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## Teaching English for Special Purposes Aided by E-learning Platform

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## Introduction and Purpose

Foreign language teachers began to integrate electronic communication into language teaching in the late 1980s guided by the desire to provide authentic communication, to make students recognize the importance of cultural exchange, and the desire to teach new skills. Later experience has shown that computer-assisted classroom discussions are great equalizers of student participation (Kern, 1995). Motivated by such experiences and the intention to motivate our students, we decided to introduce so called blended (hybrid, mixed) teaching model in the course of English for Special Purposes (ESP), encouraged by the Teaching Strategies 2007-2010 accepted by the University of Zagreb recommending the usage of ICT in the teaching activities at the tertiary level.

This research has been conducted at the Faculty of Geodesy after the installation of Moodle (Open Source Learning Management System, LMS) in cooperation with colleagues from the Faculty of Humanities and Social Sciences, University of Zagreb where Moodle has been used for more than 620 courses. The Moodle system meets high standards and, in terms of programming, it is a "powerful", free, open source solution written in PHP (open code using data bases MySQL and PostgreSQL) used for conducting different courses and sharing of teaching materials over the Internet. Access is possible from any place having Internet connection.

Experiences at the Faculty of Humanities and Social Sciences (Klasnić et al, 2010) show high students' satisfaction with the Moodle system. The security of the examination is very high since access to the Moodle system is possible only by username-password authorisation, each exam can have its own additional password,

## Abstract

In today's fast moving world when students mention Internet more often than going to the library, colleges and universities have to adapt to Net Generation students who have grown up with information and communication technology and value experimental learning, working in teams and social networking.

The paper presents the research performed with the students learning English for Special Purposes at the third semester of the study, at the Faculty of Geodesy, University of Zagreb. The main goal of the research was to find out whether combined teaching model can contribute to the language learning process through various activities. The tested sample consisted of two groups, each of 35 students, working on their assignments by face-to-face and online models. The findings of the research show whether ICT can contribute to enhance some segments of the language skills. The final test for all students analysed 6 elements of the written communication, 4 elements of the oral communication, communication quality with teacher and among students, average final grade and students' attitudes towards new technology. The results have been analysed using SPSS (Statistical Package for Social Sciences). At the end suggestion for further implementation are given.

**Keywords:** blended learning, English for Special Purposes, Moodle, traditional, comparative evaluation, language skills.

exams can be available to the students only for a limited period of time and they can also be available only from the predefined set of IP addresses (e.g. only computers in a lab).

For the purposes of this research, the Moodle system was used with the students who elected the subject called ESP in the second semester of their studies at the Faculty of Geodesy within the frame of overall faculty pilot project opened for all teachers to participate creating their online learning sites with Moodle. The goals were to improve the quality of teaching process and the learning results, to have better access to teaching materials and to qualify them for life-long learning.

The first and the most powerful obstacle is language anxiety being intertwined with self-esteem, inhibition, and risk-taking, playing an important affective role in foreign language acquisition, resulting almost regularly in avoiding to participate actively in classroom activities, and consequently in complete withdrawal from all activities and in giving up to learn altogether. The initial tests intended to define the level of language competencies. Another problem was group size (minimum 35 students per group), then different language abilities, different needs and learning styles. Large classes are often associated with lack of student-teacher interactions, difficulty to maintain discipline, lack of control and interest, and then, lack of efficiency and effectiveness.

### **Why Moodle?**

There are a lot of merits that could be mentioned when speaking about using Moodle in teaching and learning English as a foreign language. Moodle provides a collaborative medium, a place where we can all meet and

read and write. As a modular object-oriented dynamic learning environment, Moodle provides many very useful modules for language learning. Besides standard modules, there are more and more modules under developing and will become a standard module when they are proved to be useful and stable.

The basic modules provided by Moodle may be grouped as follows:

1. The "People" Box: Participants, Profile, Activity reports.
2. Administering Your Class: Settings, Teachers, Students, Backup, Restore, Scales, Grades, Logs, Files, Help, Teacher Forum.
3. Adding Content:
  - (a) Adding a Resource: Compose a text page, Compose a web page, Link to a file or web site, Display a directory, Insert a label
  - (b) Adding an Activity: Assignment, Chat, Choice, Forum, Glossary, Hot Potatoes Quiz, Journal, Lesson, Quiz, SCROM, Survey, Wiki, Workshop.

