



THE ANALYSIS OF STUDENTS' ATTITUDES TOWARD DISTANCE LEARNING AT THE UNIVERSITY

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Abstract: The paper presents results of the research conducted at the FE in Jagodina upon the termination of the state of emergency over the coronavirus pandemic in the Republic of Serbia. The research aimed to determine the attitudes of students (N = 87) about the quality of university teaching using Google Classroom and Zoom applications. Students fulfilled their pre-exam obligations in the Methodology of Environmental Studies and Methodology of Physical Education using the above applications. The research was conducted by applying descriptive and survey methods, with special attention paid to students' competence to use Google Classroom and Zoom applications, student motivation and self-confidence, quality and understanding of materials from the aspect of applicability of acquired knowledge and the quality of pre-exam obligations (assignments) they had to fulfill during the state of emergency. The results show that the students recognized advantages of distance learning, that they did not have major difficulties using the applications, that such a mode of working has positively affected their motivation to participate in online teaching, and that they generally consider the given assignments interesting and useful for their future work with children. The research confirmed that the students' attitudes toward the possibilities of raising the quality of teaching by applying electronic materials and modes of communication are positive, except that the quality and understanding of materials processed during the state of emergency should be reviewed and examined in more detail.

Key words: university teaching, distance learning, student, attitudes

EMERGENGE AND DEVELOPMENT OF DISTANCE LEARNING

The old saying *Live and learn* gains even greater importance in the changing world of today. Learning never ends; there is always this inner need to learn

and progress, there are situations that require new, 'fresh' knowledge. Faster and more intensive scientific and technological development leads to the accelerated penetration of information technology (IT) into the sphere of education, which results in numerous transformations of education at all levels and in all forms (Jorgić, 2014; Gilbert, 2015). Traditional ex-cathedra learning and contact teaching are losing the battle with e-Learning programs that offer immeasurable options and advantages.

Since some students could not attend classes every day, nor could they travel to faculties, universities, and other educational institutions, the mid-twentieth century saw the beginning of distance learning development. This form of education was created to enable students to learn regardless of geographical, social-economic, and other constraints, and its evolution, depending on the form of communication, organizational approach, and the technology used to realize it, has undergone several phases.

Distance learning was first applied in 1840 by Englishman Isaac Pitman, who taught shorthand (Stanković, 2006). He mailed his students short passages from the Bible to transcribe them and received transcriptions from *his students in return* for evaluation also by mail. That mode of working met the minimum basic features of distance learning - a physical distance of students and teachers, an organization that provides contents - as opposed to self-learning, a curriculum - learning must have a goal, and evaluation (assessment) of learning (Pokorni, 2009).

Distance learning has undergone 4 developmental phases: 1) correspondence systems; 2) educational television and radio systems; 3) multimedia systems and 4) Internet-based systems (Zenović et al., 2012, p. 128). Although laymen tend to equate distance learning with computer use, based on the above, we see that the application of the first forms of distance learning happened more than a century before the advent of the first computers. Today, different names and definitions of learning with the help of electronic media are used in the process of modernizing education in the world. The United States Distance Learning Association¹ defines distance learning as 'the acquisition of knowledge and skills through mediated information and instruction, encompassing *all technologies* and *other forms* of learning at a distance'. This definition unites all diversified names for e-learning: e-learning, web-based learning, distance learning, on-line learning, and others.

Distance learning is an 'instructional method of working with students that do not require students and lecturers to be present in the same room', i.e. 'takes place when the teacher and students are physically separated by a great distance and when technology (i.e. speech, video, data, and print) is

¹ www.usdla.org

used to bridge this the gap' (Mandić, 2009, p. 2). Apart from the spatial distance between teachers and students, distance learning is characterized by an indirect connection achieved through different technical means (Vilotijević & Vilotijević, 2008; Finch & Jacobs, 2012), and depending on that, there are different criteria for its classification.

