

ICT and Changes in Education and Professional Activity of Journalists

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I. INTRODUCTION

The coronavirus disease (COVID-19), caused by the SARS-CoV-2 virus, brought about enormous and far-reaching changes in Croatia and all over the world. As expected, the epidemic also affected the teaching process at universities. Initially, the objective was mere survival, whereas now the world is faced with a situation in which what proved to be a good solution during the pandemic ought to be implemented in the system of education. In this context, the task of journalists is multifaceted – they are supposed to educate themselves and at the same time provide education to others, as well as to report on the situation. The question arises as to how ready we were to face the situation in which we found ourselves as a society and as a profession.

Throughout the entire process of society's development, technology was the driving force and every profession used it with regard to the material possibilities and skills it was developing. In the last twenty years, the forms of teaching have been altering due to the development of technology. New technical possibilities, including online teaching, have been increasingly taken advantage of. It is worth noting that these technical options mainly referred to experimental methods that were gradually introduced into syllabi and classes until the sudden spread of the COVID-19 disease. However, under pandemic conditions, experimental distance learning soon became the only reality and the only possible form of holding classes. Teachers and students had to adapt literally overnight to new methods and a new type of teaching.

On the other hand, apart from the changes in the delivery of classes caused by the pandemic, the implementation of ICT in the study of journalism at the Faculty of Political Science (FPZG) in Zagreb is necessary in terms of its educational content. Like many other professions, journalism has changed and adapted to new technological achievements. It is a socially important profession, and it is precisely for this reason that ICT needs to be implemented throughout the entire process of educating journalists. For the purposes of this paper, the courses at the Department of Journalism and Media Production of the Faculty of Political Science in Zagreb were analysed with a view to obtaining an insight into the stage of the process of implementation of the ICT system within Croatia's oldest higher institution offering study programmes in Journalism.

II. PREVIOUS KNOWLEDGE

In the contemporary era of Web 2.0 and beyond, in which the advent of chatbots in the news media has created a new journalistic narrative, the evolution in technology cannot be neglected in the educational phase. [1]

Rapid technological development has undoubtedly facilitated distance teaching [2]. What most terms (e.g., online learning, open learning, web-based learning, computer-based learning, blended learning, m-learning) have in common is the use of a computer connected to the network, by means of which you can learn anywhere, anytime, at any pace, in any way [3].

A more innovative and flexible way of learning via the Internet is supposed to allow for greater focus on each individual student. Online learning is defined as learning using different devices that have access to the Internet (e.g., mobile phones, laptops, etc.) in a synchronous or asynchronous environment. Students are independent of location when learning and when communicating with professors and other students [4]. The synchronous learning environment is structured in a way that allows students to attend live lectures, interact with teachers and students in real time. It makes it possible for students to receive instant feedback. Synchronous learning means that a group of students engages in learning at the same time. Thus, synchronous online learning methods include videoconferencing, teleconferencing, live chat, and live lectures. In an asynchronous environment, the lecture content is not available live, yet students access it through different learning systems. Instant feedback and immediate response are not possible in such an environment [5]. Asynchronous learning is based on the idea that students learn the same material at different times and in different places. It is also called Location Independent Learning. It differs from synchronous learning, in which students are simultaneously involved in activities such as attending lectures or working in a laboratory. Asynchronous learning takes place according to the student's own schedule. During the studies, the lecturer provides materials for reading and viewing, final assignments and evaluation exams. The student has the ability to access, thus fulfilling the required tasks within a flexible time frame. Asynchronous online learning methods include self-directed learning modules, streaming video content, virtual libraries, published lecture notes, and sharing on discussion forums or social networking

platforms. Synchronous learning, in contrast to asynchronous learning, preserves a certain form of social interaction [2]. Anyhow, it is necessary to clearly distinguish regular online teaching from online learning in a pandemic situation, which is actually a crisis situation in which crisis solutions are applied [6].