### **Activities**

After creating participants' box, constituting a profile of our course and setting the basic principle of administering the class, a lot of attention has been paid to the creation of activities. Having in mind the fact that it was the first time that this kind of teaching and learning was offered to our students, we decided to choose easier approach. The role of ESP (English for Special Purpose) practitioners as teachers, course designers and material providers, collaborators, researchers and evaluators was focused on the efforts to meet specific needs of learners, making use of the underlying

methodology and activities of the discipline it serves and being centred on the language (grammar, lexis, register), skills, discourse and genres appropriate to these activities. Possibility to add links to a file or web site offering new fresh material was of the utmost importance for students, which were then used as authentic learning materials, modified or unmodified in form for the simulation of communicative tasks, preparation of papers, reading, note taking, and writing, but were not enough to make the students respond to the given tasks.

The Moodle activity 'Forum' was also very helpful, especially in triggering the communication among students. The forum called "To Learn English" was opened within the scope of our ESP-class on Moodle for the students to communicate about any topic they found interesting or intriguing, but in English. They did not start chatting with each other very enthusiastically in the beginning. After some encouragement by the teacher, the students were instructed to talk freely about any topic they want to discuss. The teacher would not participate in their discussions, just monitor the participation. Gradually, the discussion started

to develop. Those who rejected totally any kind of participation in the beginning joined the discussion, intrigued by other student's opinions and willing to react. It seemed that not having to express themselves in public, i.e. in the class when everyone is listening and looking at them, helped a lot of students to forget about their fears and start using their English, no matter how good or bad it was. A lot of students started to participate more freely in other activities in the class.

One of the most successful activities done with the students was glossary. It is a place allowing students to create and maintain a list of definitions - like a dictionary. Good dictionaries of technical terms are not always available, especially in a discipline like geodesy. Working on the creation of such a dictionary can be very inspiring, because the students know they are doing a useful job, leaving something behind that others might use sometimes in the future. At the same time it is a very good research task for students who learn foreign languages, because they are exposed a lot to authentic sources, they practice their understanding of new material and learn how to make definitions of their own in a foreign language.

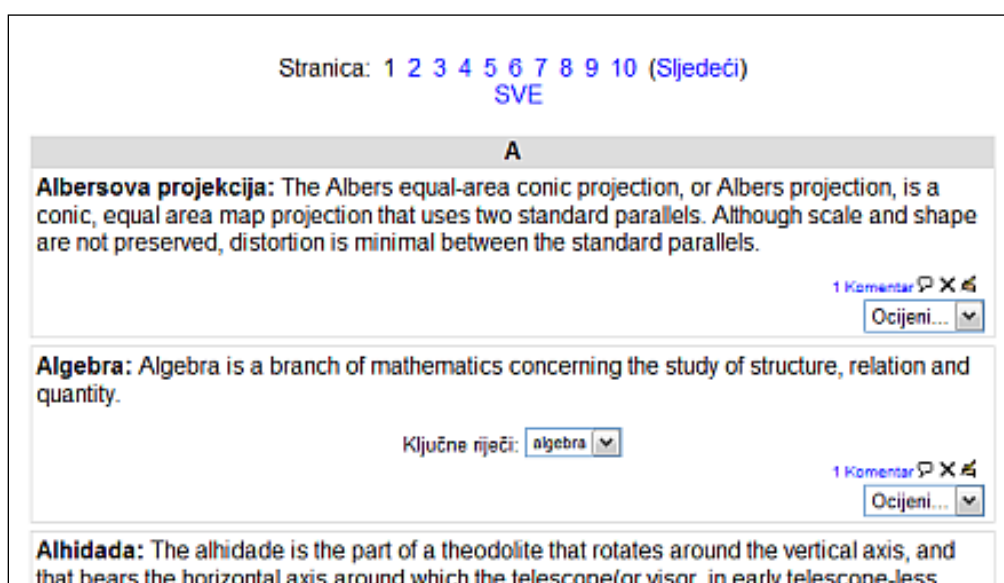


Figure 1: Example from the online glossary of geodetic terms

The activity of creating a glossary on Moodle is an interactive module. Teachers check student's contributions but also communicate with them by sending the comments. As long as the definitions in the glossary need improvements, there is a communication going on between teacher and students until a satisfactory solution is made. In our glossary of geodetic terms there were more than 1,000 items and their definition collected and approved to be accepted in the dictionary.

