



## **International Journal of Technology in Education and Science (IJTES)**

[www.ijtes.net](http://www.ijtes.net)

### **Students' Attitudes to the Online University Course of Management in the Context of COVID-19**

**Miglena Angelova**

University of National and World Economy, Bulgaria

#### **To cite this article:**

Angelova, M. (2020). Students' attitudes to the online university course of management in the context of COVID-19. *International Journal of Technology in Education and Science (IJTES)*, 4(4), 283-292.

The International Journal of Technology in Education and Science (IJTES) is a peer-reviewed scholarly online journal. This article may be used for research, teaching, and private study purposes. Authors alone are responsible for the contents of their articles. The journal owns the copyright of the articles. The publisher shall not be liable for any loss, actions, claims, proceedings, demand, or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of the research material. All authors are requested to disclose any actual or potential conflict of interest including any financial, personal or other relationships with other people or organizations regarding the submitted work.

## Students' Attitudes to the Online University Course of Management in the Context of COVID-19

Miglena Angelova

---

### Article Info

#### Article History

Received:  
11 May 2020

Accepted:  
16 August 2020

#### Keywords

Online education  
COVID-19  
Tertiary education

### Abstract

The present paper tracks the attitudes of the Bulgarian students towards online education provided by the universities during the quarantine period due to the pandemic situation caused by COVID-19. The study presents data and analysis of results from an empirical survey conducted in April 2020 among students in different stages of their tertiary education in Bachelor Degree. Our findings show that students define online lectures with the same quality as traditional lectures in auditoriums. In terms of intensity there is no clear expressed opinion of responders with slight predominance of people who claim that the intensity of online learning is less than the traditional lecture. Major part of responded students claims that they manage to focus better in online lecture. Students are convinced that in online environment they work easier in individual tasks, but not in team works.

### Introduction

Pandemic situation caused by COVID-19 is compared recently to the Third World War – so huge are damages and so enormous are changes and consequences in daily life of million people. Anti-epidemic measures taken by many governments around the world in an attempt to prevent a greater spread of the infection in fact have affected not only the economic life in all levels and sectors but also have influenced the big changes in education systems in all stages – primary, secondary and tertiary education. Now the overall educational system and all people working in it, we were all forced by these unprecedented pandemic circumstances to change the manner of providing knowledge to our students – from traditional lectures in auditoriums to online learning and online meetings. Online trainings and courses from one side are not so unknown tools to provide knowledge but on the other – they were perceived as an additional manner to the core university activities and practices so far in Bulgaria. Now due to the state of emergency, which was declared on the territory of Bulgaria on 13 March 2020, all universities authorities had to decide how to proceed with the semester schedule and at the same time – to guarantee the quality of the educational process.

This study is focused especially on the attitudes towards the online learning of students in the University of National and World Economy in Bulgaria – the biggest university in Bulgaria, according to the number of students. The responders had to compare according their personal understanding the traditional lectures in auditorium (the situation in which we started the current semester) to the online lectures and tasks in the pandemic context (the situation in which we will finish the current semester) by different criteria such as concentration, quality of lectures, intensity etc.

### Literature Overview

The available literature on the general topic dedicated to online training and online education is really rich and covers different aspects according to the authors' interest and scientific focus. Even in the recent publications on the subject we could differ these points of authors' view. Many of studies explore benefits that online training could provide in order to help and support overcoming various problems in the field of health. Some of researches are oriented to the business organizations including in support relationship between managers and their employees. For instance, Gayed et al. (2019) provide a comparison between online and traditional (face to face) training in the complex business context. The authors try to understand and analyze the different types of trainings in line of the improvement the level of managers' confidence, which on his side to support the mental health of the employees. For this purpose the scholars have conducted two surveys – one for the managers participating on the traditional face-to-face courses and second – to the managers including in online training groups. Finally after profound data analysis they conclude: Our findings suggest both face-to-face and online

modes of delivery provide effective means of improving managers' confidence to initiate conversations and address mental health issues within their teams. Both modes of delivery appear able to create sustained changes in confidence levels. However, a key challenge of online modes of delivery appears to be retention rates and program adherence (Gayed et al., 2019). The researchers have presented as well one of the possible solutions that could lead to overcoming this identified problem: Additional strategies involving more engaging means of improving retention in online training need to be determined to maximize the impact of new online training programs (ibid).

The way that workers have been trained in online courses is the focus of the study dedicated to the online education again in the business organization context. The authors admit that nowadays different forms of online training courses are most popular mode for business organizations due to the numerous benefits that offered. The scholars explore comprehensively this specific aspect and resume: The training model that frames the e-learning is different from classroom training. In the e-learning model, the student already has the training contents and he studies independently and at their own pace. Given this new approach, one of the main functions of the teacher will be to guide the student in the learning process. Their work will be more that of a "facilitator" of learning that will allow information to become knowledge and learning (Jiménez, Rodríguez, Vidal, 2017).

There are also studies dedicated to the usage of new technologies including and online techniques in the higher education. Some of them are focused on the way that lecturer gets used to implement these new technology in practice. For instance Brinkley-Etzkorn (2018) has used the Technological Pedagogical Content Knowledge (TPACK) model as a conceptual baseline for understand the influence of the development training on teaching effectiveness. In order to achieve the purpose of the study, the scholar used three data sources: first – the training course syllabi, second – the students' scores and finally – the results from a special design online survey. The author conclude: instructors demonstrated: (a) statistically significant changes in their incorporation of elements into the redesign of course syllabi and (b) improvements in their teaching abilities as self-reported in the follow-up survey. However, there were no significant changes in their student evaluations of teaching pre- and post-training. Overall, instructors demonstrated modest improvements in their teaching effectiveness (Brinkley-Etzkorn, 2018).