THE ADVANTAGES AND SIGNIFICANCE OF DISTANCE EDUCATION

Massive application and availability of the Internet, electronic sources of knowledge (books, magazines, databases, encyclopedias ...), development of information and educational technology have caused changes in the organization of teaching at all levels. Under the pressure of technological progress, higher education institutions have lost the privilege of being the basic source of knowledge, so today students learn a lot more outside the faculty – through the Internet, films, media, and other means (Stanković & Golubović-Ilić, 2018). Nevertheless, in our country, there is a certain dose of resistance to the concept of distance learning and the use of the Internet for educational purposes, the inertia of the entire system, from primary school to university (especially with educators who have more than 30 years of work experience) and the trend of finding justifications for insufficient application of such a mode of working in inadequate equipment of educational institutions. Despite the advantages of applying electronic sources of knowledge and educational technology in teaching, the teaching staff at all educational levels slowly introduces innovations and are hesitant about changing the established working method. One of the reasons is the fact that applying distance learning mainly implies additional engagement, acquisition of knowledge, and professional development.

Although compared to the traditional, classical education, distance learning has 'been frequently controverted and rejected alternative' (Zenović et al., 2012, p. 133) the need for current and continuous updating of knowledge and skills in today's society has influenced the change of attitudes, and thus a more frequent use of new technologies for educational purposes. However, the development of online courses in higher education does not happen overnight (Sun & Chen 2016). One of the strongest advantages of distance learning² is flexibility in every sense: we set teaching (work) time, a teaching method and work pace ourselves. Apart from time flexibility, geographical independence is particularly significant (Adamov & Segedinac, 2006; Gilbert, 2015). In an e-classroom, students can learn from anywhere

² in the period March - May 2020 during the coronavirus pandemic in the Republic of Serbia and to fulfill work obligations - author's note

and in an environment that suits them best. This means learning is no longer physically restricted to school buildings, which also solves the problem of students overcrowding in small spaces. The education process can take place without significant reorganization of students' lives - traveling, moving, or leaving work, which greatly increases their motivation and efficiency of studying. On the other hand, teachers also do not have to spend time on coming and leaving the faculty or pay travel expenses, so benefits are multiple (Jevtić & Đorđević, 2012, Finch & Jacobs, 2012). These benefits include: learning effectiveness, faculty satisfaction, student satisfaction, access, and cost-effectiveness (Swan, 2007).

Geographical independence also means that there are no delays in the distribution of materials, and information can be adapted to students' requests and comments. Online materials can be corrected and supplemented and students can notice changes immediately. There is no longer the need for the teacher and a large number of students to coordinate their schedules to meet in the same place at the same time, there is less reason for students (or teachers) to miss classes; both teachers and students have time to formulate questions and answers, to prepare for the next lecture/tutorial in detail, and the freedom to choose the appropriate time to learn increases students' sense of control over the process. The distance learning system is also characterized by the possibility of participating in the highest quality or the most prestigious programs - a student can attend some courses/study programs at high-quality institutions or those held by renowned experts without leaving home, as well as by unlimited working time and space in which teaching materials are accessed at the time and a pace that best suits individual student's personal characteristics (Radosav & Karuović, 2004; Mandić, 2009; Jorgić, 2014). Online media can provide multiple benefits for both staff and students in supporting students' learning experiences (Gillett-Swan, 2017), and, in our case, this was confirmed during the state of emergency.

The Internet allows students to communicate with each other, individually or as a group, and to send questions, hold discussions, oral or electronic, with their teachers, and they are much more relaxed in communicating via e-mail and chat programs than in face-to-face situations or when they should talk to the teacher in front of an entire study group during 'classical' lectures. In such communication, students can have anonymous communication with teachers - their identity remains unknown, which significantly reduces the fear of teacher reactions (Herold, 2009; Sun & Chen, 2016). Thanks to the Internet, students, and lecturers communicate by exchanging text messages and materials (as in a correspondence school), audio recordings (as in radio learning), video materials (as in educational television), but at a much higher level and incomparably faster, while in synchronous communication the

exchange takes place in real-time in all three cases. There are a large number of studies that find positive statistically significant effects for student learning outcomes in the online or hybrid format compared to the traditional face-to-face format, but even though there are positive findings for the effectiveness of online learning, it is still unclear that this generally holds across studies (Nguyen, 2015). Also, studies have indicated that it takes more time to teach online courses than traditional courses (Crawford-Ferre & Wiest, 2012; Gabriel & Kaufield, 2008).

