

## **ONLINE TEACHING DURING COVID-19, ITS – BELGRADE, THE CASE STUDY**

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### **ABSTRACT**

Information Technology School ITS- Belgrade, College of Vocational Studies, thanks to modern tools, information technology, information systems, information and communication technologies, enjoys an excellent reputation among the professional and academic public in the Republic of Serbia, as well as among academics. The article brings a case study - a model of teaching in this higher vocational school in pre-Covid conditions, which provided the school with an easy transition to online education during the declaration of a state of emergency in the Republic of Serbia. This model resulted in continuous teaching, care for teachers, associates and non-teaching staff. And the satisfaction of students and other stakeholders.

ITS uses the following communication software in its work: Information system (IS ITS), Distance Learning System (DLS), Testing and Learning Software (TLS), Content Management Server (CMS), Student Web Portal and Library software. Thanks to the strategic commitment of ITS to deliver top quality to its students and employees, without compromise and the use of leading hardware and software in everyday work, ITS during Covid -19 provided standardized teaching to which the student of this higher education institution is accustomed, without compromising the educational process as well as employee health.

**Keywords:** online teaching, information technology, students, Covid-19, Information and communication technologies.

### **INTRODUCTION**

The pandemic caused by the Covid-19 virus has affected all spheres of people's social and economic lives. In terms of education, due to the introduction of the state of emergency and the transfer of teaching from the traditional model to the online model, or some variation, it caused disagreement and demonstrated unpreparedness of higher education institutions in many countries, and most often interruption of the teaching process or its serious disruption. Some schools that have used modern means of information and communication technologies in their daily business have better presented the process of change. The case study analyzes an example of such a school. In terms of methodology beside the case study, we used the observation technique (with participation).

### **LITERATURE REVIEW**

The COVID-19 pandemic has wreaked havoc on education systems around the world, affecting almost 1.6 billion students across 190 countries and continents. School and other learning space closures have impacted 94 percent of the world's student population, with up to 99 percent in low and lower-middle-income nations (United Nations, 2020).

The COVID-19 pandemic has caused the greatest disruption in education in history, affecting learners and teachers in nearly every country, from pre-primary to secondary schools, technical and vocational education and training (TVET) institutions, universities, adult learning, and skills development institutions. By mid-April 2020, the pandemic had afflicted 94 percent of learners

globally, or 1.58 billion children and youth in 200 countries, ranging from pre-primary to higher education.

Numerous studies point to different practices of higher education institutions during the Covid-19 pandemic. One study investigated graduate students' views, experiences, and needs in social work, public health, and social policy departments through a survey completed during the spring 2020 semester at a big research university in the Midwest. Race and ethnicity, international student status, first-generation student status, and gender all showed significant differences. Students' ability to manage and cope with issues related to or aggravated by the pandemic may be influenced by university and social resources. (Jabbari, Jason, & Ferris, 2020).

At the height of the COVID-19 issue, the Israeli Ministry of Education developed a statewide alternative teacher education program. The program attempted to entice unemployed academics to enter the teaching profession as a way to address the teacher shortage. To help the initiative move forward, the Ministry of Education eased its tight standards and gave training institutes more freedom to establish their programs. Students were expected to begin teaching after three months of online training and continue studying once a week for another year. Since teachers could continue to work from home via distance learning, teaching became a popular option, and hundreds of people applied for the program (Ramot, Rony, & Donitsa-Schmidt, 2021).

During the COVID-19 health crisis, commercial enterprises, major institutions, international organizations, and politicians saw the change from face-to-face to remote instruction as an opportunity to promote the digital paradigm in education. During the COVID-19 constraints, a carefully crafted vocabulary combines a restricted education budget, the maturity of digital technologies, and the experience of remote instruction to promote the idea of rewiring and reimagining education as a synonym for change. (Photopoulos, 2021).

A successful transition to distance learning modes necessitates elements of preparedness, such as technological, content, pedagogical, and home-based learning assistance, as well as monitoring and assessment. This can be accomplished by policymakers and educators investing in high-quality educator preparation (Kalloo, Mitchell, & Kamalodeen, 2020).

