Abstract

We have been encountering the distance form of distance learning practically since the 18th century, and its significance lies in the fact that teaching takes place at a distance through various communication channels. We moved to distance online learning to a large extent in early 2020, when the SARS-Cov-2 coronavirus pandemic broke out. This form of teaching has affected virtually all levels of education not only in the Slovak Republic but also around the world. In our article we deal with how distance online teaching affected the two most numerous study programmes at the Faculty of Economics and Management of the Slovak University of Agriculture in Nitra at the bachelor's and engineering level through a questionnaire survey in May 2021, when only online distance learning was taught. Students already had experience with online teaching and senior students could compare the full-time and distance form of education.

Keywords: distance teaching, economics, management, online teaching, questionnaire survey

JEL Classification: I20, I21, I23, I29

1. Introduction

Year 2020 was very dramatic because of expansion of a new Coronavirus called SARS-Cov-2 (Cucinotta, D., Vanelli, M., 2020; World Health Organization, 2021). Due to the rapid spread of this virus schools of each level of education were closed all around the world (UNESCO, 2020). In a very short time full-time learning was reorganized to distance learning and teachers, students and their parents had to adapt to a new situation – distance learning.

Bruder (1989) defines distance learning as a type of education in which students and their lecturers are separated. In other words, they reside in different physical locations, and the instruction between them is communicated using different technologies.

The origin of distance education dates to the first correspondence-based course. This course took place via the postal service in Boston, USA, in the 18th century. It is therefore not a new way of education. Nowadays the distance education moved to the virtual world thanks to development in information and communication technologies (video streaming, audio streaming, internet connection, hardware, and software development) (Pregowska et al., 2021).

Caleb Phillips was the first who used distance learning, which was known as correspondence education at that time. He led training in shorthand, which is an abbreviated symbolic writhing method. Lessons were taken weekly via the United States postal service (Philipps, 1728; Clark, 2019). Women were the first entrants of distant courses. Other example of distance learning course was Sir Isaac Pitman who included students’ feedback to his distance learning courses.
Again, it was a course in shorthand. Shorthand texts were sent via post to students. Students after receiving these texts were obliged to send them back using the same communication source for grading and corrections. Students obtained a certificate of expertise in stenographic skills after completion the correspondence course (Matthews, 1999).

People of lower financial status were able to study thanks to this new way of education. After three years an institution was founded to take care over the correction of shorthand exercise, called the Phonographic Correspondence Society (Verduin, 1991).

Nowadays people thanks to information and communication technologies can attend world-class lectures and courses online which are available for everyone from any place at the world just to stay at home. It was impossible several decades ago because students had to physically attend classes. Now they must only register online and be online on the course. As mentioned before, this form of education is not very expensive and almost everyone can participate. The only limits are technically – students must have an adequate hardware, software, and a steady Internet connection. Distance courses are both for beginners as for advanced students. Almost everything can be learned online (from the basics of physics to quantum chromodynamics) (Coursera, 2021).

Modern information and communication technologies, e. g. computers and high speed internet is used in modern distance education as a communication channel as letters were used in the past, with at least 80 percent of the course content delivered online (Allen, Sieman, 2011; Shelton 2005).

Today we don’t need a stationary computer to study. The content of the lecture or course can be displayed on a laptop (Kapenieks et al., 2015; Albó et al., 2019), a tablet (Fraszczyk, 2020; Nasongkhla, Sujiva, 2015), a smartphone (Stotz, Lee, 2018; Cotwright et al., 2020), or with the use of VR (Virtual Reality) goggles (Lee et al., 2010; Taxén et al., 2002). These technologies enable students to obtain knowledge, information and understanding. Students and lecture participants can also read and respond to emails at any time via these technologies. There is also cost reduction because instructions for students are delivered cheaper than before, and much less time is needed to deliver these instructions. Distance education is therefore more viable and accessible in many cases.

2. Data and Methods

In our article, we dealt with the distance form of education at the Faculty of Economics and Management of the Slovak University of Agriculture in Nitra and its impact on students. We conducted a questionnaire survey in May 2021, which was attended by a total of 261 students of the faculty = 100%, specifically the study programs Business Economics (99 first - and second-degree students = 37,93%) and Business Management (162 first - and second-degree students = 62,07%). These two study programs are represented at the faculty by the largest numbers of students and are also very similar in content as we can see in following tables.

Following aspects were examined in the questionnaire survey (each aspect contained more parts, but for this article only the most important were chosen):

- **Conditions for teaching - technical problems** - what was the most common technical problem in the implementation of distance online teaching by students.
- **Use of digital technologies** – how can students use digital technologies and modern software for distance learning and which form of teaching material do they prefer most or how can they access or gain teaching materials.
• **Process of online teaching** – if the distance online teaching is restrictive for selected study programs and how students compare the quality of distance online teaching to the full-time form.