New technologies supporting teaching and learning are also well-developed and well-explored sub-subject. For instance Bilyanova scrutinizes the role of information and communication technologies in teaching foreign language. The author considers the issue in terms of improving many aspects and gaps of the Russian educational system and its integration to the global academic society. The scholar admits: The use of ICT in learning a foreign language helps to intensify and personalize learning, promotes interest in the subject, makes it possible to avoid subjective assessment... It should be noted that ICT is both a material supply means and the controlling means. New technologies make it possible to individualize the learning process in the pace and depth of the course. Such differentiated approach gives a great positive, because it creates the conditions for the success of every student, causing the students' positive emotions, and thus affects their learning motivation (Bilyanova, 2017). Mavroudi and Tzagari (2018) also develop the topic connected to the implementation of ICT in online language training but they present the question from the teachers' point of view. They admit the following: The findings point to the need to incorporate scaffolds in the design of online training environments that will help teachers feel confident in the online training environment and especially empower those that have not participated in such training courses before. Overall the study advocates for good practices that can be relevant and informative for higher education authorities and teacher training institutions responsible for designing (blended or online) professional training schemes for pre- and in-service English language teachers (Mavroudi & Tzagari, 2018). On the other hand, some of researches explore in depth the technical aspects and promote different improvements of platforms for online learning. Examples for such studies are: Mamun, Lawrie and Wright (2020), Spolaôr & Benitti (2017), Nikolić et al. (2019), Prestridge (2019) etc.

Abe presents a deep analysis on the successful online learning in relations to linguistic styles and the Five-factor model of personality in the fully online asynchronous classes. The scholar claims: There was no support for the views propagated on the internet that extraversion, introversion, or anxiety hinder or foster online learning. The most robust predictor of academic performance throughout the semester, independent of the personality variables, was the number of words students contributed to the online discussions. (Abe, 2020).

Vayre and Vonthron (2019) explore in depth the matter of interaction between psychological factors from one side and participation and achievements in exams among students in online university courses. The scientists have conducted a special empirical survey and as a summary and conclusions from their findings they claim the following: Perceived social support positively affected online students' academic self-efficacy and learning

engagement; sense of belonging to a community fostered online students' academic self-efficacy and learning engagement; academic self-efficacy promoted learning engagement as well as the completion of the online course; learning engagement (i.e. perseverance) positively influenced online students completion of their courses; intra-individual psychological processes (self-efficacy beliefs and learning engagement) occupy a central position in the final model (Vayre & Vonthron, 2019). A team from Stanford University has explored the subject in terms of virtual reality and its influence on the science students. They provide comprehensive analysis through 3 phases research on the students perceptions and conclude: The data suggest that learning through a culturally relevant pedagogy -based virtual reality design (CRP-VR) enhanced students' perception of the connection between the science content and its socio-political application to social justice issues. Implications highlight the potential of leveraging VR technology as a means to provide science instruction that explicitly affords students the opportunity to connect content learning and social action (Brown et al., 2020). Demosthenous, Panaoura and Eteokleous have focused on the team assignments in online learning. Their findings are the following: Results indicated that although students were at the same time in-service or pre-service teachers at primary and secondary education and they were expected to implement group work at their teaching, they had low self-efficacy beliefs in using it as students in online learning environment. Their major difficulties were related with their fear about possible negative consequences concerning their marks due to other members' behavior and the lack of experiences (Demosthenous, Panaoura, Eteokleous, 2020). Uğur (2020) has explored in depth the influence and role of digitalization in university's activities and different forms of learning. The scholar considers the different level of using new technologies by students and their lecturers. Therefore, the author claims: Students and instructors have diverse experiences and relationships with technology that affect their media perceptions, which in turn affect their receptivity towards using specific media for educational purposes and their ideas about digital education. Through their understandings of digital literacy and education and their uses of these media, we can infer their comfort levels, familiarity, and ideas about their own levels of expertise with digital tools (Uğur, 2020).

The different barriers faced in online learning in tertiary education are developed in depth by Markova, Glazkova and Zaborova (2017). The scholars admit for the weaknesses of online learning process: These involve low self-organization, lack of control on the instructor's side, lack of effective interaction and sense of isolation, which obviously decrease their satisfaction with online learning experience. All these researches in fact explore different aspects of implementation new technologies in the universities' practices in order to achieve better quality of learning according to expectations and close to the habitudes of modern students. The current article presents the attitudes and perceptions of students who, due to the emergency circumstances, had to change the way they studied and the way they achieve knowledge.

## Method

The present research is a result of the pandemic caused by COVID-19, which for the really short time has affected all activities in our everyday life, including normal university functioning and academic schedule. The Bulgarian Parliament has declared the State of Emergency on 13 March 2020 with various measures in order to prevent the spread of the infection. All normal businesses, culture, sport and educational activities have been canceled and the social distance has been promoted. Due to the academic autonomy, every university of the country had to decide how to continue working during this emergency period. The responsible managing authorities in the University of National and World Economy have decided to transform all our lectures and all activities with students from traditional auditoriums to online meetings using for that purpose MS Teams. Therefore almost a month after the beginning of our summer semester, we had to change drastically and in a short time the way we transfer and provide knowledge to our students.

This was precisely the background of the present study, whose major goal is to understand the students' attitudes and perceptions to the online learning and online education. Here we have to emphasize and outline the fact that all our responders are students in regular form of the 4-years Bachelor Degree studies. They all were also forced by the emergency circumstances to change their academic activities and to move in online environment. These students form our target group for the current research. In fact they were asked to fill the questionnaire through comparing the different characteristics in traditional lecture and online lecture.

