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Crisis Remote Education from the Perspective of One-year Experience of Academic Teachers

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***Abstract*—The article presents the results of the questionnaire research carried out after the first and repeated after the second semester of crisis distance education, conducted at the Academy of Special Education. Academic lecturers participating in the study indicate a significant decrease in the level of commitment, activity, the regularity of work and the quality of performing tasks presented by students. Lecturers benefit from training and technical support organized by the university. They feel an acute inability to contact students personally, but appreciate the time savings and no need to travel to work. The respondents point to the problem of controlling student integrity during remote examinations. Growing experience in remote education results in higher IT competences and conviction to this type of teaching.**

***Keywords*—crisis remote education, higher education, distance teaching, distance learning, emergency e-learning, COVID-19, SARS-CoV-2**

I. Introduction

From March 14 to 20, 2020, an state of epidemic threat was in force in Poland, and from March 20, 2020, following the regulation of the Minister of Health (Journal of Laws of March 20, 2020, item 491), an epidemic state was in force. Restrictions were introduced in the movement of people and functioning of institutions and workplaces. The universities were first closed for the period March 12-25, 2020, and then switched to crisis distance learning. The sudden transition from traditional to remote education forced universities to adapt to the situation efficiently and maintain the continuity of education, without reducing its quality. For this purpose, universities have launched classes through available platforms, such as Microsoft Teams, Google Meet, Zoom or Moodle [1]. Training in the use of software and remote classes for lecturers were organized, repositories with auxiliary materials and software manuals were prepared, and instructions for midterm exams and diploma exams were prepared [2]. These actions, although they were taken immediately, were ongoing, so the implementation of the developed guidelines was not immediate, which also postponed their effects.

The need for long-term distance learning by unaccustomed teachers was associated with many things. The organization of technical facilities, i.e. a computer with adequate performance, Internet connection with adequate bandwidth and a workplace that would allow classes to be conducted, was often organized by the teachers themselves, who did not receive any support from the university or the state [3]. The pandemic revealed weaknesses in material, organizational and relational resources [4] and distance learning exacerbates the differences between learners rather than levelling them [5]. In the first weeks of crisis remote education, there was chaos, resulting from the multiplicity of ill-conceived solutions, the gradual introduction of official university guidelines or the ongoing process of updating teachers' IT competences [6]. It was particularly acute for students [7], among whom negative emotions dominated, such as anxiety, sadness, exhaustion or a sense of loneliness, as well as mental fatigue, decreased motivation to learn and decreased efficiency, even though remote education was assessed by them positively, although it requires greater independence [8]. Other psychosocial costs of remote education indicated by both teachers and students include fatigue, mental exhaustion and physical exhaustion [9]. The literature on the first months of the pandemic shows that academics around the world coped with the challenge of distance learning to a varying degree [10-14].

After the end of the first semester of crisis remote education, a survey was conducted among the lecturers of The Maria Grzegorzewska University. The research concerned the respondents' reflections on the first months of education in the pandemic summer semester [15]. The obtained results allowed for the development of recommendations for university authorities, lecturers and students, which were implemented at the beginning of the next winter semester [2]. This article presents the results of research carried out after the next semester of remote education and the results of comparing the opinions and experiences of academic teachers on two teaching semesters implemented in different forms of remote work.

II. Method

The research aimed to look at crisis remote education from the perspective of one year of experience in conducting it. This was to evaluate the introduced regulations and improvements, as well as to develop individual threads appearing in the statements of respondents obtained in June 2020. The case study was used again and the research was limited to one institution, and the measurement was repeated using the diagnostic survey method based on the questionnaire technique. The previously used tool was modified and updated, adapting it to the needs of the study. The link to the questionnaire was sent by e-mail to the employees' business addresses. The research was conducted in

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February 2021, after the exams ending the winter semester.

In the survey took part 77 people, which constitutes 21.1% of the employed. The youngest respondent was 27 years old, and the oldest 66 (M=43, Me=41, Mo=41). Most of the respondents were women (67 people, 87%), and a minority were men (10 people, 13%). Most of the respondents had a PhD degree (49 people, 63.6%), 18 people (23.4%) had a master's degree, and eight people (10.4%) had a postdoctoral degree. The questionnaire was completed by two people (2.6%) with the title of professor.