While online learning has traditionally taken place through recorded lectures and online platforms in the higher education sub-sector, some universities have postponed learning and teaching until further notice due to a shortage of information technology (IT) infrastructure for both students and professors. Some programs have been effectively adopted online, while others have not. There are also questions concerning how to integrate semesters and academic calendars (United Nations, 2020).

## **INFORMATION TECHNOLOGY SCHOOL TEACHER'S EXPERIENCE**

Information Technology School Belgrade (ITS) as College of Vocational Studies is an independent higher education institution that has four accredited study programs of Information Technology, Computer Multimedia, Electronic Business and Information Systems. Information Technology School was founded by the two leading regional companies in the IT area – LINK group and Comtrade. Since 2018 ITS organize master's Vocational studies as well, within one accredited program of Information Technology. The business results so far, from the beginning of its work, show that ITS manages to operate with a positive result (provides the provided services to students with quality study, supported by modern IT and other equipment, and regularly pays salaries to employees) (Radić, Ristić, Anđelić, Kuleto i Ilić, 2020).

The strengths of the school are reflected in excellent study curricula, leadership, good contacts with important stakeholders, quality of teaching staff and other employees, good reputation of the school, well-known founders, strong connection with the economy, work on real projects, and a large number of graduates who find jobs immediately after the study. The strengths of the school are reflected in the possibility of continuing studies at the master's studies also organized by ITS and in the good positioning of the Brand.

The increase in the volume of textbooks published by the school and the introduction of new subjects, the development of new educational platforms and more to avoid threats coming from the external environment represent room for improvement.

Opportunities are reflected in the use of word of mouth (existing students, parents and other stakeholders), strengthening contacts with the economy, introducing an alumni club of former students, new promotional candidates, and strengthening cooperation with foreign vocational schools in the IT industry.

## **PROBLEM**

The state of emergency in the Republic of Serbia was declared on March 15, 2020. year, during the summer semester of the study year 2019/20. years. Higher education institutions have switched to online teaching. Teaching and consultations in the traditional way were not possible during and after the state of emergency, due to epidemiological measures and a ban on gatherings.

ITS did not interrupt its work during a state of emergency. It was necessary to organize lectures and exercises within a defined range of time due to curfew, to enable standardized teaching that students expect. The educational process must not be endangered, as well as the safety and health of employees (Information Technology School Belgrade [ITS], 2020).

After the lifting of the state of emergency and the end of the semester, ITS was facing a new challenge: how to organize consultations and exams for many undergraduate and master's students, while ensuring compliance with epidemiological measures to protect both employees and students. It was especially important to preserve the mental and emotional health of employees and facilitate their transition from traditional to exclusively online teaching, and to provide technical and any other assistance to those who worked from home and help them reconcile private and professional life.

## **SOLUTINS**

Thanks to information technologies and information systems and selected tools, ITS has been using the Distance Learning System (platform) since 2006, and Live Stream since 2015, with traditional teaching so that its transition from traditional to exclusively online environment lasts. The state of emergency was easier for ITS than for most higher education institutions in Serbia.

ITS has been using the following software for communication: Information system (IS ITS), Distance Learning System (DLS), Testing and Learning Software (TLS), Content Management Server (CMS), Student Web Portal and Library software. Besides, students have an educational mail account on the mail server immediately after enrolling. Through this mail account, students receive automated messages that are integrated with all software solutions used at its level, information from the student service and it is the only email account that can be used to communicate with ITS teaching and non-teaching staff and other students for the educational purposes (group work, projects etc).

The ITS teaching staff consists of 80 teachers and associates. ITS employs teachers who fulfill its basic tasks and goals. Teachers are elected to various titles according to the Law on Higher Education (assistant professors, associate and full professors, professors of vocational studies, senior lecturers and lecturers, as well as skills teachers and language teachers), and teach at basic and vocational master studies at ITS. The process of electing teachers in the Statute of the school is harmonized with the mentioned law and the recommendations of the National Council. Teachers were selected according to the criteria of the profession and pedagogical experience. Out of 80 teachers, as many as 38 are doctors of science, 8 masters and 7 masters from various scientific fields. (Ilić, Popović Šević, & Ristić, 2020).