The survey was conducted in the middle of April 2020 – almost a month after the announcement of the state of emergency in the country and therefore, they have enough time to understand the benefits and the weaknesses of these two types of learning. The questionnaire is consist of 11 questions, 2 of them are open and the rest – closed. They collect information about attitudes of students on the provided so far online learning based on different criteria such as: quality of learning; intensity of learning; concentration, task (both individual and

team), the abilities to remember information presented in traditional and online lectures, technical parameters. Also all responders were asked to identify up to 3 benefits and also up to 3 weaknesses of online lectures. The questionnaire is absolutely anonymous in order to collect reliable information.

We also have to explain that our target group was the students doing regular studies in Bachelor Degree in the University of National and World Economy in Bulgaria. The questionnaire was prepared through Google forms and online released among our target group. Students were asked to fill the questionnaire on a voluntary basis. As a result of our initiative we have received 197 filled forms.

## Results and Discussion

According the responses achieved from the questionnaire, we have the following demographic profile: 73.6% of responders are female and the rest 26.4% are male (see Figure 1). This relatively low share of male responders could be explained through several factors: first – all students were informed for the goal of the research and the fact that the completion the questionnaire is based only on their voluntary participation. Therefore in such situation woman are more efficient. On the other hand – men are more pragmatic than women and to invest their time in questionnaire with no benefits obviously is not their preferred method to spend the time.

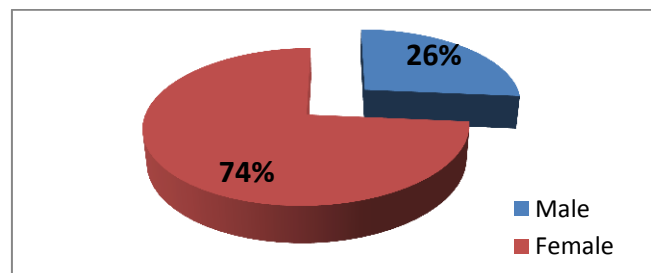


Figure 1. Sex of the Responders

The demographic profile of our responders is supplemented by the answer of the question connected to their birthplace. The results is not surprising (see Figure 2), having in mind several basic facts: the University of National and World Economy is situated in the capital of Bulgaria and knowing the reputation and academic prestige of the institution, many of students who are born in the capital, choose to study here. On the other hand, the major part of the population in Bulgaria lives in the District centers, where are coming our biggest share of students and respectively – responded students of our questionnaire.

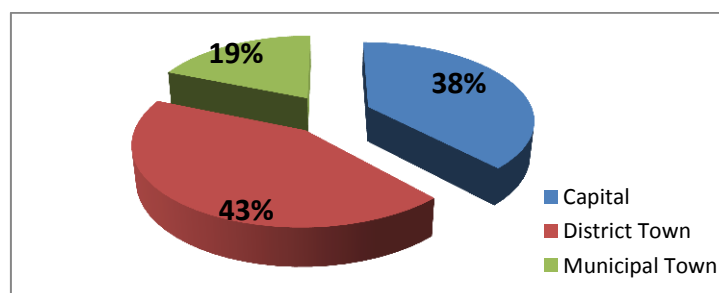


Figure 2. Birthplace of the Responders

The next question is consisting of three statements and students were asked to fill the questionnaire according their personal understanding thought the 5-degree Likert scale (Fully Disagree – Disagree – Undecided – Agree – Fully Agree). The statements are the following:

1. The quality in terms of online teaching is the same as in traditional lectures in auditoriums.
2. The quality in terms of online teaching is better than that of traditional lectures in auditoriums.
3. The quality in terms of online teaching is worse than traditional lectures in auditorium.

The results achieved by these statements are presented on Figure 3. As it can be seen on Figure 3, the major part of responders claims that the quality that lecturers provide through online learning is the same as the traditional forms of lectures. Here from all 197 responders we have 57 answers with “Fully agree” and also 76 “Agree”. This means that we have 133 positive answers in total or almost 68% of total responders.