A METHODOLOGICAL APPROACH TO THE PROBLEM

Context and procedure

The most prevalent form of teaching in higher education, not only in Serbia but also in more developed countries, are still traditional lectures. Most lecturers and students find equipment handling, different interaction, and a different way of communication compared to contact teaching intimidating, and distance learning also requires additional time and effort of participants (both lecturers and students) during preparation for classes. Nevertheless, due to the situation that arose in connection with the coronavirus pandemic in the Republic of Serbia, and upon the recommendation of the Ministry of Education, Science and Technological Development³, the application of distance learning at the Faculty of Education, University of Kragujevac⁴ started on March 23.

The realization of most study programs during the state of emergency declared on March 15, 2020 was continued with the use of electronic materials and electronic forms of communication. For our present research, two study programs have been particularly interesting - *Methodology of Environmental Studies* and *Methodology of Physical Education* taught in the third year of undergraduate studies (educational profile: preschool teacher). Apart from the usual communication with subject teachers via e-mail, during the national state of emergency students of this study group fulfilled their pre-exam obligations using Google Classroom, while lectures and consultations were organized using the Zoom Application. Students received the assignments they would otherwise fulfill in regular teaching activities through the Google Classroom, with detailed instructions, and by accomplishing them they earned certain points they would otherwise receive based on their engagement in the classroom. There were also those students who had

³ Short: MESTD

⁴ Hereinafter FE

not previously used these applications but participated in some forms of distance learning, and there were those who had not experienced any other form of teaching apart from contact teaching. Upon termination of the state of emergency, students (N = 87) expressed their attitudes about this working method by filling out the online questionnaire.⁵

Research methodology

Bearing in mind that 'attending' distance studies requires students to have a certain level knowledge and skills, the subject of interest of this paper was the quality of university distance learning observed from the student's point of view. The research we did used the survey technique aimed to determine students' views on the quality of university teaching using the Google Classroom and Zoom Application.

The objectives of the research were:

1. to determine the students' skill to use the Google Classroom and Zoom applications, their opinion regarding the use of these applications, and the impact of Google Classroom and Zoom on their motivation and sense of security (self-confidence);
2. to examine students' attitudes about the quality of pre-exam obligations (assignments) they had to accomplish during the state of emergency;
3. to determine the opinions of students about how much they understood the content (material) they processed using Google Classroom and Zoom, how applicable and efficient they consider thus acquired knowledge and distance learning, respectively.

The research was conducted using descriptive and survey methods in the last week of May 2020. We used the seven-point Likert scale of attitudes, i.e. a questionnaire with 13 closed-ended and 2 open-ended questions.

RESEARCH RESULTS AND DISCUSSION

Students expressed their ability to use Google Classroom and Zoom applications by circling the number on a scale from 1 to 7, with the first question referring to their experiences in using the Google Classroom application before, and the second and third ones referring to the difficulties and problems with Google Classroom and Zoom applications during the state of emergency. The results show that until the beginning of the state of emergency, a small number of students were unfamiliar with Google Classroom, that is, only