• **Evaluation of student results** – how students evaluate their own performance during online teaching and what form of testing they prefer most.

• **Social and psychological aspect** – how much time students spend on distance online teaching and if they can concentrate the whole time on lectures and how they work on exercises, where they must be more concentrated and prepared when the teacher asks a question.

**Table 1: Matching compulsory subjects of both study programs – first and second degree**

| Subject                  | Number of compulsory subjects | Compliance with the second study program | Proportion |
|--------------------------|-------------------------------|------------------------------------------|------------|
| Business Economics       | 33                            | 30/33                                    | 91 %       |
| Business Management      | 33                            | 30/33                                    | 91 %       |
| Business Economics       | 16                            | 13/16                                    | 81.25 %    |
| Business Management      | 16                            | 12/16                                    | 75 %       |

Source: Own processing based on study plans FEM SUA in Nitra

**Table 2: Matching compulsory elective subjects of both study programs – first and second degree**

| Subject                  | Number of compulsory subjects | Compliance with the second study program | Proportion |
|--------------------------|-------------------------------|------------------------------------------|------------|
| Business Economics       | 16                            | 6/16                                     | 37.5 %     |
| Business Management      | 13                            | 6/13                                     | 46.15 %    |
| Business Economics       | 8                             | 2/8                                      | 25 %       |
| Business Management      | 7                             | 2/7                                      | 28.57 %    |

Source: Own processing based on study plans FEM SUA in Nitra

3. **Results and Discussion**

The distance form of education always brings with it certain problems, not only technical, but also personnel or psychological. We found out the students' opinion on these individual problems in a questionnaire survey.

**Conditions for teaching - technical problems**

The most common technical problems were internet / audio / video dropouts (68.16%). Students cannot solve these technical problems on their own because the mistake may not be on their side, but rather on the side of the internet provider or teacher. Other problems formed a minority of the problems that are unfortunately part of distance education.
Use of digital technologies

Level of ability to work with technologies - students are mostly handy and have no problem connecting to online lessons. Applications and technical environments do not cause them serious problems or stress in teaching. For some problems, they can handle themselves (35.89%) or rarely need help (41.99%). 22.12% of students surveyed need occasional or frequent help.

Balanced development of students’ technological skills in higher education is crucial for their personal, social, and professional future and consequently, for their quality of life, with the integration of digital technologies being relevant in the change of the academic work organization, in the relations between learners, teachers, and institutions, and in the new ways of teaching and learning (Rodrigues, A.L., Cerdeira, L., Machado-Taylor, M.d.L., Alves, H., 2021).

Similar research was conducted at the Secondary Vocational School of Tourism and Gastronomy in Nitra, Slovakia. According to the research the the majority of students are ready for distance online learning. A great percentage of students have Internet access and are the owners of technological devices that can be used for educational purposes. Furthermore, students are able to work individually on their own and do not require any help from other people while working on assignments. Although they prefer different teaching methods, the synchronous online courses are their priority because it enables them to have direct contact with their teachers and peers. Both teachers and students are familiarised with this new learning environment and it shows that distance online learning is possible (Poláková, P., Klímová, B., 2021).

Form of teaching materials - despite distance learning, students prefer teaching materials only in printed form (14.9%) or rather in printed form (37.92%). This represents a total of 52.82% compared to digital forms of teaching materials, which are preferred by 38.38% of respondents. 8.8% of students cannot judge whether they would prefer printed or digital learning materials. This attitude is related to the study program, respectively subjects that are taught and the fact whether teaching materials in printed or digital form are available.

The script store of the SUA in Nitra also switched to the possibility of purchasing scripts or textbooks in the form of an online order. Thus, students can order the necessary study literature for their home, even in the event of a deteriorating pandemic situation, provided that the study literature is in stock. However, some educators provide their students with study materials in the form of PDF documents, video recordings, or other digital means via LMS Moodle, MS Teams or other platforms.

During the recent vast growth of digitalization, e-learning methods have become the most influential phenomenon at higher educational institutions. E-learning adoption has proved able to shift educational circumstances from the traditional face-to-face teaching environment to a flexible and sharable type of education (Saeed Al-Marooof, R., Alhumaid, K., Salloum, S., 2021). It is also important to identify the critical success factors for E-learning using various methods, like multi-criteria Analytic Hierarchy Process (AHP) and Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) techniques to enhance the educational process (Alqahtani, Y. A., Rajkhan, A. A., 2020).

