

E-LEARNING ENVIRONMENT FOR ESP TEACHING

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Abstract: Due to the changed teaching conditions caused by the COVID-19 pandemic, universities quickly adapted and applied different forms of distance learning and different tools and technologies, which required new teaching skills. This study aims to investigate communication skills for e-teaching from the point of view of university ESP teachers. Interactive learning environments, satisfaction with visual communication within applied e-tools and e-teaching, effects of information and communication technology (ICT) implementation, and self-efficacy in the conditions of online teaching in real time were examined. The sample consisted of 14 ESP teachers from two universities. After two semesters of e-teaching, e-teachers with varying degrees of experience agree that their interactive participation is moderately high. There were no differences between teachers with varying e-teaching abilities. Total interactive involvement, the quality of visual communication, the effects of ICT implementation, and the categories of self-efficacy and satisfaction with ICT implementation were statistically related. The research results provide a general assessment of e-teaching communication skills and the quality of e-teaching implemented in real time.

Keywords: ICT implementation, interactive involvement, visual e-communication, teaching skills

1. INTRODUCTION

An e-teacher should organize, create, and coordinate the learning process, including many other activities carried out in an interactive learning environment for teaching English for Specific Purposes (ESP) at the university level. As a result, effective communication is critical in distance education. Some authors emphasise (Müller et al., 2021) time and space in the context of e-teaching, which includes the two-way activity of the teacher and the student in creating an e-learning environment. It implies two basic ways of communicating in the e-environment: asynchronously, in the time period chosen by the communication participants via e-mail, discussion groups, etc., and synchronously, in real time, i.e., simultaneously, using tools with visual and auditory support (Sitar-Tăut, 2021). Although both methods of communication have their advantages and disadvantages in terms of cognitive engagement and individual personality traits, studies emphasise the lack of interaction as a cause of low motivation for distance learning (Fedeli, 2021). As a result, the importance of teaching skills for successful communication in the e-environment is highlighted alongside the importance of synchronous e-learning communication, as it supports both learners and teachers in developing their interactive learning environment.

In synchronous e-teaching communication, i.e., communication mediated by computer, interaction is distinguished as a formative aspect of successful teaching and includes awareness of one's own behaviour and awareness of the behaviour of others within social interaction, such as conversation. Diverse cognitive and behavioural activities recognise participation in conversation, which is based on interpersonal awareness. The degree of interpersonal awareness is the extent to which a person pays attention to the communicative behaviour of others and himself during interaction and how he responds to what he observes (Müller et al., 2021). Thus, successful interactions comprise of: *attentiveness*—awareness of the communicative behaviour of others during the interaction, i.e., awareness of signs in the immediate social environment; *perceptiveness*—a person attaches to his own behaviour and the behaviour of others based on listening and observation; *responsiveness*—the tendency to react to a certain social circumstance and to adjust the reaction based on knowing what to say and when to say it (Veerabathina, 2019).

The goal of this research is to investigate communication skills and activities in ESP e-teaching from the point of view of teachers, i.e., interactive involvement in e-teaching communication in the framework of information and communication technology (ICT) implementation at a university supported by a conference system (different videoconferencing platforms and tools were used: Zoom, MS Teams, Google Classrooms) and face-to-face e-communication in real time. The research includes satisfaction with visual communication and self-efficacy in the conditions of online teaching in real time.

2. METHODOLOGY

2.1 Sample

The sample included 14 ESP teachers at the University of Novi Sad and the University of Belgrade. They voluntarily participated in the research and had different experiences before the pandemic in the use of e-teaching platforms in asynchronous and synchronous time modes. During the pandemic, they were teaching within the framework of videoconferencing platforms or tools that provide synchronous visual and auditory communication.

Teachers assessed their own skills for e-teaching in October 2020 and, after two semesters of synchronous e-teaching, in June 2021.

2.2 Instruments

Four research instruments are used in the study.

