How did we support education in pandemic - role of the E-learning centre

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HOW DID WE SUPPORT EDUCATION IN PANDEMIC- ROLE OF THE E- LEARNING CENTRE

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Abstract

The world is still facing a pandemic that has changed the lives of all of us, it has changed the way we live, work, learn. This period is difficult and challenging, but at the same time we have encountered many opportunities and situations that have opened new vistas and spawned new experiences. We need to recognize what we have learned, what should be done better, what we want education to look like and what actions should be taken from now on. In addition to the disorder, the pandemic also highlighted a number of interesting and provocative topics, such as how online teaching can work and be of the same quality as classroom teaching; why teachers really need digital skills to be able to teach in a new way and why is support to teachers, students and higher education institutions in the implementation of digital technologies very important part in the shaping education for digital age. In this paper we present importance of organized support to online teaching and learning and implementation of digital technologies in educational process. The E-learning Centre at SRCE has provided support to teachers, students and higher education institutions successfully during pandemic and nowadays. In this paper we bring their case study.

Keywords: e-learning centre, organized support, online education, digital technologies

E-learning Centre at SRCE

University of Zagreb University Computing Centre (SRCE) [1] is the oldest infrastructural institution of the academic and research community in the area of application of information and communication technologies (ICT) in Croatia. SRCE is the key institution in planning, designing, construction, and maintenance of the computing, data and information infrastructure, the e-infrastructure for Croatian academic and research community. Furthermore, SRCE is the competence centre for information and communication technologies as well as the centre for education and support in the area of ICT application.

The E-learning Centre [2] was established at SRCE in 2007 and started its work as the central unit at the University of Zagreb for support in systematic implementation of e-learning. Through the years the E-learning Centre expanded its work to other higher education institution in Croatia and today is national centre for support in -e-learning implementation in higher education. The main focus of the E-learning Centre at SRCE (ELC) is to provide accessible and sustainable support to higher education institutions, teachers and students in use and application of new technologies into teaching and learning, ensuring and providing generally accessible e-learning platform and ensuring joint/centralized resources required for application of e-learning and finally, but not less important, promotion and dissemination of information about e-learning.

The ELC supports users in the process of the implementation of e-learning technologies in the educational process. The team provides help to teachers in the preparation and maintenance of e-courses (blended mode or fully online), organizes training for teaching staff in e-learning technologies and course design and supports students in the virtual environment.

The Centre is providing everyday support via helpdesk (phone, e-mail) and consultations to teachers. Also there are number of learning materials like manuals, animations, quick helps, guidelines and frequently asked questions that enable users to find information in the way that best suits them. The ELC has also prepared a number of training courses and workshops for teachers. One of the first activities of the Centre was the establishment and maintenance of a university platform for e-learning. The platform is based on the Moodle open-source software and is continuously upgraded according to user needs. Today, it is a virtual learning

environment called Merlin, which consists of an e-learning platform, a videoconferencing system, an e-portfolio system and is connected to the Information System of Higher Education Institutions in Croatia (ISVU). Today the e-learning platform Merlin includes e-courses from the Universities of Zagreb, Dubrovnik, Rijeka, Zadar, Osijek, University North, the Catholic University of Croatia, and other universities in Croatia as well as from polytechnics and colleges. In 2022, the E-learning Centre is celebrating 15 years of continuous work. The Centre today has 12 full time employees who ensure continuous, innovative and efficient work of the Centre.

A significant part of the work with teachers is done through helpdesk via e-mail, online form or telephone. The centre responds very quickly, whether it is simple questions such as why teacher or student does not see his e-course or how to enroll students, to very complex when the teacher presents an idea of what he would like to improve in his/her e-course or trying to find out what went wrong in the online quiz prepared in the e-course. In addition, the ELC team holds daily consultations with teachers, devoting themselves to each individual teacher and his/her e-course. Creating a positive and creative environment, informing about e-learning and its possibilities in the academic community and providing quality and systematic support to users are long-term goals of the E-learning Centre at SRCE.

The E-learning Centre is also very active in collaboration with local teams for e- learning at the higher education institutions and provide them support as well. The Centre has established and maintains a university (and wider) network of people (experts, teachers and students) to share knowledge and experiences in e-learning and works to promote e-learning and encourage the application of new technologies in education.

Pandemic and support to educational process

The pandemic closed universities but did not stop teaching and learning at higher education institutions. Disruption caused huge stress to entire education system. It was necessary to ensure the continuity of education literally overnight. Teaching and learning moved fully to an online environment, using available tools, primarily videoconferencing systems.