⁵ Also online – author's note

25 of them (28.7%) stated that they had never used the application before. Accordingly, and contrary to our assumptions⁶, a small number of students (2.3%) had problems and difficulties in using the application. Interestingly, 13 of them (14.9%) circled the number 2 for the 2nd question,⁷ which means they had certain problems, but in the following question they did not state those problems and difficulties, that is, they did not supply the answer to the 3rd question. Although it was not our goal to consider the types problems and difficulties in more detail, as these could be of technical (lack of the Internet, weak signal, bad sound, etc.), but also personal nature (poor concentration, lack of motivation, concern about the spread of coronavirus infection, etc.), we have singled out some characteristic responses. The most common problems were *weak internet connection*⁸; *connection failure; video bugging and sound interruptions* (11 students); 4 students had a problem with sending assignments in the Google Classroom (*I had problems at the very beginning until I got used to it and learned to how to use it...; At first, I had a problem with how to send homework; I had difficulties until I fully understood how everything works, over time everything was easier*). Two students stated they had a problem because of power outages due to the bad weather during Zoom meetings, and 6 of them pointed out they had a problem to join Zoom meetings at scheduled times. One respondent stated the problem as *'I mostly did not understand tasks...it is still easier when the professor or a teaching assistant explains the task and its goal directly, i.e. live'*. He thus emphasized, on the one hand, the importance of teachers and contact teaching, but also the fact that in online teaching courses and tasks should be well organized from the very start, and that students should be provided with detailed instructions and expectations. Instructors should anticipate areas of potential misunderstanding and dismiss unclear directives before the start of the course (Gilbert, 2015). The data also show that most surveyed students (66 or 85.8%) found using Google Classroom and Zoom 'easy and simple', as only two and one respondent circled numbers 7 and 6, respectively.⁹ When we analyze the answers to the first 4 questions, we conclude that students, although they had not used Google Classroom and Zoom before, quickly adapted to them and accepted the new way of working. At the same time, apart from the technical ones, they rarely had other problems, and considering that they

⁶ Until the beginning of the state of emergency, the surveyed students did not have any training for the use of Google classroom and Zoom application in the regular classes at the faculty – authors' note

⁷ I had difficulties (problems) when using the Google classroom and Zoom application: ... on a scale of 1 to 7

⁸ Original students' answers from the questionnaire

⁹ Number 7 meant 'difficult and complex'.

use different technical and technological gadgets in their everyday lives (tablet, iPod, iPad, iPhone, Notebook, Android, and other devices), working with these applications was simple and easy for them.

When it comes to the impact of Google Classroom and Zoom on student motivation, the position of the majority¹⁰ of surveyed students is neutral (23 students or 26.4% opted for number 4). Neither the application through which they received teaching materials, instructions and homework assignments, nor the application through which they had their video lectures particularly affected student motivation. Bearing in mind that distance learning was 'attended' also by students who had not previously regularly come to tutorials and lectures, we believed that the distribution of their answers to this question would be different; so it can be inferred that the used applications influenced their interest and increased motivation, i.e. their regular attendance is the consequence of applying a 'new', different method of working. The fact is, however, that the majority students (90.8%) regularly attended distance learning,¹¹ that 73 of them (83.9%) regularly met their pre-exam obligations they received through the Google Classroom, and that the used the method of working was interesting to them (none of the surveyed students opted for 7- *not at all* - chart 1). We assume that objective and timely knowledge of one's own results stimulates further activity and makes students are more willing to learn and to acquire new knowledge more effectively (Kopas-Vukašinić et al., 2019).

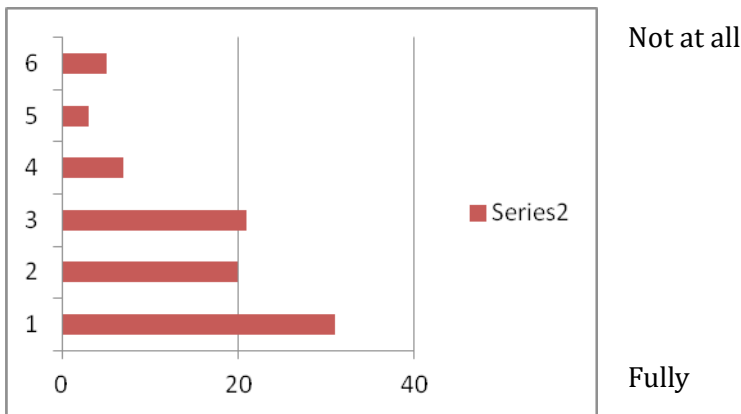


Chart 1. Distribution of respondents' attitudes to the question *I found distance learning using Google Classroom and Zoom interesting - fully (1) - not at all (7)*

