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SOME MEANS AND FORMS OF VIRTUAL PRESENTATION OF DESIGN IN THE CONTEXT OF PANDEMIC SITUATION IN SLOVAKIA

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In our study, we deal with the experience gained during the Covid-19 pandemic in Slovakia in the replacement of full-time teaching of design in a distance way using non-commercial freely accessible communication and visualization programs. Based on the experience with these programs during the teaching of the studio of "Basics of design" we can say that although full-time teaching has many undeniable advantages, it can be replaced for some time, even a longer time, for example 2 semesters by distance learning, without appreciable losses of any qualitative indicators. In the article we publish the used programs and platforms used of works of students of the 1st year of design studies.

Key words: Design, Covid-19, Distant learning, Free visualization software.

INTRODUCTION
The first measures against the Covid-19 epidemic in Slovakia were adopted on March 6, 2020, and an emergency situation has been declared since March 12. From 16 March 2020, the schools were closed and at the same time the state of emergency began to apply.

PURPOSE
Our Technical University in Košice switched to distance learning from March 6, 2020. We also had to respond to this fact at the Faculty of Arts by teaching in the study program "Design". As teaching takes place in various forms, we had to take adequate measures for each form of teaching to ensure sufficient quality. We decided to arrange the lectures in the form of recording and sharing video recordings for students of the faculty, while the form of sharing was regulated by the lecturer. Exercises were performed in the home conditions of students in the form of assignments and consultations of assignments. The biggest challenge was the

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studio subjects, where we feel the absence of full-time teaching the most so far. In the studio subjects, joint video conference transmissions of all students of the studio with the head of the studio and an assistant were and still are performed. We will clarify the form of consultations later.

RESULTS AND DISCUSSION

Influence of pandemic constraints on teaching design. The situation until September 2020 was not extremely worrying compared to further developments, despite which universities in Slovakia remained in the distance regime. Since then, however, the situation has deteriorated dramatically, and according to the graph, it can be said that it was a warning before, and now the first wave of the disease has begun, where improvement can only become apparent after massive vaccination. If we wanted to interpolate the further development of the graph, we will come to the conclusion very quickly that in this academic year the distance form will not be changed to full-time. Therefore, we must be able to choose in the distance form, based on previous experience, those forms of teaching that would make the most of the potential of students, teachers and available technical equipment without significant impact on quality compared to the pre-Covid-19 pandemic.

The impact of pandemic restrictions on design talent examinations did not manifest itself last year, as talent examinations take place at our Faculty of Arts in January and February of the respective year. This year, however, due to the development of the situation Fig. 1, we decided not to postpone the talent exams until the summer term, but we performed them in the usual time in a fully distance form, while maintaining all the tasks, as in the full-time way of performing them. Applicants did not physically send the housework, but uploaded it to the university's Moodle distance learning system. Moodle is provided free of charge as open source software (open source software) under a public GNU license. In this system, we have created full functionality for students to submit homework and all the results of assignments from tasks: drawing, 2D design, 3D design, tests and oral interviews. The admissions committee had 10 members, and the students were divided into small groups to carry out the tasks, which they checked and consulted on pedagogical supervision via the Cisco WebEx video conferencing system [1]. After completing the talent exams, we came to the conclusion that in such a form it is possible to achieve the same degree of objectivity as in the presence form. Therefore, the outcome of the admission procedure has not been reflected in the statistical evaluation for the last ten years.

During the Covid-19 pandemic, all design studios worked in full force. In them, we enter specific topics for the implementation of design tasks in each year of study. The topic and conditions of the assignment are published in the 1st week of the semester. The assignment is presented by the teacher within the videoconferencing "Webex meeting" and then the teacher immediately consults all student questions. The meetings are then repeated to the extent that they copy the schedule planned according to the full-time study, e.g. for bachelor study [2].

In some cases, teachers also use other video conferencing systems such as MS Teams or Skype for communication, but we do not support or prohibit their use at the Faculty of Arts. Thus, from a formal point of view, communication between students and teachers continues as:

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a – written - presentation of analyzes, background materials, and presentations / sending and sharing of files;

b – verbal – mediation and explanation of tasks, commenting and consulting the presented results / video conferences;

c – visual – screen sharing during video conferencing, digital sending of sketches, photos and videos of real models, virtual models and presentations / sending and sharing of files, video conferencing.