Although a number of teachers had already experience in use of digital technologies using them, mostly, as an addition to classroom teaching, still many of them encountered teaching in an online environment for the first time. Another challenge raised soon after the global closure – Zagreb was hit hard by the very strong earthquake in the second half of the March 2020. Number of buildings were severely damaged and among them educational institutions as well. So, teachers and students faced number of challenges – from technical ones like stable and strong internet connection, computer / laptop, to finding premises where they can work and study, then lack of digital skills, incompetence and not knowing which tools and technologies to use; for teachers lack of pedagogical skills to work in a virtual environment and for students lack in learning in virtual environment.

A that moment numerous teachers and higher education institutions turned to the SRCE and the ELC for support and help to move courses into online environment. First task, for those teachers who did not have e-course until then, was to open e- course on the e-learning platform Merlin and to start using videoconferencing system for online lectures. Number of opened e-courses for academic year 2019/2020 on March 1, 2020, was 14.143, and already in the week of March 16, 6.000 new e-courses were opened on the e-learning platform Merlin. At the same time, there was a significant increase in demand for the SRCE videoconferencing system Adobe Connect which was used only vaguely until pandemic. Number of videoconferencing systems became very popular in short time and that was one of the first investment number of higher education institutions did in the pandemic. The vast majority of higher education institutions and teachers managed to ensure the continuity of the academic year. Teachers organized classes as best they knew and at that moment, in the summer semester of the academic year 2019/2020, that was sufficient as it ensured the end of the academic year. The issue of quality was not high on the agenda at that moment.

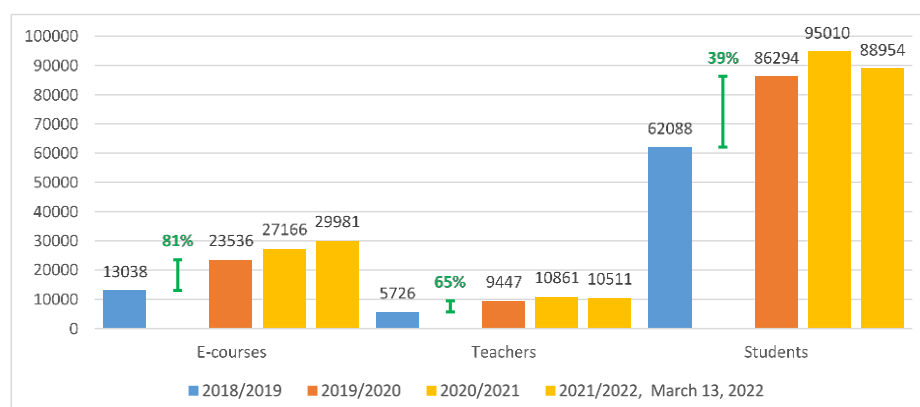**HOW DID WE SUPPORT EDUCATION IN PANDEMIC- ROLE OF THE E- LEARNING CENTRE**

Fig1: E-learning platform Merlin, number of e-courses, teachers and students.

Numbers in Fig 1 show the number of e-courses, students and teachers on the e- learning platform Merlin through academic years 2018/2019 to present academic year. It could be seen that when pandemic hit there were huge sudden increase in the number of e-courses – 81%, following the number of students and teachers. And in the next academic year the numbers continue to increase. At the moment, there are 94 higher education institutions in Croatia who are using e-learning platform Merlin. The pressure on the E-learning Centre team in the March, April, May 2020 was huge. At one moment, it was decided to leave procedures for the e-course opening aside and just open all e-courses upon request. Teachers needed their courses immediately and could not wait longer than day or two… The ELC team worked on Saturdays as well in order to deal with all e-courses requests. One part of the team was opening space on the e-learning platform Merlin for e-courses, another team was on helpdesk and providing consultations how to work with Merlin and develop e-courses.