There are many kinds of quizzes available on Moodle. Our students participated in multiple choice, and true/false quizzes. They were not meant to evaluate their knowledge, but to help them practice and check for themselves how successful they were in certain activities - mostly for self-evaluation after reading or listening of the authentic material. Due to its multi-media possibilities, there was also audio-visual material offered on Moodle for the students to watch and listen. Multiple-choice quiz helped them to check their understanding. Moodle quizzes do not offer solutions to questions, but inform the participants whether their answers are correct or not. They have to look for the right answers themselves, which means repeating, watching and listening, or reading again.

All activities done on line were discussed at every session in the class. The students were given a chance to suggest what they would like

to read about, and what kind of activities they would prefer to do.

### **Research**

A number of researchers have suggested that electronic communication differs linguistically from both traditional written and spoken discourse (Chun 1994; Ferrara, Brunner and Whittemore 1991; Murray 1998) showing that electronic discussion is similar to written texts in terms of language complexity, and that it could serve as an important bridge for transfer of communication skills from the written to spoken domain. No study has been done yet with the students of ESP to find out whether they might be more successful in learning English in classes supported by the advantages of ICT technology. This research was carried at the tertiary level, with the students who already participated in that kind of teaching and learning model – through Moodle platform. The focus of the research was one of the Moodle activities – Wiki – being very useful collaborative tool. It was carried out at the Faculty of Geodesy with the students of the third semester.

The goal of the research was to find out whether the combined teaching model can influence the development of motivation through various activities. The research itself was triggered by the assumption that the generation of students growing up with

Internet should recognize in e-learning new possibilities for learning English that meet their needs, which would result in creating adequate conditions for the development of motivation to learn foreign language.

### **Procedure**

The subject of research were two groups of students, with 35 in each group, all of them having experience in using Moodle, because they participated already in a hybrid model of teaching and learning English in the second semester of their studies. The research was conducted in the period of 30 days. It was actually the period in which students were expected to perform a certain task and within the scope of the work on this task certain variables were observed and evaluated.

The two groups got the same type of an assignment. They were supposed to make an article dealing with certain topic connected with the subject of their studies. It was a group work, because each group of 35 students was divided further into smaller groups of 8 members. These smaller groups were actually made of teams (pairs) who collected the material for the mutual article in the form of a debate. Hence, there were teams collecting the information for the topic and also the teams collecting the information against the topic.

### **Methods**

The research was carried out on the basis of monitoring the work of students on their assignments with special attention given to the comparison of work in face-to-face and on-line environment. Namely, one group with 35 students worked on their assignments using only face-to-face mode, i.e. no ICT technology support, and the other group worked only on-line using Moodle's wiki activity.

Both groups were encouraged to be as collaborative as possible in their work and to develop strong interactivity among themselves and with their teacher. After completing their tasks, the students also had to present in the class, in a way that every member of the group participated equally in the oral presentation.

### **Data Analysis and Processing**

In order to find out whether ICT technologies could affect students' motivation for English learning and help them be more successful, it was necessary to set up adequate variables in advance that were to be observed and evaluated during the research in both groups (Table 1).

