

Teacher Training in the Virtual Learning Environment

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Abstract

The article deals with the possibility to introduce LMS to enhance university teaching at language departments. The author stresses the multi-impact of introducing information technologies into pre-service teachers' education. Experience and practice is the way how to give students evidence about the possible effects of using various Technologies in their teaching. Nowadays it is common that schools are equipped with the interactive boards and language labs, however the teachers have no experience and skill how to operate it effectively. The article also brings some results from the research conducted at the University of Presov it shows the comparison of the students and results of two groups of students, namely the group of students who attended face to face classes and students who studied the same courses in virtual learning environment.

Key words: face-to-face, multiple, intelligence, approach to learning, statistics

1 Introduction

The university study expects the students who are highly motivated, autonomous and ready to study individually. The issue of the students' abilities as well as their study skills and abilities have been discussed earlier (see e.g. Scharle, Szabó, 2000; Spratt, Humphreys, Chan, 2002; Straková, 2003; Burgerová, 2004).

The education has to follow the technology development and trends and its implementation can lead to increasing learners' motivation, efficacy of the course (depending on many different factors) and many other positive aspects can be mentioned. However, we realize how cautious we need to be in selecting the technology and immediate substitution of "classical" "traditional" ways.

E-learning at the University of Presov was introduced some 8 years ago but in fact only one faculty started to use it "massively" with several workshops preceding. In last two years started the university to focus its attention in e-learning as a form of computer assisted learning process and the possibility how to offer the life-long learning courses. LMS Moodle is mostly used (4 faculties out of four) and the same faculties are verifying and piloting the courses in the VLE system.

The presented study is not a comprehensive study but rather reflects on several factors affecting (language) learning as learner's approach to study, multiple intelligence types (Gardner) and the success in a course in relationship to the form of education (face-to-face, e-learning).

We set out to investigate the preference of learners for selecting the e-form of education with respect to their intelligence types (only intrapersonal described in this text) and students' approach to learning. We also wanted to verify how effective students would be in both forms of education.

2 Materials and methods

The course selection was influenced by the profile of the graduate of the students studying English Language and Literature teacher training. The teachers who want to teach how to learn must primarily master and use different learning techniques as well as learning strategies.

Reading is one of four language skills, it is a receptive skill used not only for English language learning but also it is the skill used for further study (of different subjects) and thus it is very important for the person. This is why it was the Course *Reading Comprehension* that was offered to students as an alternative to the regular in-class lesson. The students could voluntarily decide what type of lesson they preferred. The e-course was divided into „week blocks” (copying the face-to-face classes). Every block consisted of the presentation of the particular reading technique, interactive activities (immediate feedback) and the assignments students had to send/upload via Moodle.

The teacher faced the question of formulating logical organisation of the materials and assignments, formulating clear instructions as the face-to-face contact was to be substituted by asynchronous communication (although this particular group had a chance to visit the teacher face-to face in her office during her consultation hours, the truth is they frequently used e-means to consult various problems and issues.). In e-learning the face-to-face consultations are provided in an alternative form either means of asynchronous communication (messages, for a, etc.) or synchronous communication (online chat or videochat).

For both, teacher and students it became cardinal to keep deadlines (as most activities were based on the result(s) of previous the previous assignments).

We believed that our students (English Language and literature teacher trainees) would understand better. Considering the fact that a part of responsibilities was transferred to students in e-learning course where they had to think a lot about which strategies and techniques to use and how to use them sue of learning and teaching language skills we believe it should have help learners to become better teachers. Understanding the own learning process helps teacher to explain the processes and to teach them techniques and help them to become effective language users.

Naturally, we were aware of the fact that students in e-course could have cheated (all the activities by one student and resent to the whole group, somebody totally different working on activities, etc.), but can also happen in the traditional face-to-face class. E-learning, however, provides the learners with the interactive activities that provide the learner with an intermediate feedback; students are many time more sincere and open in e-mail/ personal message rather than asking a question in from of the whole group, “risking being mocked publically”; students could work at home, they were not limited by particular time that fits time-tables.

The environment is user-friendly with possibilities of several ways how to manage and organise material. One of the advantages is the possibility to store all the assignment online along with the feedback and the possibility to track students work, as well as immediate complex evaluation (in case there are more assignments and those together results in the students' evaluation).

As it has been already mentioned students could voluntarily decide which group they preferred – face-to-face or e-learning group. The feedback given at the end of course was positive in both groups. We expected there would be no statistical differences between the two groups in relation to their end-course-results. We also wanted to find out how students with intrapersonal intelligence would react and work in

virtual environment (we expected most introvert students would choose the e-education). The last research question dealt with the students' approach to learning – we wanted to find out whether there would be some changes in this approach.