¹⁰ on a scale of 1-7, with 1 meaning "much" and 7 - 'not at all'

¹¹ We kept accurate records of the students who were 'present' at the Zoom meetings

When using Zoom and Google Classroom, a small number of students felt nervous, uncomfortable, insecure and experienced some kind of fear (3.4% opted for numbers 5 and 6, and 4 or 4.6% for number 7), so we assume that these were the respondents with no previous experience of such a working method. Most students felt confident, secure (27 of them chose no. 1; 26 no. 2, 11 no. 3), while 13 of them (14.9%) had a neutral attitude. An analysis of the above data leads us to the conclusion that class attendance during the state of emergency¹² was more regular than with 'contact teaching,' and students were more active both individually and as a group. Motivation and greater engagement, responsibility, commitment, and timeliness of students when it comes to fulfilling pre-exam obligations were influenced, however, by some other factors that should be examined and determined in more detail in some future research. We assume that such an attitude towards teaching was influenced, among other things, by the fact that students were at home (they were more relaxed, without obligations¹³, did not have to think about anything other than learning and teaching; they had more time, they did not spend it on coming to and leaving the faculty; were financially somewhat relieved). On the other hand, during contact classes there is less time for discussions, teachers are limited in time, not all students have a chance to give their comment, opinion, example, while a number of them do not want to be 'publicly exposed' which does not mean that they do not know or are not motivated about the taught content. What we especially emphasize as a benefit of distance learning is the self-confidence of students, as they will be able to use gained experience not only for personal professional development but also in their future work with children. Students gained experience with e-learning, experience which may help them to be more effective using it in the future (Smart & Cappel, 2006) and were encouraged to investigate and practice online learning technologies with children in kindergarten and their parents.

By analyzing the degree of understanding of the material that was processed during the state of emergency and applicability of the acquired knowledge, we strived to consider the attitudes of students about the quality of distance learning at the university. On a scale of 1 to 7, number 1 meaning students fully understood the taught contents, only 8 respondents (9.2%) opted for number 6, and 2 respondents (2.3%) for number 5. There were no students who did not understand the processed material. The fact that 4 students (4.6%) had a neutral attitude speaks in favor of the fact that the

¹² When it comes to Methodology of Environmental Studies and Methodology of Physical Education

¹³ Parents did the shopping, prepared food, paid bills etc. instead of them

material processed using Google Classroom and Zoom was clear to the majority of students. At the same time, 24 of them (27.6%) had positive, 31 (35.6%) had positive, and 18 (20.7) of the respondents had a partially positive attitude.

When it comes to the possibility of applying the knowledge acquired through these applications, students had even more positive attitudes (Chart 2) – there were no students with a negative attitude, and 42.5% of the respondents believed that the acquired knowledge was applicable.