III. Results

Academic teachers evaluate their IT competences after the second semester (M=3.95, Min=2, Max=5, Mo=4, Me=4, Ske=-.135, K=-.496) of conducting crisis remote education significantly higher (F=3.564, p <.061, t (140)=- 2.078, p <.040, Hedges g=.35), than after the first (M=3.68, Min=1, Max=5, Mo=4, Me=4, Ske=-.504, K=.716). The respondents, asked to evaluate the change in their IT competency level on a five-point scale (from definitely decreased to definitely increased), indicate its increase (M=4.08, Min=2, Max=5, Me=4, Mo=4, Ske=-.326, K=-.475).

Lecturers indicate a significant decrease in the level of student involvement in their assessment (F=.001, p <.979, t (140)=3.815, p <.001, Hedges g=.64) after the second semester of distance learning (M=3.16, Min=1, Max=5, Me=3, Mo=3, Ske=-.289, K=-.507) compared to the first semester (M=3.66, Min=1, Max=5, Me=4, Mo=4, Ske=-.356, K=1.047). The same applies to the assessment of students' independence (F=.160, p <.690, t (140)=3.321, p <.001, Hedges's g=.56) after the winter semester (M=3.18, Min=1, Max=5, Me=3, Mo=3, Ske=-.267, K=-.093) compared to the summer semester (M=3.68, Min=1, Max=5, Me=4, Mo=4, Ske=-.578, K=.635).

Lecturers, when assessing six elements common to remote education and traditional education, indicated in which case they are more visible. The lecturers' assessments after the first and second semester were compared in terms of involvement in learning, student activity, contact with the lecturer, regularity of work, timeliness and quality of task performance. The differences turned out to be statistically significant (Table I).

TABLE I
THE SIGNIFICANCE OF DIFFERENCES IN THE EVALUATION OF EDUCATIONAL ELEMENTS

	Levene's test		t Test			Hedges'
	F	p	t	df	p	g
Involvement	7.636	.006	5.051	112.276	.001	.88
Activity	6.373	.013	4.911	118.203	.001	.85
Contact with the lecturer	1.898	.171	3.245	140	.001	.55
Regularity of work	.458	.500	2.738	140	.007	.47
Timely execution of tasks	.059	.808	2.536	140	.012	.42
Quality of task performance	.133	.716	4.899	140	.001	.82

The lecturers assessed the listed elements significantly lower after the second semester, which means that they believe that in their opinion they are more visible in the case of traditional education (Table II).

TABLE II
DESCRIPTIVE STATISTICS FOR EVALUATION OF EDUCATION ELEMENTS

	Summer semester 2020							Winter semester 2021						
	M	Min	Max	Me	Mo	Ske	K	M	Min	Max	Me	Mo	Ske	K
Involvement	3.02	1	5	3	4	-.713	-.925	2.08	1	4	2	2	.313	-.782
Activity	2.92	1	5	3	4	-.659	-1.068	2.00	1	4	2	1	.575	-.632
Contact with the lecturer	3.08	1	5	3	4	-.743	-.624	2.40	1	5	2	1	.353	-1.132
Regularity of work	3.26	1	5	3	3	-.787	1.247	2.84	1	5	3	3	-.293	.539
Timely execution of tasks	3.48	1	5	4	4	-1.000	2.944	3.14	1	5	3	3	-.278	1.238
Quality of task performance	3.29	1	5	3	3	-.606	1.942	2.65	1	4	3	3	-.652	.314

After the second semester of distance learning, the lecturers also found that the adequacy of the grades was slightly higher in the case of traditional education (M=2.38, Min=1, Max=5, Me=2, Mo=3, Ske=.049, K=.215).