2.1 Questionnaires

A battery of 4 questionnaires and a test were used to evaluate learners and determine their learning styles and preference, approach to learning (multiple intelligence type test, Kolb's test, Grasha-Riechmann student learning style inventory, Test for determining the deep and surface approach to study, reading proficiency test – here the partial results of 2 tests are presented). The students (e-learning course) also filled in the questionnaire (feedback) dealing with their study and finding what other benefits than developing their reading skills have they reached from the course.

2.2 Procedure and sample

The questionnaires were handed out to all subjects at the beginning of the semester (3 originally face-to-face groups), a short explanation of the research and its aims (although not all) were presented and the instructions for compiling the questionnaires. Students were informed they would be given the results of the tests. At the same time students were informed about the possibility to decide which form of education they preferred. They already had some experience with Moodle and thus it was not necessary to conduct a workshop on how to use LMS. After the one-semester-course students were tested on the reading skills. The results of the tests as well as the results compiled from questionnaires were managed as well all statistical analysis were carried out in the STATISTICA software.

The sample consisted of 79 pre-service English language and literature teachers studying at the University of Presov. They were all Slovak students of the 3rd year teacher training programme ranging 21-25 years. There were 13 males and 66 females. For the purpose of the research they were divided in two group (with form as a grouping variable), however there were physically three groups – 2 face-to-face and 1 e-learning group.

3 Statistical analysis and results

The scores obtained at each questionnaire were compared with normality (distribution). Based on the results the appropriate tests were applied (chi-square and Mann-Whitney tests used in the present study). The significant effects of a group variable were found in case of multiple intelligence types.

Table one presents the data compiled after the experiment and it analyses the relationship between the form and evaluation.

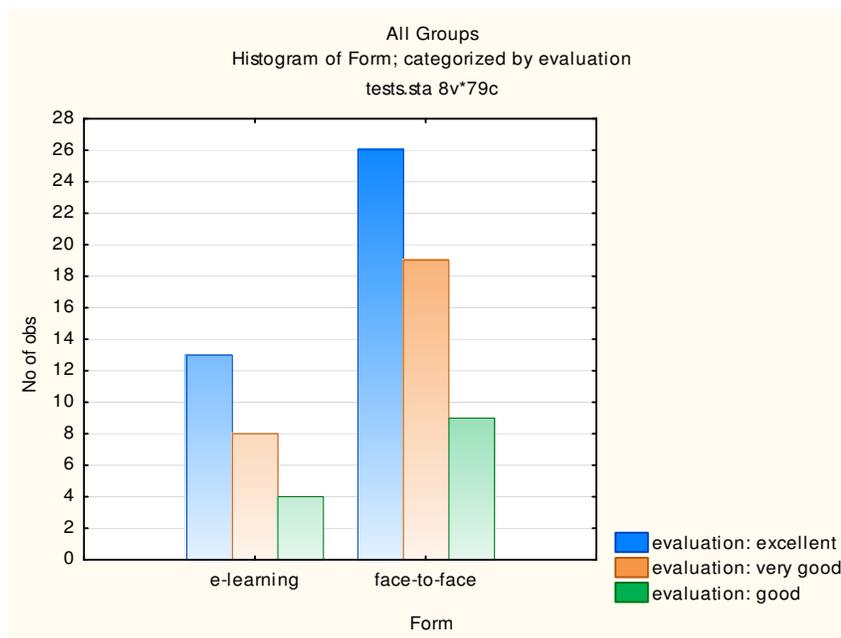
Table 1 Cross tabulation – form x evaluation

			Evaluation			total
			Excellent	Very good	well	výbone
Form	e-	count	13	8	4	25
		expected value	12,3	8,5	4,1	25,0
		% within row	52,0%	32,0%	16,0%	100,0%
		stand. residuum	,2	-,2	-,1	
Face-to-	Face-to-	count	26	19	9	54
		expected value	26,7	18,5	8,9	54,0
		% within row	48,1%	35,2%	16,7%	100,0%
		stand. residuum	-,1	,1	,0	
Total		count	39	27	13	79
		expected value	39,0	27,0	13,0	79,0
		% within row	49,4%	34,2%	16,5%	100,0%

It is clear from the table 1 that the Pearson chi-square cannot be applied as the minimum expected cell counts for all cells should be at least 5 and thus we use the alternative test - Likelihood Ratio chi square test. The output shows that the observed value of the test statistic is 0.107 This statistics has an asymptotic chi-square distribution with 2 degrees of freedom. The p value of 0.948 implies that there is no row-by-column interaction what confirms our hypothesis. It (the similarity of both groups) can be also clearly seen in the following graph.