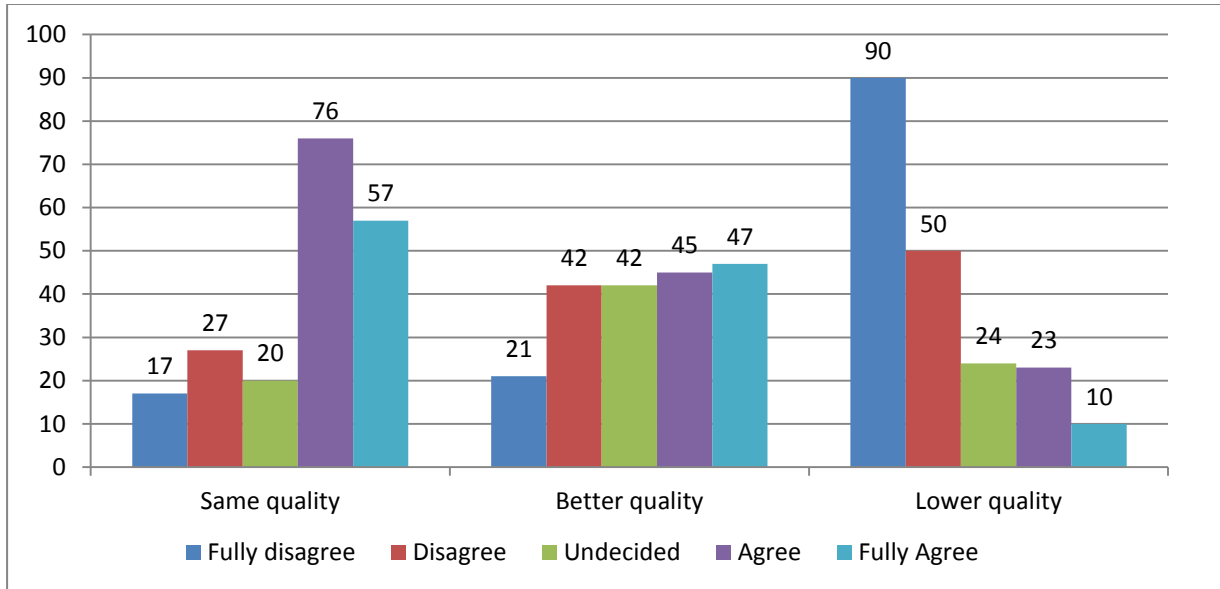


Figure 3. Attitudes of Students to the Quality of Online Learning Comparing to the Traditional Lectures

The second statement “The quality in terms of online teaching is better than that of traditional lectures in auditoriums” fails to accumulate any significant share of responses – all answers here are with close results between 42-47 responses, except the extreme negative one (with 21 responses).

We could claim that the impressive part of students disagreed (140 in total) for the third statement “The quality in terms of online teaching is worse than traditional lectures in auditorium”. Therefore this categoricalness could be interpreted that the lecturers succeed to achieve the same quality of learning despite of the changed manner of leading lectures. On the other side, this is good base to consider other options for improvements and expanding the quality through the different tools and possibilities provided by the online communications and online environment.

The next question is designed by the manner of the previous one, but here we ask students on the intensity of the online learning comparing to the traditional lectures (see Figure 4). The statements are as follows:

1. The intensity of online classes is higher than in traditional lectures in auditoriums.
2. The intensity of online classes is less than in traditional lectures in auditoriums.
3. The intensity of the online class is absolutely the same as in the traditional lectures in auditoriums.

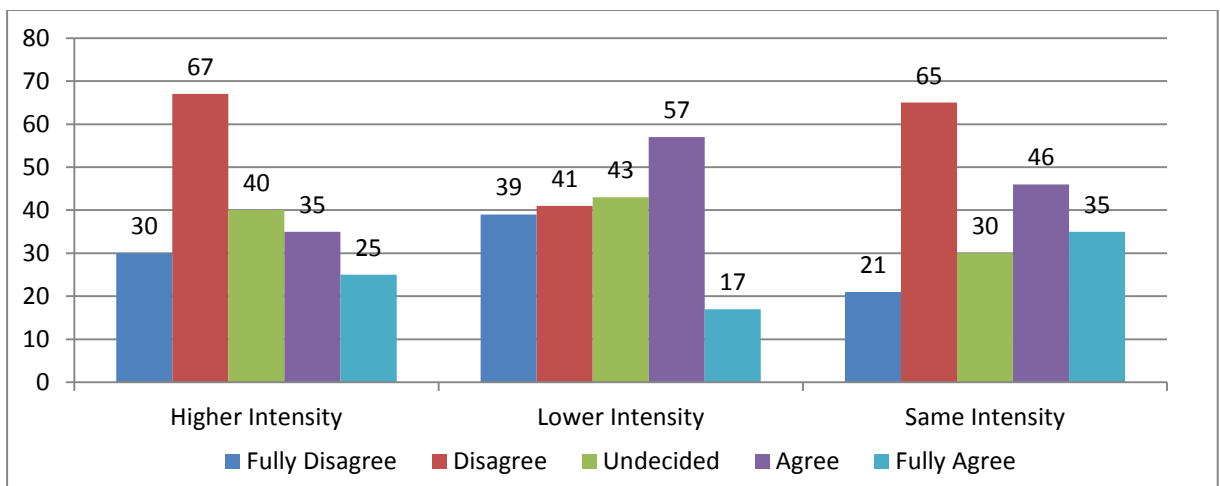


Figure 4. Attitudes of Students to the Intensity of Online Learning Comparing to the Traditional Lectures

The results of these statements are presented on Figure 4. Here we could consider, based on the results, that there is no so clear expressed cumulative answer forming the opinion of the major part of the responded students. From one side we have almost the half of responders (97) who claim that are not agree (the two degrees of negative answers) to the statement that the intensity of online lectures is higher than in traditional

ones. At the same time, 74 students have claimed positive to the statement that the intensity of online classes is less than in traditional lectures. On the third statement proclaiming that the intensity in both forms is the same, we have 86 people in total with negative responses. Therefore, we could conclude that in terms of intensity there is no clearly accumulate opinion although there is a slight predominance of responses which claim that the intensity of online class is less than in traditional lectures in auditoriums.

Through the next question we try to reveal the opinion of student on the concentration both for lecturers and for students themselves comparing to the concentration in traditional lectures. Here we have the following 6 statements:

1. The lecturer manages to focus more on online teaching than on traditional lecture
2. The lecturer manages to focus less on online teaching than on traditional lecture
3. The lecturer focuses in the same way in an online and traditional lecture
4. I manage to focus more on online lecture than on traditional lecture
5. I manage to focus less on online lecture than on traditional lecture
6. There is no difference in my concentration in online and traditional lecture

Figure 5 and figure 6 visualize the results achieved by all these statements. In terms of lecturers' concentration, according to the opinion of students, we have again not so clearly accumulated answers. For instance, on the first statement claiming that the lecturer manages to focus more on online teaching comparing to the traditional, we have 56 undecided answers – the major group of responders is here. On the second statement claiming that the concentration of lecturer is less on online class comparing to the traditional, we have clearly expressed disagreement (almost 79% of responds). On the other hand, on a third statement the half of the total responders is agreed that the concentration of lecturer is the same in both forms of learning (see Figure 5). Therefore, we could summarize, based on the achieved answers that the responded students are relatively cautious and discreet when it comes to evaluate the lecturers.