Andreas Veglis and Andreas Pomportis highlight the study results demonstrating the lack of journalists' knowledge in certain ICT areas [7]. According to the survey Journalists at Work [8], conducted by the National Council for the Training of Journalists (UK) in 2018, 64% of surveyed journalists (N=73) said they needed new or additional skills to be fully effective [8]. In particular, 46% of respondents mention Media Analytics in Social media, 45% – Video editing, 37% – Photoshop-skills, 36% – Data journalism [8]. Furthermore, they have to be multi-skilled and be able to work with a wide range of media platforms [8].

Andrea Veglis also suggests grouping the skills required for this into five categories [10]. The first covers basic ICT skills (work with a set of office applications and the use of basic Internet services). The second category refers to web publishing skills (basic knowledge of HTML and CSS and the ability to work with content management systems – CMS (WordPress, Drupal, Joomla! etc.)). The third category includes Web 2.0 skills: content creation and distribution through platforms and technologies (social networks, blogs, Wikis, social bookmarking, RSS). The fourth category of ICT skills is webcasting – creating podcasts and streams, while the fifth category combines the skills of data journalism, which are used to process a large body of data and visualize it.

According to J. Pavlik, the technology development is rapidly transforming journalism in four areas at the same time: (1) how journalists do their work; (2) news content; (3) structure or organisation of newsrooms; and (4) relationships between news organisations, journalists and their numerous publications [10].

Cindy Royal [11] substantiates the advisability of introducing courses in the field of ICT for future journalists in order to respond to the challenges of today.

Knowledge of new technologies and the monitoring of their evolution can make journalists actively involved in the ever-changing landscape of modern information distribution. [12]

Type of classes	In-person	Hybrid	Online
Academic year 2019/2020 Semester 1	Yes	No	No
Academic year 2019/2020 Semester 2	No	No	Yes
Academic year 2020/2021 Semester 1	No	No	Yes
Academic year 2020/2021 Semester 2	No	No	Yes
Academic year 2021/2022 Semester 1	No	Yes	No
Academic year 2021/2022 Semester 2	No	Yes	No
Academic year 2022/2023 Semester 1	Yes	No	No

Picture 1. Teaching at the FPZG 2019-2023.

III. METHODOLOGY

The method used in this research is study programme analysis. Job openings in this field were analysed, the requirements expected to be fulfilled by applicants were singled out and a comparison was made in the context of the competencies expected to be developed within individual courses and entire study programmes. Another part of the methodology involves qualitative data analysis. Therefore, a questionnaire was submitted to all members of the teaching staff (holders of either teaching and scientific-teaching academic titles) at the Department of Journalism and Media Production (expert sample). This department was selected because of the fact that it offers the largest number of specialised courses directly related to the journalism profession.

IV. RESEARCH

The research is divided into four parts. In the first part, the introduction of ICT tools into teaching activity at the Department of Journalism and Media Production is analysed. In the second part, the introduction of ICT systems into the process of carrying out administrative duties by students during their studies is explored. The third part examines the use of ICT systems directly in the teaching process of future journalists at the Department of Journalism and Media Production (the study programmes of Journalism), while the fourth part analyses the student media and the possibility of cooperation among students of the Faculty of Political Science.

A. Classes within the study programme of Journalism

At the beginning of the pandemic in 2020, the administration of the Faculty of Political Science immediately decided to switch to an online lecture system. The Microsoft Teams programme was chosen and all employees in teaching professions started using it for distance teaching. In academic year 2021/2022, the online

Courses in radio journalism	Courses in print journalism	Linguistic courses	Multimedia courses	Other courses
Basics of Radio	Short Journalistic Forms	Croatian Language and Journalistic Stylistics	Introduction to Media Journalism	Media Management
Radio Newsroom	Basics of Print Media	Croatian as a Media Language	The Art of the Interview	Journalism Profession: Regulations and Practice
Forms of Radio Expression	Forms of Journalistic Expression		Business Journalism	Media and Violence
Radio Journalism	Newspaper Newsroom		Sports Journalism	Journalistic Research Laboratory
	Writing for Newspapers		Thematic Journalism	Journalistic Ethics
			Journalism in the Intermedia Space	Introduction to Journalism
				Media and Diversity
				News History
				Investigative Journalism