VARIABLES		ANALYSIS				
WRITTEN WORK	Written work length	short		medium	long	
	Logical structure	yes		medium	no	
	Usage of typical constructions	yes		medium	no	
	Frequency of working	attendance				
	Duration of working	in minutes				
	Usage of references	books		magazines	Internet	
COMMUNICATION	student ↔ teacher	good		medium	bad	
	student ↔ student	good		medium	bad	
ORAL PRESENTATION		Points (1 – 4)				
	task achievement	1	2	3	4	
	vocabulary	1	2	3	4	
	accuracy	1	2	3	4	
	fluency, pronunciation and intonation	1	2	3	4	
FINAL GRADE	2. semester – previous grade	1	2	3	4	5
	3. semester – present grade	1	2	3	4	5
ATTITUDES OF STUDENTS OBTAINED FROM QUESTIONNAIRE	Online communication in English suits me better because I do not feel embarrassed by the presence of a teacher and other students	strongly disagree	partly agree	neither agree nor disagree	mostly agree	strongly agree
	Moodle could replace all other teaching models.	strongly disagree	partly agree	neither agree nor disagree	mostly agree	strongly agree
	Online communication offers better possibilities to improve only writing and understanding skills in English.	strongly disagree	partly agree	neither agree nor disagree	mostly agree	strongly agree
	Language skills can be learned better in real contact with other collocutors.	strongly disagree	partly agree	neither agree nor disagree	mostly agree	strongly agree

Table 1: Variables for the research

## Results

The data obtained by evaluating the variables given above for both groups were processed using SPSS (Statistical Package for Social Sciences). The tested sample was of 35 students working on their assignments face-to-face and 35 students working on-line. Table 2 shows the number of students in both groups considering the model of working (offline vs. online).

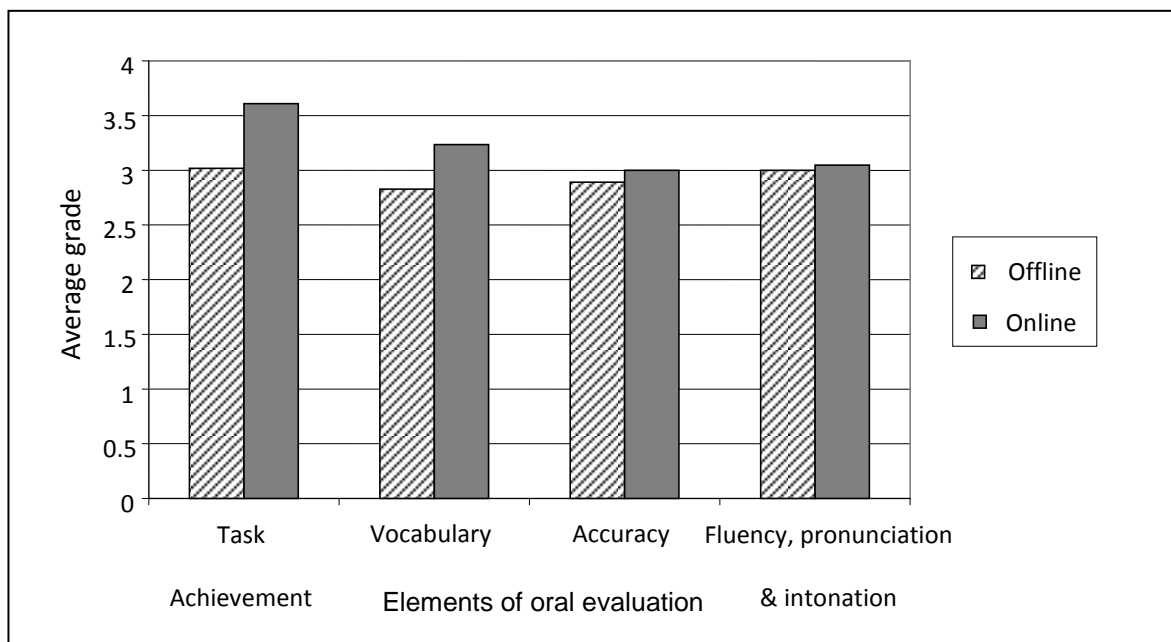
		f	%
Learning model	offline	35	50.0
	online	35	50.0
	Total	70	100.0

Table 2: Number of students in both groups

### Comparison of the elements of the final grade for oral presentation

The final grade for oral presentation was obtained on the basis of evaluating four elements:

- task achievement
- vocabulary
- accuracy
- fluency, pronunciation and intonation