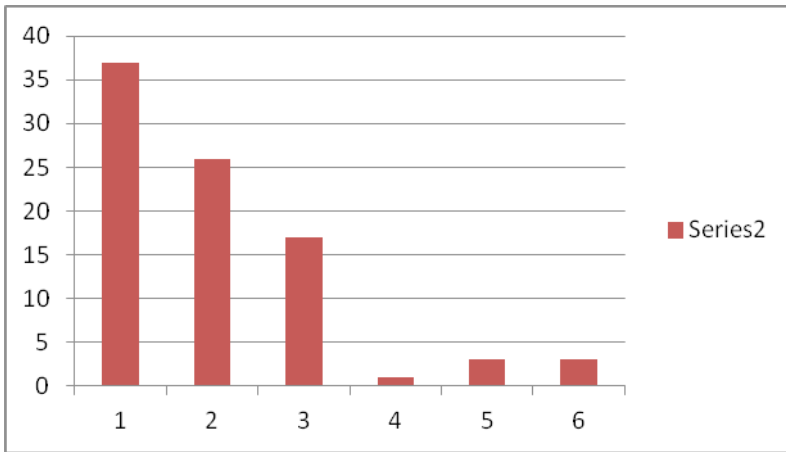


Chart 2. Distribution of respondents' attitudes to the question *The knowledge I gained during the state of emergency using Google Classroom and Zoom is: applicable (1) - not applicable (7)*

Students' attitudes regarding the efficiency of distance learning through a combination of Google Classroom and Zoom are in line with the above: 28 respondents (32.2%) consider such teaching fully efficient, for 22 of them (25.3%) it is efficient, and 10 students (11.5%) have a neutral attitude. Interestingly, 4 respondents (4.6%) have a negative attitude – they consider such teaching inefficient. We assume that these are the students who had technical problems, primarily a bad Internet signal, as a result of which they could not regularly and adequately follow the lectures, so this negatively influenced their attitudes.

When it comes to the pre-exam obligations and assignments students fulfilled during the state of emergency, we decided that students should evaluate them in terms of scope, difficulty, interestingness, and usefulness (functionality, practical applicability). We expected first that most students

would have objections¹⁴ when it comes to the scope and number of pre-exam assignments, as they had assignments in all courses of the third year of studies.¹⁵ The students, however, recognized our efforts not to give them too many tasks, but to assign them in a timely, systematic, and detailed manner, to practice the content processed via Zoom. Only 18 of them (20.7%) thought that the assignments were excessive, while the attitude of the greatest number of the respondents (20 or 23%) was neutral. A similar distribution of answers came regarding the difficulty of assignments – 27 respondents (31%) had a neutral attitude – they considered assignments neither difficult and demanding nor easy and simple. Most students (33 or 37.9%) found assignments interesting, while 60 of them (69%) thought that the assignments were useful and functional.

CONCLUDING REMARKS

Although they acquired part of the content of the *Methodology of Environmental Studies and Methodology of Physical Education* study courses at a distance, without prior training, FE students recognized the advantages of such a method of working. Their views on using Google Classroom and Zoom applications are positive, and the research shows that they actively and regularly participated in online teaching. They fulfilled the planned assignments regularly, and they consider such a method interesting and useful for their future work with children. During the research, we noticed that a significant advantage of distance learning is constant feedback, as students were informed of the achieved results after completing each assignment through the Google Classroom. Compared to direct teaching, it was an additional effort for teachers, as they regularly reviewed students' works, informed them if and where they made a mistake, and how to correct the mistake. That, however, positively affected students' motivation. Discussions about omissions, dilemmas, and ambiguities regarding the material were organized via Zoom meetings, so communication was more open and flexible all the time. Compared to direct teaching, this method of working contributed to students' success in pre-exam obligations and activities as they were evaluated in more detail and more objectively.

The fact that both students and teachers suddenly found themselves in a situation to use distance learning, but also successfully responded to the recommendations of MESTD confirms that state of emergency and distance

¹⁴ even criticism – author's note

¹⁵ from some even on a weekly basis – author's note

learning did not negatively affect the quality of university teaching. It turned out that the new situation has opened up some new views, pointed to the possibility of creating online courses, designing study programs that would be realized through a combination of direct and distance learning. In this context, we end the paper with the words of Tuan Nguyen: "Online learning is a story that is still being written..."