The scale of visual e-communication was developed and used to examine the e-communication of ESP teachers. It contains five statements that are evaluated on a five-point scale.

The internal consistency of the scale is 0.78.

A scale of self-efficacy and satisfaction with ICT implementation was also made for this research. It contains six statements that are evaluated on five-point scales.

The internal consistency of the scale is 0.81.

The scale of e-teaching's effects is made up of eight statements, each of which is graded on a five-point scale.

The internal consistency of the scale is 0.85.

The Interaction Involvement Scale (IIS) (Cegala et al., 1982) is based on a self-assessment of interactional involvement in cognitive dimensions. It includes 18 items for self-evaluation of interactional involvement, i.e., behaviour and emotions, during the conversation. Most research uses a five-point scale to evaluate items. It consists of three subscales: the perceptibility scale, the attentiveness scale, and the reactivity scale (cognitive sensitivity). The scale reliability is 0.65–0.82, and the internal consistency is 0.72–0.87. According to validation studies, subscales are associated with variables such as sociability, anxiety, neuroticism, adaptability, flexibility, interaction management, empathy, and social relaxation.

Statistical data analysis was calculated using the macro PROCESS (Hayes, 2013) for SPSS.

3. RESULTS AND DISCUSSION

ESP teachers' skills for e-teaching (Table 1) were assessed in October 2020 and after two semesters of synchronous e-teaching, i.e., in June 2021. The development of abilities for using information and communication technologies (ICT) in teaching was facilitated by their continuous application, and after two semesters, a significant number of ESP teachers recognised their progress.

Table 1: ESP teachers ICT competence

	beginner	occasional user	expert
ESP teachers ICT competence before the pandemic	51%	40%	47%
ESP teachers ICT competence after 2 pandemic semesters	55%	57%	61%

After two semesters of ICT implementation, university teachers who identify themselves as beginners, occasional users, or expert users evaluate their interaction involvement regarding their awareness of the communicative behaviour of others during the interaction, perceptiveness to their own behaviour and the behaviour of others based on listening and observation and their tendency to react to a certain social circumstance. (Table 2).

Table 2: Interactive involvement of ESP teachers with different ICT competences

	beginner	occasional user	expert	all teachers	importance	correlation coefficient
interaction involvement	3.89	4.25	4.19	4.07	0.611	0.588
attentiveness	3.78	4.00	3.88	3.99	0.496	0.782
perceptiveness	4.10	4.31	4.13	4.26	0.589	1.564
responsiveness	4.25	4.59	4.50	4.41	0.369	0.976
respondents	3	7	4	14		

Note. arithmetic mean of the score (1-5)

The ESP teacher's interaction with students in an environment where students can talk and see each other at the same time was about average. They rate their cognitive sensitivity, i.e., their ability to adapt their responses to the social context of e-teaching, as high. It was significantly higher in terms of their awareness of others' communicative behavior during the interaction as well as their perceptiveness to their own and others' behavior based on listening and observation. Also, it was shown that ESP teachers' cognitive sensitivity is the most pronounced factor of interactional involvement as a stable interpersonal competence. In this interactional setting, ESP teachers are equally focused on both students and teaching activities, as well as on the messages and received information and on all other aspects of

successful collaboration. This indicates their ability to communicate effectively and efficiently with students while using ICT.

Teachers who assessed their skills during the pandemic as average (occasional users of e-technology in teaching) gave the highest assessments for all components of their own interactive involvement, although they are similar to the mean values of the assessments of teachers who are experts in e-teaching. (Table 3)

Table 3: Effects and satisfaction with ICT implementation, self-efficacy, evaluation of the ESP teachers' level of visual communication

	beginner	occasional user	expert	all teachers	importance	correlation coefficient
effects and satisfaction with ICT implementation	2.64	3.10	3.15	2.99	0.049*	3.361
self-efficacy with ICT implementation	2.80	3.19	3.26	3.15	0.168	1.773
level of visual communication	2.98	3.00	2.88	2.78	0.879	0.367
respondents	3	7	4	14		

Note. * $p < 0.05$; arithmetic mean of the score (1-5)

Assessments of the effects and satisfaction with ICT implementation and the level of visual communication show that ESP teachers are pleased with the teaching activity they implemented and its outcomes. Also, based on their ICT implementation skills, they have very different ideas about how teaching affects students.