The technical resources of the lecturers related to conducting the classes have not changed significantly. 89.6% of lecturers have a computer for their use (vs 87.7% in the first semester). Fewer people (35.1%) use mobile devices (vs 44.6% in the first semester). Slightly fewer people (11.7% vs 15.4%) share the computer with other household members. As for the way of connecting to the Internet, not much has changed either. Cable modem or optical fiber is used by 68.8% (vs 64.6%), and a mobile connection by 39% (vs 35.4%). Slightly fewer people use the Internet provided by a smartphone (18.2% vs.24.6%).

Previous results revealed the need to renew training in remote education and the use of software for lecturers, to systematize the material and collect it in one, accessible repository, as well as to organize technical support for universities. Two-thirds of lecturers (66.2%) benefited from training, and 18.2% from technical assistance. A few people (6.5%) used the equipment provided by the university. One person asked to borrow a laptop but was refused (the respondent did not justify this decision). Over a quarter of people (27.3%) declared that they had not benefited from training or support from university.

The dominant way of conducting classes are virtual meetings with groups of students. Due to the guidelines of the university, all classes are synchronous. The number of virtual individual meetings increased (88.3% vs 72.3%), and chat is used more often for communication (87% vs 64.6%). The number of individual telephone calls decreased (37.7% vs. 41.5%) as well as instructions sent by e-mail (59.7% vs. 76.9%). Lecturers more often ask students to work individually (63.6% vs. 38.5%) and order group work (74.1% vs. 23.1%). More lecturers send students links to important content (85.7% vs 78.5%). The percentage of lecturers who send students their materials (76.6% vs. 76.9%) and materials of other authors (59.7% vs. 56.9%) remained at a similar level. The number of teachers recording their lectures decreased (14.3% vs.20%).

After the introduction of remote education in the synchronous mode, the emphasis has shifted significantly in the advantages of this form of teaching perceived by teachers (Table III).

TABLE III.
ADVANTAGES OF REMOTE EDUCATION - COMPARISON OF RESULTS FROM TWO SURVEYS

Response Category	After the first semester		After the second semester	
Better, individualized, faster and more efficient contact with students	10	15,38%	35	45,45%
Saving time	9	13,85%	33	42,86%
Possibility to work from home	9	13,85%	---	---
Availability and ease of transfer of materials	9	13,85%	9	11,69%
Students' independence	9	13,85%	3	3,90%
The presence and involvement of students in the classroom	8	12,31%	10	12,99%
No advantages	6	9,23%	3	3,90%
Raising IT competences of students and lecturers	5	7,69%	9	11,69%
No travel necessary	4	6,15%	33	42,86%
Convenience and flexibility	4	6,15%	18	23,38%
Technical issues	---	---	9	11,69%
Other	16	24,62%	9	11,69%
Sum	84		171	

The respondents more often notice better (faster, more individualized) contact with students, time savings, improvement of IT competences, no need to travel to the university, convenience and flexibility, and technical issues. In turn, to a lesser extent than after the first semester, teachers see the advantages of remote education in the possibility of working at home, student independence and in the category of other (asynchronous work, the possibility of returning to the material, no need for pointless duty at the university, safety during pandemic).

The percentage of people who believe that remote education has no advantages has also decreased. It is worth noting that teachers appreciate the "human aspect" of their interaction with students, which relates to a better understanding of students, their home situation and problems. Remote education is also a pretext for them to constantly improve themselves.

Also in the assessment of the disadvantages of remote education, differences in the statements of the surveyed teachers after the first and second semester are noticeable (Table IV).

TABLE IV.
DISADVANTAGES OF REMOTE EDUCATION - COMPARISON OF RESULTS FROM TWO SURVEYS

Response Category	After the first semester		After the second semester	
No direct contact, no physical presence	28	43,08%	35	45,45%
Lack of cooperation, integration, interaction, healthy competition, discussion, limited contact, anonymity	18	27,69%	19	24,68%
Passivity and low involvement of students, reluctance to use cameras, problems with controlling active presence in classes	14	21,54%	31	40,26%
Technical problems and lack of support	11	16,92%	12	15,58%
Longer working time (preparation of materials, reformulation of tasks, correspondence)	11	16,92%	9	11,69%
Cooperation between students during exams, inability to verify independence of students' work, potential cheating at tests / exams	6	9,23%	19	24,68%
Inability to communicate everything remotely (e.g. active forms of classes, use of space or other resources)	6	9,23%	17	22,08%
Lack of control over the learning process and knowledge checking	4	6,15%	10	12,99%
Other	22	33,85%	21	27,27%
Sum	120		173	