Table 2 Chi square tests – categories *form* and *evaluation*

	Value	Df	Asymp.
Pearson Chi-	0.107	2	0.948
Likelihood Ratio	0,107	2	0,948
N of Valid Cases	79		



Graph 1 Counts in the categories - forms and evaluation

Similarly we assumed that in both groups (face-to-face and e-learning form) there would be heterogeneous distribution in relation to the approach to learning (deep and surface). This assumption, hypothesis was also confirmed.

To determine the students' approach to learning we used the standardised test (in Czech language, translated by Turek)¹. Deep and surface approaches to learning were firstly described by Marton and Säljö and in a course of time it was discussed many times. The students with surface approach to study are mostly described the ones who are not interested in learning, those who are learning just “have learnt”, their motives can be anxiety, fear. Generally they frequently focus on unrelated parts of the task, they rather memorise than understand, they do not distinguish between important and supporting information. They quickly forget what they learnt.

¹ ENTWISTLE, N. et al. 1996. *Guidelines for Promoting Effective Learning in Higher Education*.

On the other hand, the learners with deep approach to learning like learning as they are interested in studying in learning new things and they want to understand. They can express their own opinion and give arguments. They remember well and in case they forget something they are able to reconstruct it or to find it in different source. The following table provides the data about the distribution of data regarding form and approach to learning.

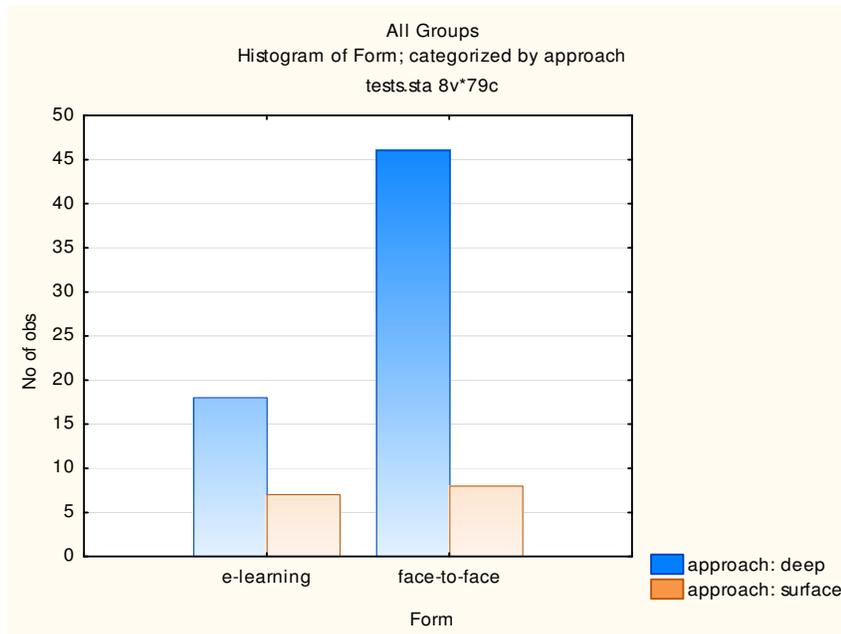
Table 4 Cross tabulation – categories form and *approach to learning*

			Approach		Total
			deep	surface	
Form	e-learning	count	18	7	25
		expected value.	20,3	4,7	25,0
		% within row	72,0%	28,0%	100,0%
		stand. residuum	-,5	1,0	
	Face-to-face	count	46	8	54
		expected value.	43,7	10,3	54,0
		% within row	85,2%	14,8%	100,0%
		stand. residuum	,3	-,7	
Total		count	64	15	79
		expected value.	64,0	15,0	79,0
		% within row	81,0%	19,0%	100,0%

Table 5 Chi – square tests – categories *form* and *approach to learning*

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1,931	1	0,165		
Continuity Correction	1,169	1	0,280		
Likelihood Ratio	1,842	1	0,175		
Fisher's Exact Test				0,219	0,140

To assess the relationship between the form of study and the learners with their approaches to learn we again used the chi-square test. The result of Likelihood Ratio chi-square test confirms the null statistical hypothesis about the independence of the observed values. The selection of the form is not influenced (according to our results) by the students approach to learning. The graph also displays the differences between the samples.