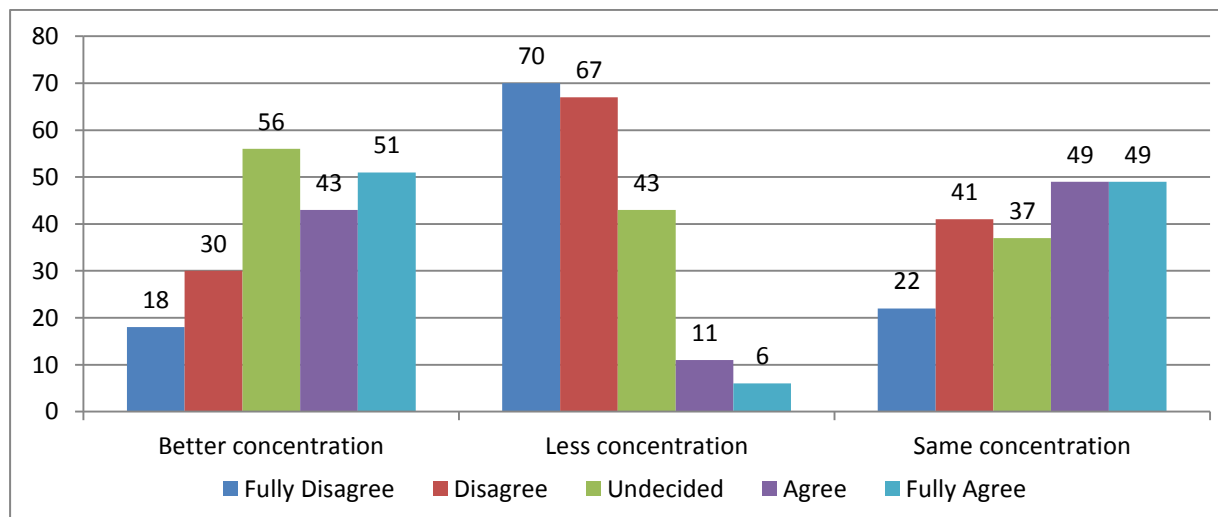


Figure 5. Attitudes of Students to the concentration of Lecturers in Online Learning Comparing to the Traditional Lectures

As the concentration of the students themselves is concerned, the results could be considered as more clear – the major part of students claims that they manage to concentrate better in online learning than the traditional lecture (101 responses in total of positive scales). The results of the rest of statements related to the students' concentration just confirm and relatively repeat this opinion of the major part of the responders (see Figure 6).

The next question collects information about the task work again in comparison between traditional and online lectures. Here we have again 6 statements according to the type of assignment – individual or teamwork. The statements are the following:

1. I complete easier individual tasks in online class than in traditional class form.
2. I complete with more difficulties individual task in online class than in traditional class form.
3. There are no differences between my efforts in individual works in online classes or in traditional class form.
4. Team works in online environment are more difficult to implement than in traditional class form.

5. Team works in online environment are easier to implement than in traditional class form.
6. There are no differences between my efforts in team works in online classes or traditional class form.

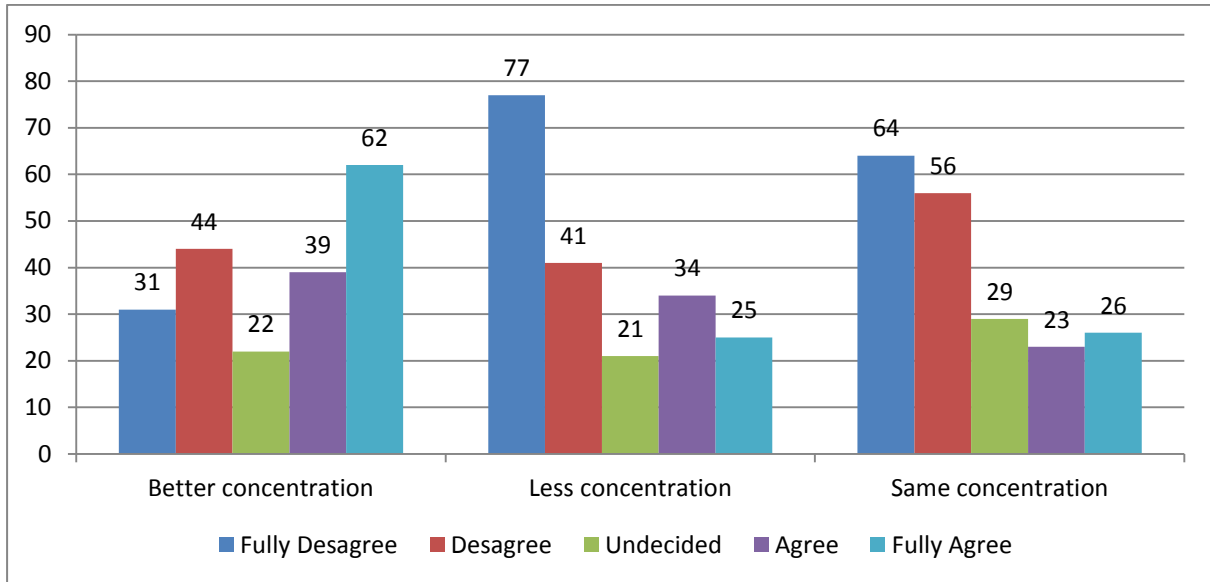


Figure 6. Attitudes of Students to their own Concentration in Online Learning Comparing to the Traditional Lectures

Figure 7 presents the results achieved in comparison between individual tasks implementation in traditional and online environment. The major part of our responders (126 in total) claims that they work easier in individual tasks in online environment. This opinion could be explored in practice by lecturers providing more diverse and interesting tasks to students. In fact the other two statements in the same context just confirm this initial categoricalness.