In synchronously conducted remote education, the lack of student involvement and their inactivity during classes becomes

more acute, which is also associated with the lack of control over who is present. An important disadvantage, which the surveyed teachers more clearly notice, is the lack of independence in the work of students, which may also be reflected in the final assignments and examinations. Distance education is also associated with an unsatisfactory assessment of the methodology of classes conducted in this mode, as well as the lack of control over the learning process and checking the learning outcomes.

A smaller percentage of teachers, compared to the first semester of remote education, believe that the disadvantage is the longer working time. The negative assessment of isolation, lack of cooperation and limited interpersonal contacts as well as technical problems remain at a comparable level. The teachers' frustration is reflected in the phrase "We pretend to teach, and the students pretend to learn".

The research also compared the difficulties described by teachers after each of the two semesters of remote education in APS (Table V)

TABLE V.
DIFFICULTIES IN IMPLEMENTING REMOTE EDUCATION – COMPARISON OF RESULTS FROM TWO SURVEYS

Response Category	After the first semester		After the second semester	
Digital exclusion and inequalities (lack of Internet and / or hardware, low-quality / old / inefficient hardware)	20	30,77%	19	24,68%
Technical problems	14	21,54%	17	22,08%
Low IT competences	10	15,38%	3	3,90%
More time and work of the lecturer is needed to prepare and implement the material	8	12,31%	6	7,79%
The need to work on private equipment (old, maladjusted, without the support of the university)	8	12,31%	5	6,49%
No direct interaction and no possibility of discussion	7	10,77%	42	54,55%
Inability to control the student's work independence, cheating	7	10,77%	3	3,90%
Lack of training in the field of distance teaching and the operation of programs and support of universities and IT departments	6	9,23%	1	1,30%
Lack of student involvement	4	6,15%	11	14,29%
Attachment to the computer, long-term work in front of the monitor, health consequences	4	6,15%	7	9,09%
Difficulties in documenting and assessing learning outcomes	4	6,15%	7	9,09%
Students failing to turn on cameras or turning them off repeatedly	3	4,62%	13	16,88%
Other	16	26,62%	16	20,78%
Sum	111		150	

Among the respondents, the percentage of people who consider factors related to digital exclusion, low IT competences, the need to work with outdated equipment, lack of control over the independence of students, and lack of training as difficulties decreased.

The percentage of people who consider the lack of interaction with people, the lack of student involvement, and the lack of turning on cameras by students to be difficult have increased significantly. The assessment of technical problems remained at the same level.

Teachers' statements regarding the remote examination were also analyzed. Every fifth respondent (14 people, 18.18%) believes that this method of examination has no advantages, four people (5.19%) did not answer, one has no opinion, one does not notice the differences between traditional and remote examination. The main advantages include the use of opportunities related to modern technologies (42; 54.55%), including the fact that the system checks and evaluates tests, archives the results, and allows you to organize tasks (in MS Teams). This is illustrated by the words "technically: it is easier to perform both test and essay work, it is easier to present and discuss the results". The second category of answers related to the organizational possibilities offered by remote testing (30; 38.96%). In this category, the respondents mentioned such advantages as obtaining quick results, matching deadlines (flexibility), no need to come to the university, work is easier to check, it is easier to read student work on a computer compared to handwritten work, no paper is wasted and the way of examining changes; there is no need to keep paper-based exams in cabinets, and this form allows mobility. Individual persons indicated: time management, easier presentation and discussion of results, greater comfort of conducting exams, no need to use a large room, better monitoring of students' progress, a faster pace of work and better individual contact with students. This is reflected in statements such as "Students do not have to wait for hours outside the room for an individual oral exam, they and I save time". Other responses obtained from the respondents concerned the transparency of exams, less stress for students taking exams at home, increasing the objectivity of assessment and the possibility of self-improvement.