During the state of emergency, classes were held regularly via Live stream, using the Distance Learning System of the company LINK group, the founder of the school. ITS has organized professional services that continue to provide technical and software support to students, as well as communication via email with teachers, associates and student services.

The professors gave lectures without the presence of students, in classrooms, with the technical assistance of non-teaching staff. For those who stated that they had a problem with the organization of transportation, it was organized. Consultations with students were organized with the help of the Google Meet tool, with prior instructions on how to use this tool and help in

understanding and applying it. Consultations took place as often as lectures and exercises (once a week), and more often if necessary.

In addition to their professional competencies and digital competencies, ITS professors also showed exceptional commitment to students during the state of emergency and performed their duties regularly. In compliance with all recommended measures, they came to work and conducted classes using Live Stream from ITS classrooms, thus they were available to students via video conferencing and responded to e-mail students within 24 hours. (Ilić et al., 2020 )

Great support to teachers and associates is provided by non-teaching staff, whose professional work ensures the successful implementation of study programs, basic tasks and goals of the school, school management, but also both founders of Link Group and Comtrade through sharing knowledge and expertise of these companies.

Professional service staff were available throughout the state of emergency and continued to provide technical and software support to ITS students. The ITS student service worked in safe conditions and resolved students' requests via e-mail and telephone. Technical support, also working in safe conditions, provided uninterrupted performance and streaming of teaching in several locations, as well as daily updating and publication of teaching materials and teaching schedules. ITS employees, non-teaching staff worked from home and the school premises, with the help of all school resources. Also, teachers and associates had the opportunity not to come to the school premises because their decision on self-isolation was respected.

ITS has provided all conditions for safe work for employees who came to work to record materials with lectures and exercises and non-teaching staff who came to work (as part of technical support). The epidemiological measures and recommendations of the World Health Organization (World Health Organization [WHO], 2020), as well as the City Institute for Public Health Belgrade (Gradski zavod za javno zdravlje Beograd [GZZZ], 2020), were fully respected. The number of employees (non-teaching) in the faculty premises was reduced to a minimum to provide the recommended physical distance, disinfection dispensers were installed in each room. Also, hygiene was strengthened, visitors were not allowed to enter, body temperature was measured at the entrance to school facilities. Employees respected protective measures among themselves.

Employed teachers and associates who worked from home had organized google meet meetings and were supported to take an active part in them. A school psychologist was available to all employees as well as students to support the fight against stress and anxiety.

## **CONCLUSIONS**

The COVID-19 pandemic has wreaked havoc on education around the world, affecting students and teachers in pre-primary through secondary schools, technical and vocational education and training (TVET) institutions, universities, adult learning centers, and skills development centers. By mid-April 2020, the pandemic had impacted 94 percent of learners globally, totaling 1.58 billion children and youth in 200 countries, ranging from pre-primary to higher education (Union Nations, 2020).

Universities and schools of social work are facing unprecedented challenges and uncertainties in aligning their academic models with public health protocols and best practices while prioritizing the safety and well-being of their students in the aftermath of COVID-19. More research is needed to promote a clearer understanding of what challenges students encounter, who is most at risk and influenced by these issues, and how universities can best help students to better respond to these obstacles and uncertainty.

Thanks to good business strategies before the Covid-19 pandemic, ie regular business of the ITS-Belgrade College of Vocational Studies for Information Technologies, the introduction of a state of emergency and the need to organize online classes was not a big problem for the school. It was only necessary to organize and use the existing resources. The challenge was reflected in the protection of health and safety of students and employees as well as in delivering the expected level of quality of the educational process. The important learned lessons relate to the need for continuous monitoring of best practices in education, the use of state-of-the-art IT tools, compliance with legal provisions, good organization and empathy.

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