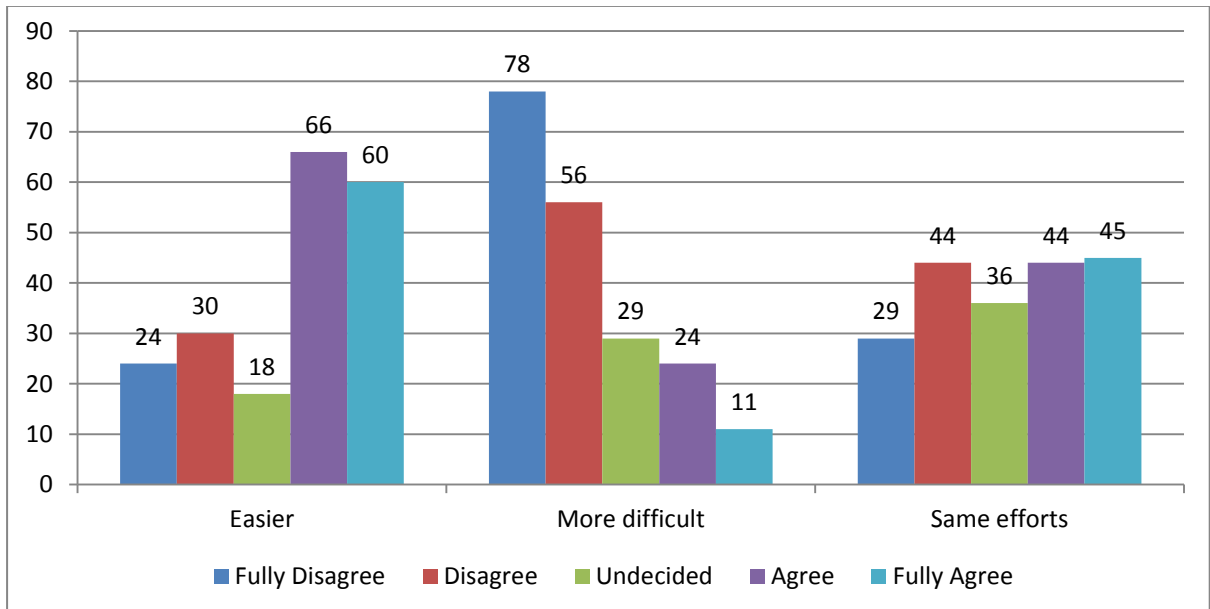


Figure 7. Attitudes of Students to Individual Work in Online Environment Comparing to the Traditional University Forms

On the other hand, on Figure 8 are visualized the results identifying the students' opinion in team works. Here we could see different picture – 105 students have responded negatively to the statement “Team works in online environment are easier to implement than in traditional class form”. Therefore we could accept that online environment is more profitable for individual tasks than for team works and to design our assignments according this line of opinion.



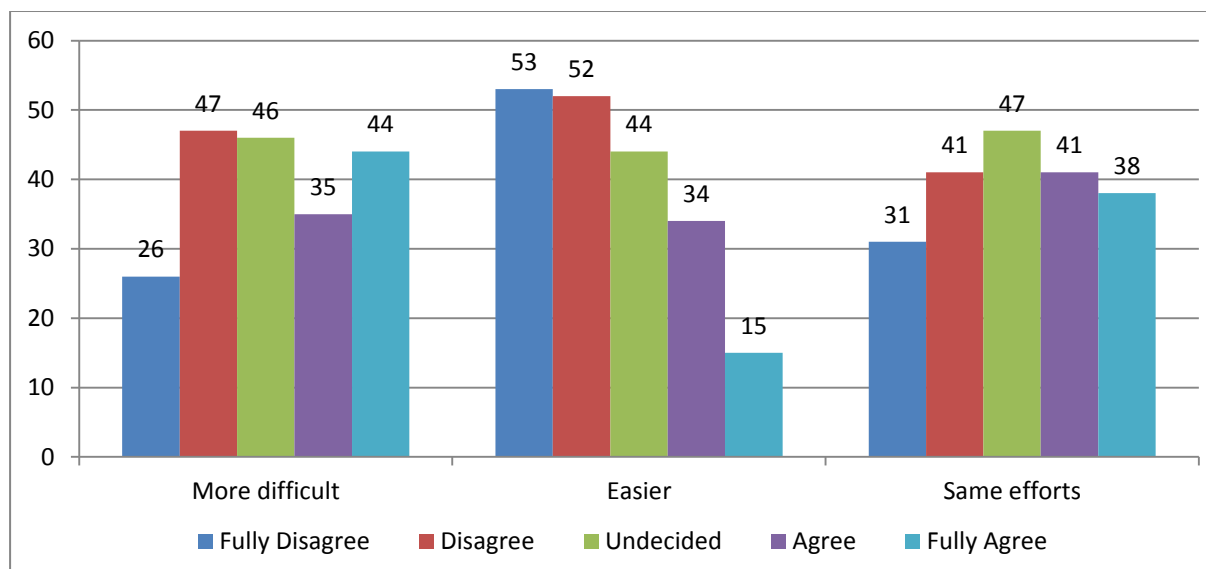


Figure 8. Attitudes of Students to Team Work in Online Environment Comparing to the Traditional University Forms

The next question is dedicated to the way of memorization in comparison between online and traditional forms of lectures. For this purpose we have again three statements as follows:

1. I manage to memorize more material in online class than in traditional one.
2. I manage to memorize less material in online class than in traditional
3. I remember almost the same material in online class as in traditional one.