Graph 1: Results of oral evaluation elements

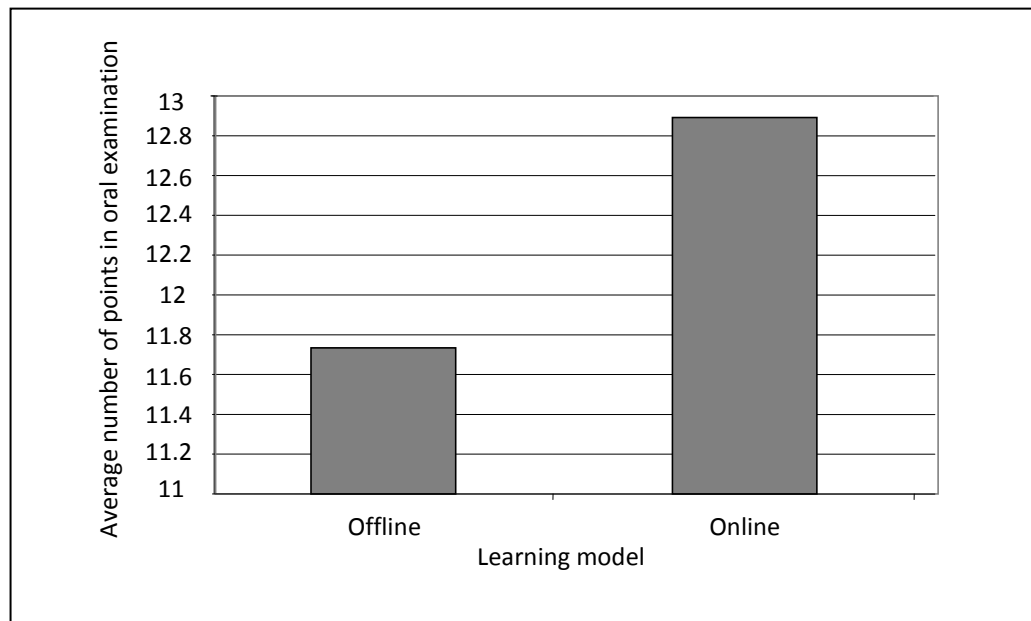
T-tests were used to test the difference between arithmetic means of the two groups. The results of the test show that the two groups differed significantly regarding task achievement and vocabulary, but there was no

statistically significant difference between the two groups regarding accuracy, and fluency, pronunciation and intonation. Graph 1 shows that the students working in wiki environment were more successful in achieving their task,



and their vocabulary was better, but the accuracy, fluency, pronunciation and intonation more or less equal in both groups. It leads to the conclusion that ICT technology contributed to written communication through reading, writing and adopting new vocabulary, but oral communication was developed much better in

face-to-face model of teaching and learning. The obtained total grade is statistically significantly different in two observed groups (Graph 2). The average number of points for each group is 11.73, i.e. 12.89 indicating that the online groups achieved better results in this part of their work.