When speaking about the disadvantages of this type of examination, three people stated that they had no problems in this regard, and one did not provide an answer. In the opinion of the respondents, the greatest shortcomings of remote examination include the lack of control over the independence of students, the examination process itself and the honesty of students. As one of the respondents writes about these problems, “It takes ages to prepare tests. And still, the students take pictures of them and pass on questions to each other." The second category of shortcomings are technical issues related to the conduct of the exam. Here, apart from the technical problems, individual persons indicated such elements as

students logging from outside the system, cheating exam participants by using software plug-ins, differences in access to hardware, networks and software, the need to archive papers, lack of tools and support for remote examination, the need to prepare many versions of tests, limitations in creating tests by MS Forms. Other problems indicated by individual teachers included: difficulty in checking knowledge, recognizing that students are rather practicing test-solving skills, too little time for oral exams, no personal contact during oral exams, lack of objectivity, no differences, time-consuming controlling of independence. As part of the criticism of the remote exams, there were such statements: "I do not see any advantages that would outweigh the oral exam, analysis of a given issue, and I noticed that the written works are similar in the whole group"; "Students deepen their knowledge and skills for the exam to a lesser extent, and to a greater extent practice “the efficiency of passing tests” and preparing materials for exams" and "I have a feeling that I am participating in an arms race "who will outsmart whom?". I feel bad in this race. At the same time, I know that the "difficulties in cheating" proposed by MS Forms are nonexistent, so I am in a losing position in this race."

Expanding this question, a request was made to define the methods of checking the independence of students' work by the surveyed teachers. Eight (10.39%) people did not check independence, five (6.49%) wrote that they did not have such a possibility, and three (3.90%) did not answer this question. One person each indicated that there is no good way, that there are no such skills, that they do the same as stationary. One of the people who declares that he does not check independence indicates the use of the so-called open book exams. Another writes, "I do not verify independence - I think that even if students do not work independently, they learn from each other and thus acquire knowledge and skills." Those who check the extent to which students' work is created independently, first of all, choose the appropriate forms of exams (51; 66.23%): they are based on problem and reflection tasks, referring to learners' experiences, they use oral questioning, they work properly during classes, use different versions of tests and tasks, ask for work that cannot be downloaded, formulate open questions. Single solutions include: dividing students into subgroups, dividing content into small parts of the material, frequent assignments, individual projects, written assignments, tests, works based on specific books or articles, research reports, increasing the level of difficulty, as well as ordering to write in your own words, the use of such tasks that the search for answers takes a long time, good preparation of the exam. Some teachers (19; 24.67%) use special strategies aimed at checking papers. These include: copying excerpts and looking for them on the Internet, looking for similar works, carefully checking the works, directing questions to the authors and checking the work with the bibliography. Examples of such activities are described as follows: "I arrange the questions so that the possible search for answers takes a long time (the student has to combine several different pieces of information to provide one answer)." 17 (22.08%) people use the available technical possibilities: they expect that cameras and/or microphones are turned on, they check the time of editing the file and the author's data (file metadata) and also expect documentation of work, e.g. in the form of a film from work. Individuals indicated sending tests via MS Teams, photographic documentation of work stages, using MS Forms, using the change tracking and comments mode. The limitation is that "even when students answer open questions similarly, I am not able to prove their communication during the exam".

The respondents were also asked to declare which subjects could also be taught remotely in the future. 13 (16.88%) people said that there were no such subjects, five (6.49) did not have an opinion. Three people (3.90%) did not answer this question. Among those who select such subjects, 29 (37.66%) people indicated lectures, 12 (15.58%) - seminars, five (6.49%) - exercises, and four (5.19) all IT-related subjects, individual consultations. Three (3.90%) people thought that these should be part-time studies subjects, two people (2.60%) - workshops and project activities. Individual respondents gave such answers as research project, internships, foreign language classes as well as duties of the lecturers. It is worth adding that the respondents also provided 40 specific names of subjects that they consider to be worth doing online.