The results, which are presented on Figure 9, show that there is no one clearly expressed cumulative opinion. The most categorically answers we have on the second statement, where the majority part of students (116) have claimed negative response. Here we have to take into consideration that the exams of the current semester in fact are forthcoming. Therefore maybe part of this ambiguity could be explained with the lack of final results (so far) on the studied subjects this semester.

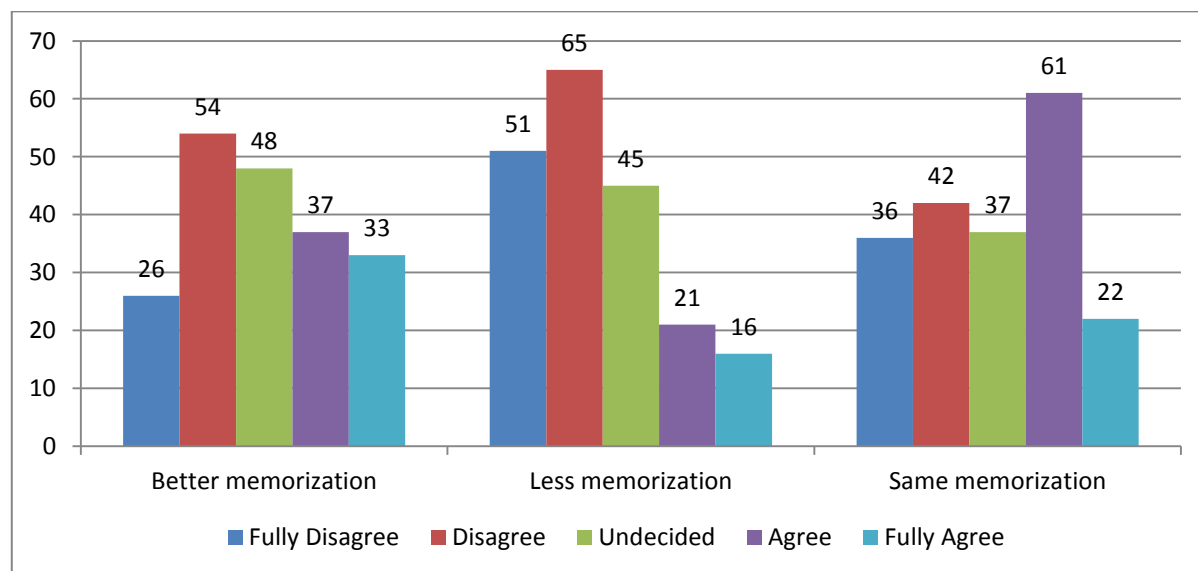


Figure 9. Attitudes of Students to the Memorization of Lecturers in Online Learning Comparing to the Traditional Lectures

Final closed question from our survey is focused on the technical aspects of online learning. Here we have four statements and students were asked to respond choosing by three optional responses "Often", "Never" and "Sometimes". The statements are as follows:

1. The lecturer has difficulties using Teams.
2. I have difficulties using Teams.

3. The lecturer's Internet connection is not good.
4. My Internet connection is not good.

Figure 10 illustrates the cumulative answers. On the first statement we have the majority of students claim that sometimes the lecturer has difficulties using Teams. It could be consider that this finding is absolutely logical having in mind that in fact all lecturers and students we had no sufficient time to explore in depth initially the platform before the real lectures. Therefore, in the first online lectures it is normal to have some difficulties, which are visible due to the main leading role of the lecturer. The answers to the rest of the statements especially those concerning the technical aspects of the students also are logical and easily explicable with the role of students.

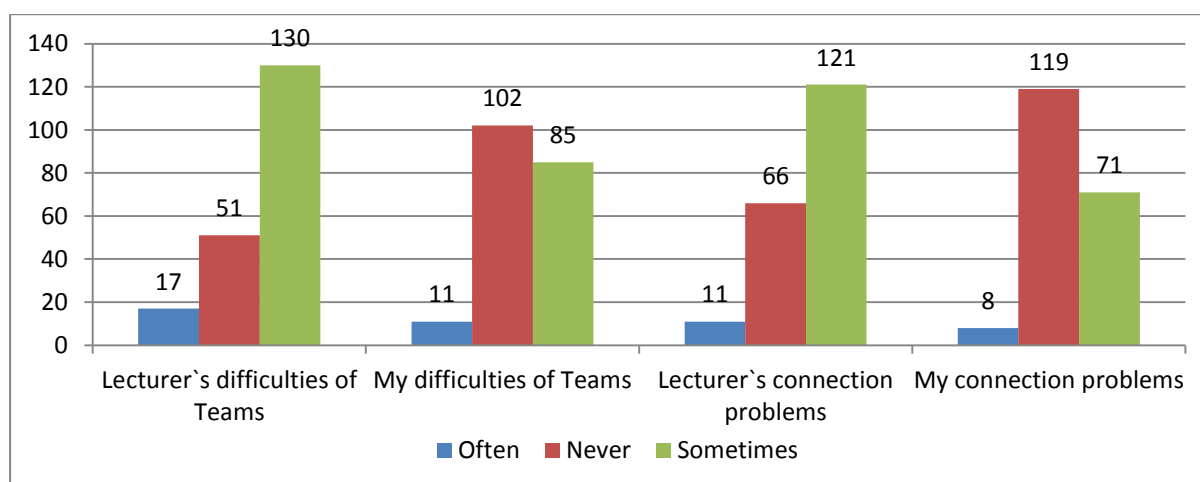


Figure 10. Attitudes of Students to the Technical Aspects of Online Lectures

As benefits of online lectures students pointed out the following more important arguments according to their opinion: time saving for transport from home to university and back; less stress than the traditional lecture; easier communication between lecturer and students; freedom to access online lecture – students could be in fact everywhere (the needs is only to the internet connection); combination between home comfort and academic activities. As major weaknesses of the online lectures students have identified more often different kind of technical problems. In addition to this, they have described the lack of direct contact with their colleagues, continuous work with computer, which could reflect to the eyestrain and headaches.