Graph 2: Achievements in oral evaluation referring to learning model

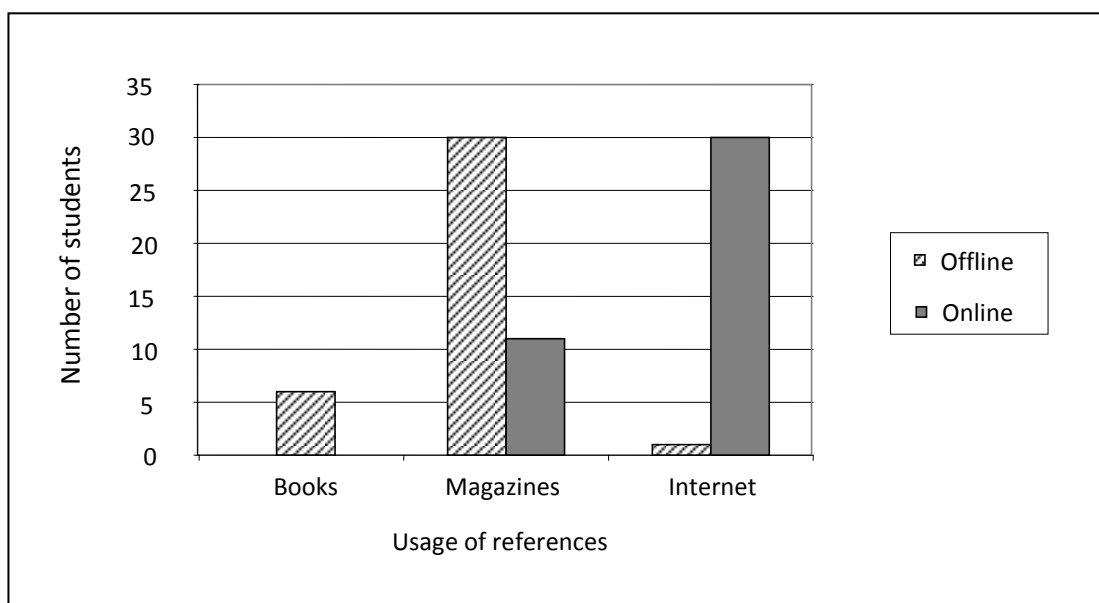
### Quality of written work, time

Statistical data processing referring to the quality of written work (length, logical structure, usage of typical construction) showed insufficiently large differences between online and offline groups to make them statistically significant.

Two groups indicate no large differences in the time needed to accomplish their assignments.

### Influence of information sources

The influence of information sources on success in learning was also tested. Graph 3 shows the differences in using various sources of information that students could have used in preparing their assignments (book, magazine, Internet).

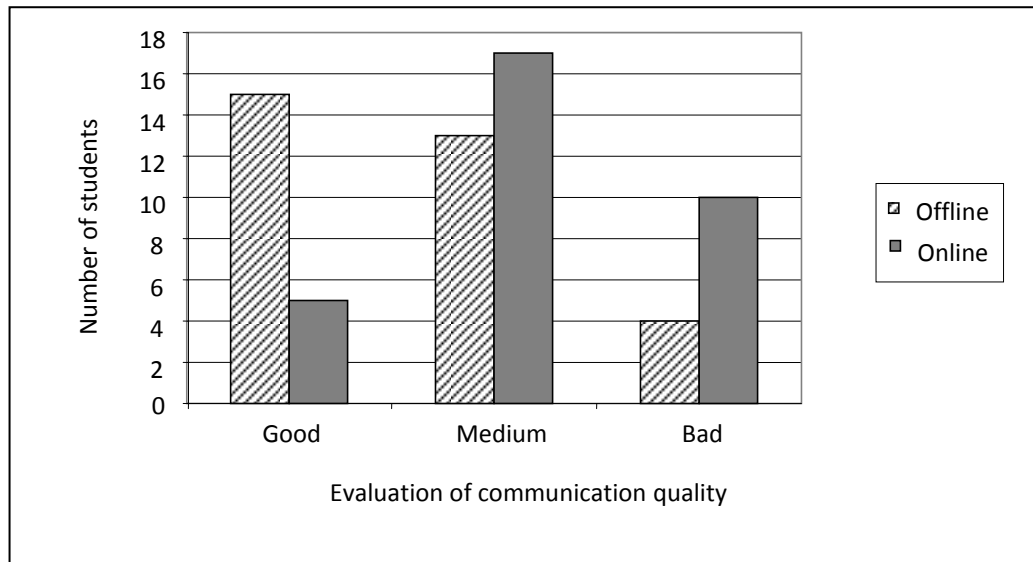


Graph 3: Different information sources (online vs. offline)

Offline group used books (6) and magazines (29), but almost no one used these references in online group. They used Internet mostly, and just a few of them used magazines. Being an easy and quick way of obtaining information and getting exposed to authentic language, Internet does help students to achieve their tasks more easily and to enrich their vocabulary more than using books or magazines. But the differences in using various information sources apparently did not have a lot influence on total grade for oral presentation and the quality of their assignments.