Due to the pandemic and earthquake, the staff of the E-learning Centre also worked from home at that time answering all day to the user inquiries. It was especially challenging to explain to the teachers over the phone what is the e-learning platform Merlin and how an e-course should look like, especially if the teacher has not encountered these concepts before. Often neither teachers nor students know how to formulate a question or problem, so the expertise and knowledge of the people who provide support is very important. Consultation via phone calls lasted 30 to 45 minutes and were extremely complex as it required knowledge, skills and patience to explain to someone what is an e-course and how to develop one. The E-earning Centre is unique as such as it is supporting users from higher education institutions all over Croatia. Employees are practically constantly on the "quiz" having their knowledge and skills tested as they do not know what question/problem will be next and who will ask the question. This is not easy and it is quite stressful, especially in cases where the inquiry is such that it requires reflection and engagement of more team members and take sometimes even few days. Next challenge were the first online exams in the April 2020, especially when it came to large groups of students (400 to 700). ELC received number of questions on how to prepare exams, how to make sure students do not cheat and how to set up exam so students can see their score after exam. Most of exams were summative tests to assess student's knowledge, and to a lesser extent self-assessment tests. In April 2020 alone, 1758 test activities were held in the Merlin system. Evaluation of student skills was not considered at the time.

From the beginning of the lockdown in Croatia (mid-March) until the end of 2020, the Centre received about 15,000 user inquiries, and the average number of monthly inquiries increased to 2.000, compared to the time before the pandemic when there were about 700 user inquiries per month. Pandemic and earthquake brought significant stress and fear to everyone, and having also challenge to work (teach and learn) in online environment made teachers and students even more vulnerable, so knowing that there is some support where they could ask everything was a tremendous relief for them. Sometimes these calls were made just to hear someone else on the other side and to be able to say how do they feel. Sometimes users were angry and shouting, sometimes crying, sometimes not willing to listen that they are not doing things right; sometimes these were calls from husbands, parents, grandparents for someone… but all of them needed voice on the other side of the phone who will listen. For that, well trained, skilled and experience people are needed who will know how to react in each situation.
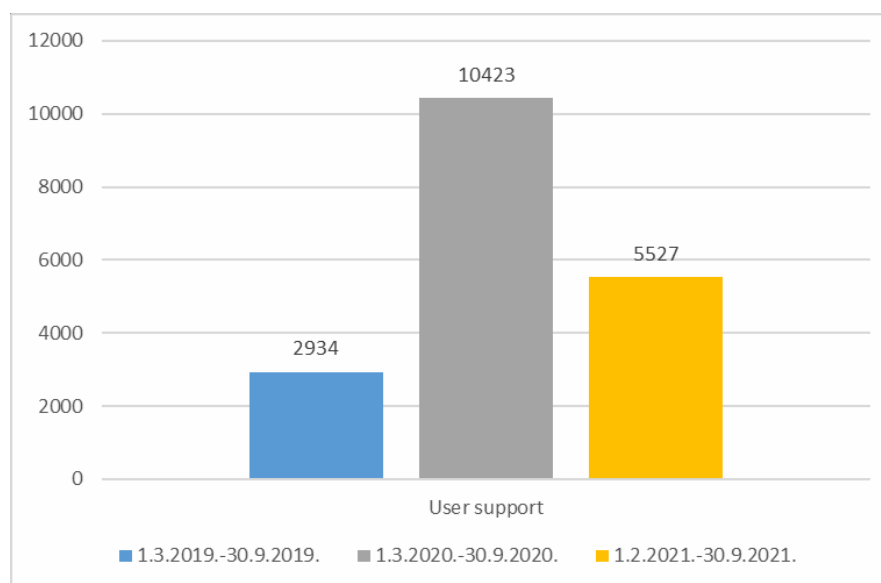
Fig2: Number of inquiries by users answered by the E-learning Centre SRCE team

Fig2 shows the number of inquiries from users to the E-learning Centre team. Significant increase of 255% can be seen between same time in 2019 and 2020. In the 2021 number of inquiries in no longer as big as teachers already have some experience in online teaching and learning and some part of classes are back into classroom. But the number is still almost double to the period in 2019.

In addition to daily live online contacts with teachers, the Centre has prepared and published a number of learning materials for online teaching and learning and additionally highlighted instructions for working in the Merlin e-learning platform so that teachers can immediately find all the information in one place (https://www.srce.unizg.hr/en/elc). Among the materials available are recommendations for online classes, manuals, guidelines, recommendations, animations, and frequently asked questions. New training courses has been prepared for teachers covering various topics, from introductory to the principles of online education and the use of the e-learning platform Merlin based on Moodle, to specifics such as conducting online lectures using videoconferencing systems, how to organize assessment online using for example rubrics or how to set the learning outcomes in Moodle to preparation of the multimedia content in e-course. Although learning materials are widely used, teachers prefer phone contacts as the easiest and the quickest way to solve their problem and advance in their preparation on online teaching.