REFERENCES

- Adamov, J., & Segedinac, M. (2006). E-učionica u savremenoj nastavnoj praksi. *Pedagogija*, 61(4), 531-542.
- Crawford Ferre, H. G., & Wiest, L. R. (2012). Effective online instruction in higher education. *The Quarterly Review of Distance Education*, 13(1), 11-14.
- Gabriel, M. A., & Kaufield, K. J. (2008). Reciprocal mentorship: An effective support for online instructors. *Mentoring and Tutoring: Partnership in Learning*, 16(3), 311-327.
- Finch, D., & Jacobs, K. (2012, September). Online education: Best practices to promote learning. In *Proceedings of the human factors and ergonomics society annual meeting* (Vol. 56, No. 1, pp. 546-550). Sage CA: Los Angeles, CA: SAGE Publications.
- Gilbert, B. (2015). Online Learning Revealing the Benefits and Challenges. *Education Masters*. St. John Fisher College: Fisher Digital Publications, paper 303. https://fisherpub.sjfc.edu/education_ETD_masters/303
- Gillett-Swan, J. (2017). The challenges of online learning: Supporting and engaging the isolated learner. *Journal of Learning Design*, 10(1), 20-30.
- Herold, D. K. (2009). Virtual education: Teaching media studies in Second Life. *Journal For Virtual Worlds Research*, 2(1), 3 - 17.
- Jorgić, D. (2014). Vrijednosti i protivrječja virtuelnog obrazovanja, U Zborniku radova Vrijednosti i protivrječja društvene stvarnosti, Knjiga 14. Banja Luka: Filozofski fakultet, str. 149-163. http://drazenkojorgic.com/wp-content/uploads/2014/12/Rad-iz-Zbornika_38.pdf
- Mandić, D. (2009). Obrazovanje na daljinu. Preuzeto 20.3. 2020. sa http://www.edu-soft.rs/cms/mestoZaUploadFajlove/rad1_.pdf
- Jevtić, N., & Đorđević, S. (2012). Tendencije na tržištu obrazovnih usluga. *Socioeconomica – The Scientific Journal for Theory and Practice of Socioeconomic Development*, 1(2), 397 - 402.
- Kopas-Vukašinović, E., Cekić-Jovanović, O., & Golubović-Ilić, I. (2019). Teaching Quality in Higher Education: Prerequisites for its improvement. *Journal Plus Education*, 22(1), 72-77.
- Nguyen, T. (2015). The effectiveness of online learning: Beyond no significant difference and future horizons. *MERLOT Journal of Online Learning and Teaching*, 11(2), 309-319.

- Pokorni, S. (2009). Obrazovanje na daljinu. *Vojnotehnički glasnik*, 57(2), 138-146.
- Radosav, D., & Karuović, D. (2004). Učenje na daljinu - neminovnost u savremenoj nastavi. *Pedagoška stvarnost*, 50(7-8), 578-593.
- Smart, K. L., & Cappel, J. J. (2006). Students' perceptions of online learning: A comparative study. *Journal of Information Technology Education: Research*, 5(1), 201-219.
- Stanković, S., & Golubović – Ilić, I. (2018). Osavremenjavanje univerzitetske nastave korišćenjem novih modela učenja i nastave. *Zbornik Filozofskog fakulteta Univerziteta u Prištini*, 48(1), 299 – 315.
- Stanković, Ž. (2006). Razvoj tehnologije učenja na daljinu. *Nastava i vaspitanje*, 55(2), 169-181.
- Sun, A., & Chen, X. (2016). Online education and its effective practice: A research review. *Journal of Information Technology Education: Research*, 15, 157-190.
- Swan K. (2007). Research on Online Learning: Students, Faculty, Institutions. *Journal of Asynchronous Learning Networks*, 11(1), 55-59.
- Vilotijević, M., & Vilotijević, N. (2008). *Inovacije u obrazovanju*. Vranje: Učiteljski fakultet u Vranju.
- Zenović, I., Randić, D., & Bagarić, I. (2012). Koncept otvorenog učenja i učenja na daljinu. U Arsovski, S., Lazić, M., & Stefanović, M. (Ur.) *Zbornik radova 39. nacionalne konferencije o kvalitetu* (str. 127 – 133). Kragujevac.