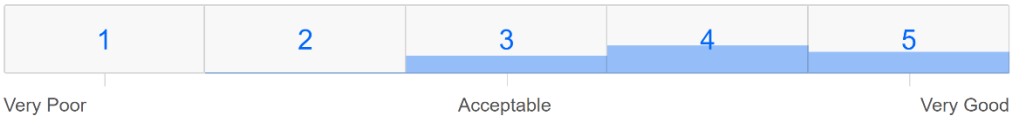


How would you rate the sound quality in the language lab during listening exercises?

54 out of 54 people answered this question

Average: 4.02



Very Poor Acceptable Very Good

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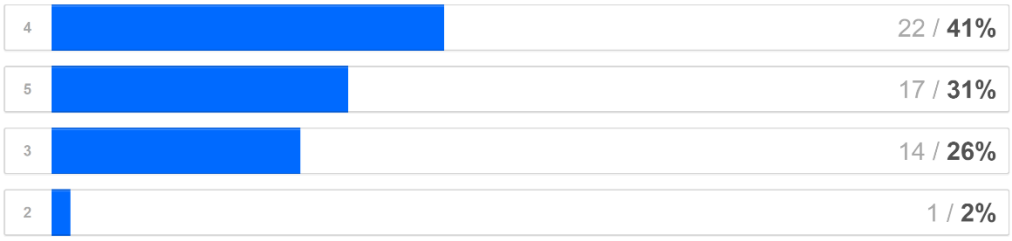
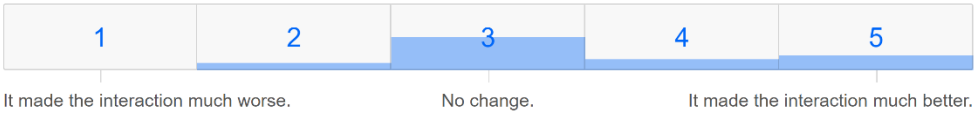


Did the use of the computer have any influence on the interaction with the teacher?

54 out of 54 people answered this question

Average: 3.50



It made the interaction much worse. No change. It made the interaction much better.

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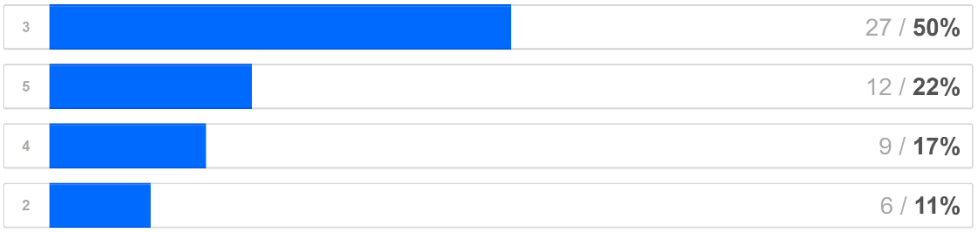
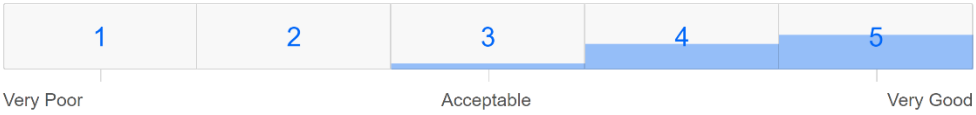


How would you rate the course experience and the learning experience in the language lab overall?

54 out of 54 people answered this question

Average: 4.43



Very Poor Acceptable Very Good

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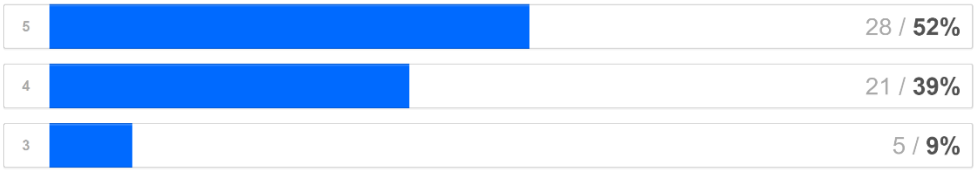

Appendix D

Interview questions for Mrs. Karásková regarding teaching in the language lab.

Did you experience any difficulties during your classes with the IT equipment or the Moodle LMS?

On rare occasions, the language lab didn't function as it should. Once everything "froze". As I didn't know how to solve the problem, I asked the students to log out of their accounts and switch the computers off. We continued with a lesson at the board, more of a lecture really. I asked students to bring their own headphones, as sometimes headphones from the lab are missing. Once the letters on a keyboard had been rearranged. There were never any problems with Moodle.

Did you notice any change in the engagement of students during classes?