Picture 2. Courses

form of lectures was retained, as the FPZG additionally faced the problem of holding in-person classes due to the fact that the Faculty building was partially damaged in the 2020 earthquake [12]. In the first semester of academic year 2021/2022, a hybrid method of teaching was accepted (classes were partly in-person and partly online). In academic year 2022/2023, all anti-epidemic measures were lifted, and classes almost completely resumed the regular in-person form.

Research among the teaching and scientific-teaching staff of the Department of Journalism and Media Production confirmed that everyone returned to in-person classes, except in some extraordinary and sporadic situations.

Online teaching showed certain shortcomings, primarily when it comes to the activity and participation of students in classes. Students use their own computer equipment and Internet connection, so there is no obligation for students to have their cameras on during class. Consequently, it happens that the majority of students only join the classes via the Internet, without actively participating in them. An additional problem are examinations as it is extremely difficult to control the conditions in which students take exams, that is, it is almost impossible to completely prevent their mutual communication. Furthermore, online lectures with more than 20 students proved to be ineffective because it is impossible to monitor their participation. The experiences of the past two years have shown that this method of teaching is applicable to smaller, interested groups, while it manifests shortcomings in working with larger groups (more than 20 students).

The pandemic brought about a long-lasting change in the communication among the members of the FPZG Council, which remained effective even after the end of the pandemic during the academic year 2022/2023. The Faculty Council sessions are still held in a hybrid model, which means that one can attend the sessions either in person or via the online platform. The majority of the FPZG Council members voted in favour of the hybrid model of holding sessions at the session held in January

2023. The only difference compared to communication with students is that Council sessions are held on the Zoom platform.

Most of the communication between students and teachers takes place via the Microsoft Teams platform, which has put the previous communication via the Faculty's Intranet site on the back burner. As a consequence of a temporary relocation of the Faculty to smaller, temporary premises due to the renovation of the main building, most of the office hours with students (according to the survey of the teaching staff at the Department of Journalism and Media Production) also take place online – via Microsoft Teams, i.e., the Zoom application.

B. Facilitating the administrative aspect of the studies

Every September, long queues of students of both junior and senior years used to be formed in front of the FPZG'S Admissions Office. The administration announced that they would finally take advantage of the technological possibilities, in the sense that registrations would be done electronically. In the academic year 2021/2022 the registration of grades in student record books was abandoned, and all grades have been entered through the teacher's university portal ever since. Topics of graduation theses are registered online, the same as the thesis supervisors' verification procedure. From academic year 2022/2023, students have been using the same platform to submit essays in all years of their studies.

C. Use of ICT tools in teaching

A questionnaire was sent to all colleagues in teaching and scientific-teaching positions (expert sample) of the Department of Journalism and Media Production in order to obtain relevant data on the use of ICT tools in teaching. According to the content analysis of the study programmes of Journalism, 14 members of the Department of Journalism and Media Production teach a total of 30 courses, out of which 11 are compulsory and 19 are optional.

ICT tools	Courses In television Journalism	Courses In radio Journalism	Courses In print Journalism	Linguistic courses	Multimedia courses	Other courses
Microsoft Teams	X	X	X	X	X	X
Zoom	X	X	X	X	X	X
Story Editor			X		X	
Google Forms			X		X	
Google Tables			X		X	X
Google Classroom	X				X	
Adobe Photoshop			X		X	
Adobe Premier	X				X	
Adobe After Effects	X				X	
Adobe Audition	X	X			X	
AVID	X				X	
Kinemaster	X				X	
Kahoot	X				X	
Canva	X				X	
Infogram	X				X	
Weebly	X				X	
Animaker	X				X	
Audacity		X			X	
IMovie					X	
Knight Lab	X				X	
InShot	X				X	
Microsoft office	X	X	X	X	X	X

Picture 3. ICT Tools

Most courses are closely related to journalistic practice and provide the best insight into the use of ICT tools in the process of training of future generations of journalists. The teaching staff surveyed confirm that they use the Microsoft Teams and Zoom applications for online communication. The PowerPoint programme and Windows Media Player are used for screening teaching video materials in class.