Table 1. Overview of the admission procedure for bachelor's studies
at FU TUKE in the years 2012 to 2021

Akad. year Bc. Study	Number of registered applicants for SP				Number of participating applicants for SP				Number of applicants accepted for the SP			
	architecture and urbanism	design	free fine art	overall	architecture and urbanism	design	free fine art	overall	architecture and urbanism	design	free fine art	overall
2012/2013	85	140	98	323	75	133	78	286	18	16	25	59
2013/2014	76	105	101	282	71	87	79	237	17	17	20	54
2014/2015	67	87	98	252	61	78	86	225	19	16	20	55
2015/2016	42	90	61	193	39	76	49	164	29	16	23	68
2016/2017	53	78	65	196	48	62	61	171	26	18	25	69
2017/2018	42	69	61	172	38	62	55	155	21	17	21	59
2018/2019	53	80	54	187	46	69	51	166	21	20	21	62
2019/2020	57	85	84	226	51	68	78	197	21	18	25	64
2020/2021	58	76	66	200	51	68	56	175	21	18	24	63
2021/2022	51	78	62	191	48	75	55	178	21	18	25	64

Possibilities of distance communication in the phase of surveys and analyzes. In the area of preliminary analyzes and research of design assignments in full-time and distance teaching, students mainly used the Internet, as a source of knowledge and inspiration, this does not change even now. Students interactively present vertical (historical) analysis and horizontal (market) analysis from the area of the solved product. Formally, the visual presentation results in successive slide presentations that are described in writing and verbally commented on directly when presented by a video conferencing system, for example by sharing a screen for all video conferencing participants. However, students lack the opportunity to travel and actually visit exhibitions, museums, galleries, while they could a priori learn, cultivate and at the same time do research in the real world in the field of their design role. We lack a significant factor, namely the impact of the changing environment on humans, because it is locked in isolation for a long time.

Possibilities of distance communication in the sketching and design phase. Sketching is essential for design. In the distance method of teaching, sketching can still be performed classically by hand and then digitized, scanned, photographed, or sketched digitally with a tablet, or in another digitizing way, with a touch pen, etc. Subsequently, the sketches can be modified, modified and varied post-processor, if necessary. A large number of open source as well as commercial solutions are available for sketching. Hand drawing has proved its worth for

preliminary sketches and digital drawing has proved its worth for presentation sketches,

Sketches form the basis for the possibilities of continuous communication and presentation in creating a design project of students, especially by comparing the presented solution in the communication triangle: the transmitter is a student, the receiver is a teacher and the medium of communication is a sketch (2D or 3D). It can then be presented by real physical design, versus virtual design, such as virtual modeling and photorealistic rendering in the open source Blender program. After communication, these can then form the basis for verifying the results of real and virtual creation. It is possible to use various forms of virtual 3D models in photorealistic visualization, animated, or in an interactive virtual environment, e.g. in the open source program Blender in the UPBGE extension or in the game engine system UNITY or Verge3D add on for Blender.

Possibilities of presentation of the final results of design. The basic possibility is photo-realistic visualizations of the results of design works presented and published, for example, at competitions, social networks or the faculty's website. This option is widespread and self-evident, but it is also the most effective for basic as well as detailed information of the audience.

Another possibility is technical drawings and photographs of real products made by design proposals, which further elaborate and present the design project and also create an opportunity for possible addressing of the manufacturer or customer.

An advantageous way of presentation in individual as well as collective presentation is to exhibit the design in the virtual reality 3D gallery, which can be created by your own solution based on the above computer animations and games, or using a third party application such as the Artsteps platform.

CONCLUSIONS

In our study, we looked at the possibilities of replacing full-time teaching of design in a distance way using non-commercial, freely accessible, visualization programs. Based on the experience with these programs, we can say that although full-time teaching has many undeniable advantages, it could be replaced for some time, even for a long time, for example 2 semesters at the College of Fine Arts. The quality and objectivity of the selection of candidates is not affected by the talent entrance examinations for the study program design performed in a distance manner.

Never in the history of teaching design, but also in general, in one year have there not been such a high increase in the use of technical and software means of visual communication by students and teachers of the faculty. I expect that coexistence with the Covid-19 mutation pandemic will continue for the next 15-20 years, so it is possible that the current makeshift will become a permanent way of teaching, if not, I believe that much of the experience gained by using design communication distance learning will enrich the education of designers even after returning to the full-time teaching method.

REFERENCES

1. Cisco WebEx. URL: https://webex.tuke.sk/
2. Faculty of Arts at the Technical University of Košice. URL: https://fu.tuke.sk/