### Communication quality

It was expected that the students would develop very good communication with the teacher, as well as among themselves working online, because there would be no uncomfortable feelings that are connected with the presence of the teacher and other students, and no fear of being criticized or laughed at openly. But the results of the statistical analysis proved that the communication with the teacher was better face-to-face, 15 students were estimated to have good communication with the teacher in offline group, and only 5 students had good communication in online group. Even 10 students had bad communication with the teacher in online group, and only 4 students in offline group.



Graph 4: Communication quality between students and teacher (online vs. offline)

On the other hand the communication among students was almost equal in both groups ( $\chi^2=0.672$ ;  $p>0.05$ ), indicating that both ways of communication – online and face-to-face should be encouraged to introduce more diversity and dynamics in teaching and learning processes. In spite of all that, the results of the questionnaire at the end showed positive attitude of students towards the usage of e-activities and new models of teaching and learning English.

#### Differences in final grades in two semesters

T-test was used to analyse the differences between the arithmetic means of two groups referring to the final grade in English in the previous semester and the semester in which the research was done. The results show that students included into e-activity achieved somewhat better marks than the students

working in offline group, but these differences are not big enough to be statistically significant.

#### Students' attitudes

At the end of the semester and after all assignments were finished, the attitudes of students towards new models of teaching and learning English were examined by means of a questionnaire. It consisted of scaled questions to which the respondents specified their level of agreement to a statement using five ordered response levels: strongly disagree, partly disagree, neither agree nor disagree, mostly agree, strongly agree. Referring to the level of students' agreement or disagreement, there was a statistically significant difference found between two groups with respect to their evaluation of the statement saying: "Moodle could replace all teaching models." The students working on their assignments in the

wiki environment agreed with this statement more than the students from the other group.

## Conclusion

The results of this research show that the students working on their assignments using collaborative tool of Moodle – wiki achieved better results in their oral presentation. Average grades in task achievement are statistically significantly different (online 3.61 vs. offline 3.01). Online group achieved better results in the evaluation of vocabulary obtaining the average mark 3.23 vs. the offline group obtaining 2.83. On the other hand, there was no statistically significant difference in the evaluation of accuracy (online 3.00 vs. offline 2.89), as well as in the evaluation of fluency, intonation and pronunciation (online 3.05 vs. offline 3.0). The results indicate the fact that the online group was altogether better in oral presentation. The online environment helped to develop better speaking and presentation skills, and learning more new words, without having too many implications on accuracy in using English or pronunciation, fluency and intonation.

There was no significant difference in the length of their works ( $\chi^2=5.750$ ;  $p>0.05$ ), or in logical structure of the work ( $\chi^2=0.672$ ;  $p>0.05$ ), the usage of typical constructions ( $\chi^2= 1.853$ ;  $p>0.05$ ). It was further found out that there

were no statistically significant differences between the groups working online and offline in the quality of their written works, but the students working online on their tasks have achieved better results in organisation of the report and in the application of new vocabulary.

T-test showed that there was also no statistically significant difference in duration of the work on the assignments ( $t=-1.957$ ;  $p>0.05$ ), which means that the model of learning – online vs. offline – does not have implications on the time spent in working.

The sources of information had also no influence on the results the students made in their work. The difference in using books between the two groups was statistically very significant ( $\chi^2= 6.621$ ;  $p<0.05$ ), as well as the difference in using magazines ( $\chi^2= 52.614$ ;  $p<0.05$ ), and Internet ( $\chi^2= 52.614$ ;  $p<0.05$ ). The students working offline on their tasks have been more successful in developing communication activities with their teacher, but also among themselves.

Warschauer and Meskill suggest that the key to successful use of technology in language teaching lies not in hardware or software but in “humanware” (Warschauer & Meskill, 2000). Moodle system does not promote learning or teaching on its own. Its effectiveness lies in the way of your participation and interaction to experience and feel that you are among like-

mindful people who share the same curiosities, needs and interests. As the rapidly growing interest in Moodle within the e-learning community around the world, it would be unwise to ignore its likely impact, but it should also be pointed out, as shown in this research, that it should be used in a hybrid model of teaching and learning foreign languages. Face-to-face teaching model should not be neglected, but used hand in hand with other models.

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