Teachers also get feedback from students. For this question, five people (6.46%) did not answer or declared that they did not receive any feedback and conducted their evaluation of the activities; four (5.19%) people indicate that they use information from university evaluation surveys. 33 (42.86%) of the respondents receive generally positive feedback from their students. 26 (33.77%) indicate that students report various problems related to distance education, which include those related to equipment and the Internet, the desire to return to university for classroom lectures, the need for direct contact and a low level of mental well-being, difficulties in focusing. Individuals indicate that students are lost in terms of contacts with lecturers and sending materials, and about the resistance associated with switching on the camera. 22 (28.57%) students report to the surveyed teachers various issues regarding didactics: difficulties in dividing into groups and reluctance to do homework also (single reports) dissatisfaction with unsatisfactory grades, too fast transfer rate, overloading with tasks, writing overload, willingness to negotiate grades, requests for material sharing, requests for comments, requests for technical support, requests for a break. Students also send interesting links and interesting solutions. They answer the question of whether the content is understandable. Students signal that they devote more time to study, comment on the work of other students. They also demonstrate being interested and active and test the IT skills of their lecturers. Some comments (17; 22.08%) refer directly to the work of teachers. Students praise aspects such as teamwork, class materials as well as: recorded lectures, sending materials before class, real-time classes, workshop classes, quick feedback, interesting topics, attractive methods, nice atmosphere, understanding and no boredom. Five (6.49%) people wrote about the positives of remote education, such as the possibility of learning in any position, no need to go to the university, online duty hours, the possibility of working in groups, the possibility of combining many activities. Three respondents referred to the way of communication: receiving many emails from students, receiving private messages and oral statements. Individual comments

received from the respondents were as follows: for thought, surprising, inadequate to the contribution of the lecturer's work, students' expectation of constant availability and quick response.

IV. Discussion

After another semester of remote education, fatigue from the situation of social isolation is noticeable. The monotony of remote learning, where the boundary between work and life is blurred, harms the assessment of, among others, student involvement and activity. The research showed many changes related to the transition from "chaotic online education" to system solutions, based on the evaluation of didactic work after the first semester of crisis remote education. Organizing training courses and launching university support for lecturers turned out to be a good idea, which was used by many people. This allowed raising the level of IT competences of academic teachers, which worked positively into the quality of distance learning, although the quality of the equipment and internet connections they use in their work has not changed significantly. These changes are visible not only concerning e-learning conducted before the pandemic [16] but also to crisis-related remote education in the summer semester 2019/2020. What is indicated is not only the willingness and necessity of the lecturers to develop their IT and didactic competences [17]. An example of how to teach with the use of new technologies is especially important at universities preparing future teachers. Although, regardless of the field of study, modern university graduates should present an above-average level of IT competences [18], and remote education is an opportunity to shape these competences.

Research indicates that, according to the teachers' assessment, after the implementation of remote education in the synchronous mode, the level of student involvement and independence decreased compared to the education in the mixed-mode (asynchronous and synchronous at the choice of lecturers). This is all the more worrying as independence is a desirable feature on the labor market, associated with self-discipline, motivation and activity [18]. An important finding turned out to be a change in beliefs about commitment, activity, regularity, quality of task performance, contacts with lecturers and adequacy of the grades, the higher level of which is seen in the case of stationary education compared to remote education.

The necessity to use MS Teams improved communication between lecturers and students. The boldness of students in dealing with lecturers can be seen in the growing number of messages exchanged in chat, which is more convenient than highly formalized direct or e-mail communication. The quality of communication and faster and individualized contact allows to build a partnership between teachers and students. Unfortunately, the lack of personal contact, limited integration and increasing anonymity are indicated by almost half of the respondents as a disadvantage of remote education. Despite conducting classes in a synchronous mode, students are passive, they do not want to use cameras, and it is difficult to control their presence in the classroom. It is certainly not due to the lack of IT competences [19]. Paradoxically, the lecturers point out that remote education allows you to get to know students better and get to know them more closely. The lack of direct contact and interaction is acute, as is the inability to develop certain social competences and initiate discussions, which is also pointed out by other researchers [20]. In the opinion of many academic teachers, the process of studying is based not only on independent work but also on community - the activities of students and lecturers, united by common goals and ideas [21]. The lecturers' critical assessment of students' involvement in classes has increased significantly, which is reflected, among other things, in the lack of readiness to turn on the cameras. This isolation of students meant that teachers did not receive feedback on the level of understanding of the content or the accessibility of the methods used. The problem for the surveyed teachers is also the lack of independence of students, which goes beyond the classes, including also final assignments and exams, which is an element of the feeling of lecturers' lack of control over the teaching and learning process and checking the learning outcomes.