In a summary, we could conclude that despite of the emergency circumstances, due to the pandemic of COVID-19, students in regular form of study are really flexible and adaptive to the online learning. The results of this initial survey could be expanded in national survey in order to understand comprehensively the attitudes of students in regular form of education towards online lectures during the pandemic period in Bulgaria. Some of the benefits of online learning such as individual tasks could be implemented and in traditional forms of university activities.

## Conclusion

COVID-19 has transformed completely our life in an extremely short period and we all, as citizens of community, have to obey rules and procedures, which we believe as impossible and unthinkable just a month before. COVID-19 has overturned the traditions built over centuries, including and in the field of tertiary education. In such an unusual situation in which everyone is looking for a solution, online learning provides the opportunities to maintain the normalcy. Students are adaptive and flexible to this new line due to the fact that online communication is already part of their habitudes. Our task now is to expand successfully this habitude covering also the field of education and academic activities.

## References

- Abe, J. A. A. (2020). Big five, linguistic styles, and successful online learning. *The Internet and Higher Education*, 45, <https://doi.org/10.1016/j.iheduc.2019.100724>.

- Bilyanova, A. (2017). ICT in Teaching a Foreign Language in High School, 7th International Conference on Intercultural Education “Education, Health and ICT for a Transcultural World”, EDUHEM 2016, 15-17 June 2016, Almeria, Spain, *Procedia - Social and Behavioral Sciences* 237(2017) 175 – 181.
- Brinkley-Etzkorn, K. E. (2018). Learning to teach online: Measuring the influence of faculty development training on teaching effectiveness through a TPACK lens, *The Internet and Higher Education*, 38, 28-35. <https://doi.org/10.1016/j.iheduc.2018.04.004>.
- Brown, B. A., Ribay, K., Perez, G., Boda, P. A., & Wilsey M. (2020). A virtual bridge to cultural access: Culturally relevant virtual reality and its impact on science students. *International Journal of Technology in Education and Science (IJTES)*, 4(2), 86-97.
- Demosthenous, G., Panaoura, A., & Eteokleous N. (2020). The use of collaborative assignment in online learning environments: The case of higher education. *International Journal of Technology in Education and Science (IJTES)*, 4(2), 108-117.
- Gayed, A., Tan, L., LaMontagne, A. D., Milner, A., Deady, M., Milligan-Saville, J. S., ... & Glozier, N. (2019). A comparison of face-to-face and online training in improving managers' confidence to support the mental health of workers. *Internet Interventions*, 18. <https://doi.org/10.1016/j.invent.2019.100258>
- Jiménez, M. A. F., Rodríguez, E. M., & Vidal, L. I. E. (2017). The tutor's roles and functions in online education. Qualitative study within the context of worker training, 7th International Conference on Intercultural Education “Education, Health and ICT for a Transcultural World”, EDUHEM 2016, 15-17 June 2016, Almeria, Spain, *Procedia - Social and Behavioral Sciences* 237 (2017) 196 – 202.
- Mamun, M. A., Lawrie, G., & Wright, T. (2020). Instructional design of scaffolded online learning modules for self-directed and inquiry-based learning environments. *Computers & Education*, 144. <https://doi.org/10.1016/j.compedu.2019.103695>
- Markova, T., Glazkova I., & Zaborova, E. (2017). Quality Issues of Online Distance Learning, 7th International Conference on Intercultural Education “Education, Health and ICT for a Transcultural World”, EDUHEM 2016, 15-17 June 2016, Almeria, Spain, *Procedia - Social and Behavioral Sciences* 237 (2017) 685 – 691.
- Mavroudi, A., & Tsagari, D. (2018). Profiling of English language teachers as trainees in an online course and ensuing implications. *Computers & Education*, 126, 1-12. <https://doi.org/10.1016/j.compedu.2018.06.029>.
- Nikolić, V., Petković, D., Denić, N., Milovančević, M., & Gavrilović, S. (2019). Appraisal and review of e-learning and ICT systems in teaching process. *Physica A: Statistical Mechanics and its Applications*, 513, 456-464.
- Prestridge, S. (2019). Categorising teachers' use of social media for their professional learning: A self-generating professional learning paradigm. *Computers & Education*, 129, 143-158.
- Spolaôr, N., & Benitti, F. B. V. (2017). Robotics applications grounded in learning theories on tertiary education: A systematic review, *Computers & Education*, 112, 97-107.
- Vayre, E., & Vonthron, A.M. (2019). Relational and psychological factors affecting exam participation and student achievement in online college courses. *The Internet and Higher Education*, 43, <https://doi.org/10.1016/j.iheduc.2018.07.001>.
- Uğur, N. G. (2020). Digitalization in higher education: A qualitative approach. *International Journal of Technology in Education and Science (IJTES)*, 4(1), 18-25.

---

### Author Information

---

**Miglena Angelova**

University of National and World Economy  
 1700 Sofia, Student Town, UNWE  
 Bulgaria  
 Contact e-mail: [m.angelova@unwe.bg](mailto:m.angelova@unwe.bg)

---