Process of online teaching

Online teaching is or is not restrictive of the study program - for these study programs, the overall online or distance form of teaching should not be a major problem, as these are study
programs that do not teach e.g., in laboratories and practical and theoretical subjects can also be implemented online. According to a questionnaire survey, it is almost 50% to 50%. For 40,18% of respondents, online teaching is not restrictive at all or almost at all. For 32,06% of respondents this is already limiting, and 27,77% of students could not comment on this question. It is possible that there would be more significant differences in responses for more demanding study programs or programs with a focus other than economics and management.

The truth is that online teaching affects not only students but also university teachers. It is therefore important to monitor the influence of factors on each side (student and teacher) in online teaching: (1) the impact of COVID-19 on higher education institutions, and challenges faced by these institutions; (2) the use of various tools and teaching strategies employed by these institutions; (3) the teaching and learning experience of schools and school teachers; (4) the impact of COVID-19 on the training of healthcare workers; (5) the learnings about COVID-19, and treatment strategies from patients; and (6) the mental health of students as a result of COVID-19 and e-learning. (Vijayan, R., 2021).

Also, creation and application of partial individual study plans for study programmes will be more helpful in case of distance online teaching (Virágh et al., 2020).

The quality of online teaching compared to the full-time form – up to 51,02% of students are of the opinion that online form of teaching is definitely or rather of lower quality. At the same time, only 14,22% are of the opinion that the online form is sooner or definitely better than the full-time form of teaching. 34,76% of students think that online teaching is as good as full-time teaching. The results may also be related to the approach of teachers to the teaching process, and the experience of students with full-time teaching also plays a role here, so there are more relevant results from senior students who have also experienced full-time teaching. Surveys have already been conducted in other countries to compare the full-time and distance forms of teaching, e.g. in United Kingdom (Limniou, M., Varga-Atkins, T., Hands, C.; Elshamaa, M., 2021) or in Spain. The main conclusion of the study in Spain was that the students prefer to continue with the face-to-face learning process (49%) rather than online teaching (7%) or, failing that, mixed or blended learning (44%), where the theoretical classes could be online and the practical classes could be face-to-face (Costado Dios, M.T.; Piñero Charlo, J.C., 2021).

Evaluation of student results

Evaluation of own performance during online teaching - when evaluating students' results, it is often important not only how the students are evaluated by the teacher, but also how they know how to evaluate their performance during online teaching by themselves. 33,86% of students rate their performance during online teaching as worse and 26,65% rate their performance as better during online teaching. 39,5% students rate their performance as the same during online as during full-time teaching.

Preference in the implementation of the test - the presentation of study results during the semester, continuous testing as well as final testing and the form of testing - online test, online oral exam, elaboration, and presentation of the project are related to one's own performance. In general, students prefer an online test (71,33%) to written tests (23,02%) or an oral form of examinations, either online (1,58%) or full-time (3,16%).

Social and psychological aspect

Although students may perceive online teaching as an easy activity, even more so in higher grades, the time they have to study is certainly more than in full-time teaching. The questionnaire survey shows that up to 31.38% of respondents state that they devote much more
time to distance learning than full-time. This statement is certainly related to the fact that students do not concentrate during teaching, respectively they also perform other activities occasionally (63,88%) or often (22,57%), such as watching a lecture or exercise. Exercises require a higher concentration, but it also depends on the subject and the subject matter. Lectures are rather passive, where students largely just listen to the interpretation of the curriculum and get less involved, even more so only at the request of the teacher.

Online teaching certainly has an impact on students' overall performance, which is what it has to do with social settings (Kümmel, E., Moskaliuk, J., Cress, U., Kimmerle, J., 2020).

4. Conclusion

The distance form of teaching is certainly the way to achieve education, but perhaps only in the exceptional situation we are currently experiencing, or a combination of full-time and distance forms is more effective. Unfortunately, the situation where the full-time form of teaching was changed to the distance form through online teaching, or partly combined, has been going on for almost two years (at the time of writing). From a questionnaire survey conducted at students of the Faculty of Economics and Management, Slovak university of Agriculture in Nitra, we learned the views of students on the distance form of teaching carried out online and what problems students encounter in this form of education. The survey shows that even though these are study programs, which to a large extent may not require full-time teaching, the full-time form of teaching is still more acceptable for students.

The opinion of the other party, namely university teachers, on the distance form of education certainly deserves attention. Because not only students, but also university teachers themselves have some difficulties, respectively at the beginning of the use of this form of education certainly had. However, this issue is the subject of further research.

It was a new situation for both parties that needed to be addressed in a relatively short time. So we all had to adapt, and only time will tell what consequences this pandemic has had on the teaching of tertiary education, in this case at FEM SUA in Nitra.

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