No need to travel to the university and time savings allow lecturers to use it effectively, for example, for writing articles, designing research or analyzing their results, or for self-education. Unfortunately, it does not involve numerous participation in the presented study.

Remote examination is debatable [22, 23]. Verification of knowledge in a remote mode, imposed by the university, both concerning the semester settlements of learning outcomes and diploma examinations is an interesting topic of research. Lecturers appreciate the technical possibilities of conducting exams. They indicate convenience, the ability to quickly obtain results and trouble-free archiving of works. There is no control over the independence of students' work and the very process of examining and checking the integrity of students. Exams are one-time, as they can be copied by the students under examination and passed on to others during the test. Final written assignments are described as being very similar to each other. Lecturers try to check the independence of their implementation by searching for fragments of text on the Internet or asking students questions about the content. The lecturers' attempt to draw independence from students is asking problem questions that require integrated knowledge from various sources or camera control. A significant percentage of teachers introduce such forms of work and control of students' knowledge that exclude the lack of independence, and only one person declares open book exams. Although it is possible to use more and more advanced technological solutions, it is crucial for teachers to prepare appropriate tasks, individualized and adequately complex [24], excluding simple rewriting of answers from the Internet or books. It is a constant struggle – who will outsmart whom. Further analysis is required in this regard.

Synchronous mode made respondents realize that technologies offer a multitude of communication and organizational possibilities. Moreover, after its introduction, the percentage of people who thought that remote education had no advantages decreased. Those teachers who appreciate e-learning opportunities tend to focus on convenience, time savings and no need to travel, rather than on the learning opportunities that this mode of learning offers. Lecturers see the future of distance learning in conducting lectures, seminars or IT-related subjects. Academic teachers try to ensure the quality of their classes by

looking for sources of student feedback. Designing remote learning activities aims to use tools and methods that will enable the transfer of reliably prepared material attractively and will allow the achievement of the assumed learning outcomes with the support and the cognitive, social and supportive presence of the teacher [25]. Hence, the obtained results may reveal the competency shortages of the surveyed teachers related not so much to the use of a computer itself, but the methodology of remote education with students.

CONCLUSION

In the university understudy, after introducing changes after the first semester, aimed at improving the quality and unifying the remote education system, there were noticeable changes in teachers' assessment of individual elements of education. Experts' findings were confirmed that e-learning cannot consist only in sending materials in the electronic form to students but includes activities aimed at improving the quality of education, through contacts between teachers and students, discussions, projects, videoconferences, the use of multimedia materials and others. Also, conducting an online lecture cannot be done only as a simple transfer of a traditional lecture to the web. Hence, the preparation of materials for students is more time-consuming and requires more work [26]. In the study group, it is noticeable that remote education has brought satisfaction to many teachers and they have noticed and used technological opportunities, closely following the teaching process and its effectiveness, and trying to obtain feedback from students on an ongoing basis. Hence, this form of education becomes beneficial for those lecturers who can effectively and without a loss for students conduct classes from home, have the skills to activate them and introduce situations in which interactions occur, to a greater extent use new organizational and methodological possibilities related to with synchronous education [27]. However, some lecturers have many problems with this teaching mode, despite the technical and substantive support that the university constantly offers. The obtained results lead to further, careful monitoring of teachers' attitudes and their self-assessment related to IT and methodological competences and their effectiveness in the field of remote education, in particular the methods of verifying knowledge and skills.

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