Graph 2 Number of observed cases in the categories form and *approach to learning*

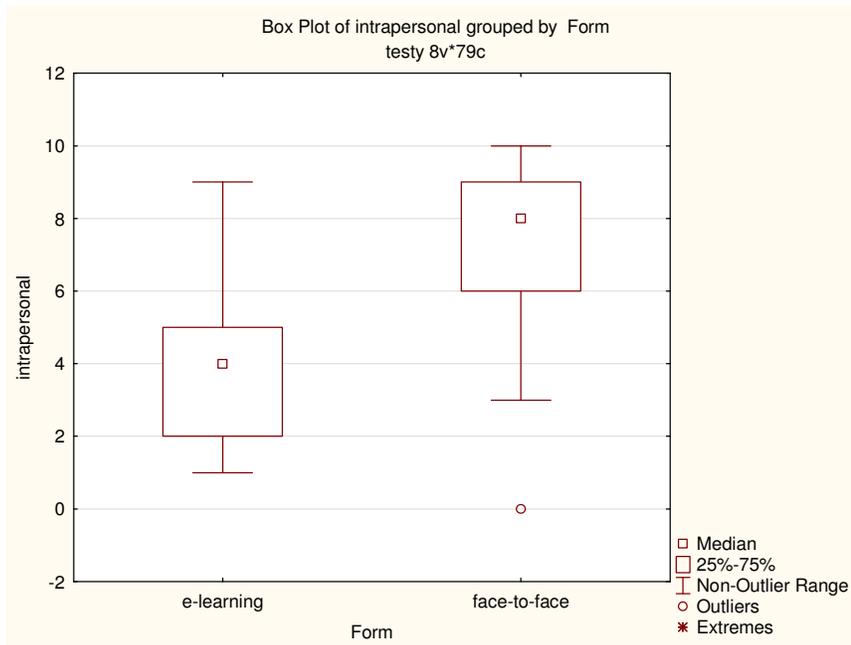
The next test was used to determine the (prevailing) intelligence types of learners (according to Gardner). We wanted to find out whether students with prevailing intrapersonal intelligence type would incline to e-learning from and how they would function in a virtual space. We expected that based on the fact, that the physical contact is limited, the focus is on individual work (however good e-course involves various types of interaction) they would prefer the e-learning course. It was not surprising that there is a significant relationship between the form of education and intelligence types (we are dealing with the intrapersonal type now). However, most students with intrapersonal intelligence prevailing decided to study in the face-to-face course. (In the table can be found two types of intelligence – intrapersonal and interpersonal.)

Table 6 Mann Whitney test results

	form	N	Mean rank	Sum of Ranks
interpersonal	face-to-face	53	35,80	1897
	e-learning	25	47,34	1183,50
	total	78		
Intrapersonal	face-to-face	53	48,46	2568,50
	e-learning	25	20,50	512,50
	total	78		

	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Interpersonal	466,500	1897,500	-2,125	,034
Intrapersonal	187,500	512,500	-5,132	,000

From this data it can be concluded that form of education was statistically significantly different in case of intrapersonal intelligence types ($U = 187,5, p = ,000$)



Graph 3 Box and whiskers graph – intrapersonal intelligence: form

4 Conclusions

The aim of the small-scale study was to find out whether students can reach the same results in both forms face-to-face and e-learning. This assumption was confirmed. What we were satisfied with was the fact that students realised that thinking about the process and strategies that should be applied led them to better understanding.

“I used most of the techniques, however coincidentally. Now I know which technique to use and when. Now when I understand how to become more and more efficient I think I can explain it better to my students. I also understand why reading text (with pre-reading activities) are organised in a way they are...”

Results of the present study coincide with the results of studies (e.g. Ladyshewski, 2004)

On the other hand Karambelas (2013) states that Students prefer real classrooms over virtual and there are also studies bringing the results where the face-to-face students were more successful than e-learning course students.

It has been many times written and it has been mentioned in this study as well – there are many factors affecting a good lesson – does not matter whether it is face-to face or e-lesson. We hope that a well-built course can to certain extent substitute the environment and using alternative methods and techniques to offer students enriching and motivating environment for autonomous learners. Many teachers are afraid that e-learning substitutes teacher what is not true; the means of communication is changed, the role of the teacher, but the teacher is present in the complete course, in every material.

The experience of pre-service teachers with the e-courses in the role of students (possibly also as designers, scenario writers and moderators) is beneficial for their further work.

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