In the courses related to radio (e.g., Forms of Radio Expression or Radio Newsroom), students learn to use audio content production applications such as Audacity or Adobe Audition.

Learning to work with an editorial system is part of the syllabi of the courses dealing with print journalism. In courses such as Newspaper Newsroom or Writing for Newspapers, an important tool is the specialist programme Story Editor, as well as aids such as Google Forms or Google Tables. In order to be able to process photos, students learn to use the Adobe Photoshop programme.

The largest number of programmes and applications are used in the courses related to television. Video production is also an important segment of multimedia courses. Thus, for the purposes of the courses, such as Forms of Television Expression or Television Newsroom, students learn to use the Kinemaster programme, as well as the Adobe Premiere and Avid programmes (when editing TV and video clips recorded with their mobile phones). As far as other Adobe programmes are concerned, Photoshop and Audition are taught (e.g., for the purposes of sound processing in podcasts). For the needs of "television" courses, as well as multimedia ones, such as Journalism in a Multimedia Environment, Business Journalism and Sports Journalism, students use various programmes on smartphones for editing and recording, depending on the device model. Students usually use Canva programmes for the purposes of creating graphics and animations, and sometimes use them to create presentations of their works. Moreover, they use Infogram and Animaker tools as well. Knight Lab is used to create interactive journalistic content (maps, timelines, galleries, etc.).

Special emphasis in the courses of the Department of Journalism and Media Production is laid on Google fact-checking tools. Students are taught to use Weebly for the purpose of creating websites.

Certain television and radio courses (e.g., Television Journalism) use the Google Classroom tool for written exams, as well as Kahoot (for occasional in-class testing of students' knowledge).

D. Student media

The FPZG is the only higher education institution in Croatia that offers students the opportunity to work on all existing types of media platforms, which makes it unique. Student Television has been operating at the FPZG since 6 November 2012. It has complete technical capabilities for recording, editing and broadcasting journalistic reports. In this way, students can learn absolutely everything regarding television journalism (reporting, technical support, production, directing). Television Student has its

own website www.televizijastudent.com where students gain additional experience in web journalism.

The FPZG's radio channel Radio Student has been operating since 31 October 1996. This radio broadcasts in Zagreb at a frequency of 100.5 MHz. Students have the opportunity to practically master all journalistic and technical skills related to radio broadcasting. Radio student also has its own website www.radiostudent.hr where you can listen to the programme via streaming. This website provides additional information about the programme being broadcast and about various current events, with an emphasis on the music scene.

The FPZG is the publisher of Global, a student newspaper which has been published in a print format since 2014 and in a digital format since 2017. Due to financial reasons, the printed edition is not published regularly, yet occasionally. However, the portal www.globalnovine.eu is regularly updated and offers an excellent opportunity for practical journalistic training on the web platform.

V. CONCLUSION

The research showed that students at the Faculty of Political Science in Zagreb have adequate opportunities to get acquainted with modern ICT tools and systems, which will later facilitate their entry into the world of professional journalism. The FPZG offers its students the possibility of active work in all the media (TV, radio, press, Internet and social networks). In the course of their studies, students get to know most of the ICT tools currently available on the market. The problem is the fact that the Faculty is not able to pay for IT equipment (computers and smartphones) for students, and therefore segregation occurs, that is, students with better payment options have better tools at their disposal. It is precisely in this field that we should try to find a solution, so that IT equipment becomes available to all students under the same conditions.

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