Table 4 shows the results of an analysis of the link between interactive use of ICT and the level of visual communication in synchronous e-teaching.

Table 4: Correlations between interactive involvement and visual communication level

interactive involvement	visual communication level
<i>attentiveness</i>	0.29
<i>perceptiveness</i>	0.38*
<i>responsiveness</i>	0.19
overall interactive involvement	0.37*

Note. * $p < 0.05$

Visual communication level has a moderately positive relationship with overall interaction involvement as well as attentiveness. The more the ESP teachers were able to talk to each other and send and receive verbal messages, the more interactive they were judged to be. Awareness of the communication behaviour of students in the context of synchronous e-teaching contributed to the level of visual communication. ESP teachers demonstrate the ability to understand social cues. Thus, ESP teachers recognised the importance of the level of visual communication in synchronous e-teaching through their students' communicative behaviour during interaction.

The relationship between interactive involvement in synchronous e-teaching, self-efficacy, satisfaction with ICT implementation, and level of visual communication is shown in Table 5.

Table 5: Correlations of interaction involvement, level of visual communication, self-efficacy and satisfaction with ICT implementation

	effects of synchronous e-teaching	self-efficacy and satisfaction with ICT implementation
overall interactive involvement	0.45**	0.35*
level of visual communication	0.39*	0.51**

Note. * $p < 0.05$

Just as the level of visual communication is related to the overall score of interactional involvement, a high correlation between the effects of synchronous e-teaching and the teacher's perception of self-efficacy and satisfaction with ICT implementation was determined by the communication aspects of e-teaching, both with the quality of visual communication and with interactional involvement as a complex communication competence. The fact that there is a

positive link between total interactive involvement and outcomes of synchronous e-teaching, self-efficacy, and satisfaction also shows how important it is for ESP teachers to have their communication skills tested.

4. CONCLUSION

ESP teachers believe they have moderately developed interactive involvement skills as a part of communication competence. Teachers are pleased not only with the results of ICT implementation but also with their teaching activity, which confirms their progress, i.e., the development of skills for using e-technologies in pandemic conditions. Teachers with varying levels of developed e-teaching skills evaluated the effects of e-teaching in significantly different ways. Positive and significant relationships exist between the estimated degree of interactive involvement, the quality of visual communication, and the assessment of teaching effects, self-efficacy, and satisfaction with e-teaching, which further explains their interplay. Also, based on their own evaluations, ESP teachers are highly involved in synchronous e-teaching interactions. Since the quality of ICT implementation can be affected by a large number of factors, such as the technical side of e-learning implementation, how people perceive e-learning tools, motivational and cognitive factors, content-specific factors, social factors, skills, time, and external factors, it could be helpful to look at which factors play a role in these teacher assessments.

In addition, universities should create conditions for appropriate implementation of ICT and their application in e-teaching and, accordingly, adopt strategies for defining the source of their income. Furthermore, higher education institutions should organize adequate training for their teaching staff and familiarize them with the capabilities of various technologies, apps, and tools, as well as the benefits they provide. The Ministry of Science could be included in the testing of these questions. For example, educational institutions could be required to provide free internet, different software, or a learning platform, as well as participate in the creation of a strategy for the ICT administration in higher education. Further research could focus on the use of individual technologies at colleges and universities in Serbia. The use of social networks is also interesting for students and should be explored further. Future research should also focus on the importance of ESP e-teaching in Serbia.

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