If you mean compared to the classes in previous years, yes I did. As each student had an online task to complete and everyone else around them was working, no one seemed to be talking to other students or slacking. There was complete silence. As students worked on their respective tasks I would monitor from the front. Sometimes I would look up over the top of my computer to see if their attention was wandering or if they had any problems. Without exception, they were all looking intensely at the screen, doing what they had been asked to do. Previously, without the computers to hold the students' attention, I think they were more easily distracted. If I addressed one student in class, I don't know how many others "switched off" even though I did my best to engage them all, for most of the time. The computer was far better at that than I am, as it held their attention, by and large, for the duration of the lesson.

Did you register any change in perception or attention of students during classes while using the computer equipment?

Students were all very tech-savvy and were able to concentrate on completing the tasks quickly. I don't think they would have been as single-minded if they had been given the same tasks on paper.

Did the use of the computers affect your teaching? If yes, how?

It certainly meant far more preparation before the classes, indeed before the course itself. Whereas before, I would present the materials and hand out worksheets, now every exercise had to be recreated from scratch in a form that could then be put on Moodle.

The online learning platform also prompted me to add new materials to the course like creating tailor-made online listening materials.

The vast amount of new and adapted material meant that I also had to engage IT students to help me transfer the exercises to Moodle. Teaching became more of a team exercise.

Also, I had never used computers in lessons before and there was a different dynamic in the classroom. It was as if there were thirty classroom assistants (the

computers) who communicated with individual students, albeit in a relatively primitive way. The computers would "talk" to the student, giving immediate feedback, which the students could then immediately act upon. Learners would often then do the task again to complete it correctly. There was a competitive spirit, the students aiming to beat their own previous score.

At that stage of the lesson, the class seemed to run itself and everyone could work at their own pace.

I usually engage with the students at all stages of a traditional lesson even when they are working independently. I may wander around the class monitoring in a non-intrusive way and offering what I hope are encouraging comments. I sometimes felt that now, in the lab, my classroom e-assistants had taken charge and I had stepped aside. However, I still wanted students to be aware that I hadn't abdicated my role as teacher, and that I wasn't now sitting at the front hidden behind the computer polishing my nails while they worked. I firmly believe that the human element, the relationship between people, is an essential part of the teaching process. Frankly, it was tempting to spend ten minutes answering emails instead of watching screens with the disengagement of one of those night watchmen in a Hollywood heist film.

So I would monitor students' screens and send occasional short messages via the chat option such as "watch out for …" or "very good, well done". I didn't have time to write to everyone so I did wonder if some students might have felt left out if I did not write to them.

Ordinarily this would have been no big deal if I had made comments directly to a student while walking round the class. In the lab however, the appearance of a disembodied message seemed at first more of a distraction. I had no eye contact with the students so there was no body language by which to assess the reaction. What I sometimes heard was whispers between students and suppressed giggles once a message appeared. This kind of one to one feedback took much longer than it would have done previously. In last year's classes a short "good", a nod or a smile would suffice to encourage students, as I checked what they were working on. Students would then look up I could judge how they were managing the task from their facial expressions too; one or two might then ask questions.

By contract, the computers kept me at a distance from my students in every sense. I was not able to build any sort of teacher- learner relationship as quickly as I had done in past years. I found it more difficult to learn students' names since all I could see was the tops of students' heads and not their faces. As a teacher I felt more remote from my learners.

Some tasks such as transcription were dropped altogether as it was not possible to practise or test this online via Moodle. Students could not come to the board very easily from behind their computers, so I abandoned this type of board-work too.

Did you experience any issues during the final test and the subsequent evaluation? Did you notice any change in the success rate in comparison to previous years?

The amount of work and coordination put into creating nine well-rounded online tests for each course was phenomenal. It would have been a fulltime job for a professional developer of teaching materials, or even a team of people. I greatly appreciated the willingness of students, particularly IT specialists to work within a team and transfer individual exercises into an online form and then pilot the tests.

Although the preparation time was far more than for a classical test on paper, the time for marking was greatly reduced. Eighty percent of the paper was assessed online. The marking of the other twenty percent was a matter of a few minutes. Counting and recounting marks out of one hundred was no longer required. This was a great relief.

As for success rate, students did better in the online test than those who had done the test on paper. I was surprised that students were able to stare at a screen in concentrating for sometimes an hour without looking up or away. In past years, some students' attention would seem to wander about half an hour into the test and I was always careful not to allow any cheating. Testing in the lab, properly administered, enabled students who had practised hard during the semester to excel.

Are there any things that you would like to adjust or add for the future?

I would very much like to both expand and polish the course. Individual phonemes could be presented systematically, not just from the front of the class. There is plenty of scope for introducing more recorded exercises, which were never used in previous classes. Much more work could be done, say, on aural discrimination of minimal pairs. Then there are aspects of English pronunciation which are particularly challenging for Czechs. Awareness creating exercises could be created to help students recognise the problem areas. Drills are traditionally used in a language laboratory, something which there was no capacity for this time around. The room for improvement is almost endless. It is just a question of time and manpower!