Picture 1: E-course packages for users

Picture 1 represents the four packages of e-courses for users, primarily for teachers, from basics of using Moodle, to courses related to online assessment and grading, e- course development and other courses like those related to e-portfolio development, on importance of digital skills and others. All e-courses are prepared in Moodle, they are self-paced and upon successful completion, participants will get a digital badge. While in March and April 2020 e-courses on basic of using Moodle had the higher number of participants, in April and May 2020 training courses on online assessment had higher number of participants.

In anticipation of the new academic year 2020/2021, some teachers and higher education institutions hoped

that the students would soon return to the classrooms and that everything would be the same as before pandemic. However, some higher education institutions saw the crisis caused by COVID-19 as an opportunity to introduce digital technologies in the educational process and to improve its quality.

Unfortunately, the pandemic in the autumn 2020 continued and teaching and learning continues in online environment. This time, teachers had some experience with teaching in an online environment, they know some tools, they have acquired certain digital skills and they prepare and conduct classes online faster and easier. So, the amount of support they need is lesser, first fear and panic is gone, and now they try to stay in line with first experiences. In emergency, teachers and educators will use the most convenient and easy to use tools that do not require major shift in teaching methods.

Why support to users is important?

User support is one of the important factors in process of the implementation of ICT and e-learning technologies into educational process. Knowledge of working with ICT and e-learning technologies is not enough. Lack of support and training in new pedagogical methods and technologies can particularly affect teachers who do not feel comfortable with it [3] [4]. It is therefore necessary to provide teachers with training to gain knowledge on how to improve their pedagogical practice, how to replace traditional teaching and incorporate new educational models that place students at the centre of the educational process [5]. An important factor is the available infrastructure in terms of availability of e-learning tools and technologies, IT support and stable internet connection [6]. According to this, it can be concluded that the skills and competencies of teachers, especially competencies related to ICT and pedagogical competencies, are necessary for the adoption of e-learning.

Survey results from the research with higher education teachers at the University of Zagreb done in 2017 [7] showed that teachers need support in the use of ICT (84,8%), in the use of e-learning technologies (82,1%) and in the preparation and development of e-courses (73,6%). The work and support of the E-learning Centre at SRCE was recognized not only by teachers at the University of Zagreb but also at other higher education institutions in Croatia. 65.7% of teachers believe that the support of the Centre is important in the application of e-learning. During pandemic number of research in education has been done with aim to collect information for further steps and actions in use of digital technologies in educational process. Results from research titled Higher education teachers and pandemic: academic and psychological challenges done in 2021 by Agency for Higher Education and Science [8] on sample of 1204 teachers show that support is very important in preparation and conducting online teaching and learning. Namely, 87% of teachers consider support extremely important and mostly important in the use of e-learning technologies, and 86% of teachers find important support in use of ICT. Support in the preparation and development of e-courses is considered extremely important and important to 78% teachers, and 76% of teachers need support related to pedagogy and teaching methods. If we compare research results before and after pandemic, it can be seen that they there is slight increase in percentage which could be explained that teachers are more aware of the support they need in use of digital technologies in education. Similar results to the ones of the research in 2021 by the Agency for Higher Education and Science were gained in the research done at the University North (Sveučilište Sjever) in 2021 [9] where teachers find support in use of e-learning technologies and preparation of online classes very important. The majority of teachers who participated in the survey find support in the use of ICT (88.9%) extremely important, and another 6.2% believe that it is important. 84.8% of teachers consider support in the use of e-learning technologies to be extremely important and very important, and another 11.7% of teachers consider it important. Support in the preparation and development of e-courses is extremely and very important for 73.1% of teachers, and another 17.2% of teachers consider it important. Regarding the support for pedagogical teaching methods, 59.9% of teachers consider it extremely important and very important, and 27.6% of teachers consider it important. Another research on challenges in online teaching during COVID-19 pandemic done in the Montenegro [10], show that although teachers find their digital competences as being 'good', 26.7% of respondents felt that they did not have the necessary technological and pedagogical skills to support synchronous online teaching, and that they needed additional support and assistance in adapting to the new teaching method. These were the teachers who, despite having basic knowledge of the Internet, were often unfamiliar with the technology needed to conduct synchronous online teaching.

Conclusions

In this paper, aim was to present experience of an e-learning centre and importance of such centre in support to teachers, students and institution in the implementation of digital technologies into educational process, especially during pandemic. Pandemic highlighted the need for a more "professional" approach to teaching and learning in higher education. Setting the education for digital age and digital transformation of education requires significant investment into number of issues and one of them is reliable and accessible support and available and easy to use tools and technologies.

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