

9 Learning and teaching during COVID-19

Survey findings

Nora Jansone-Ratinika, Rudīte Koka, Tatjana Koķe, Māris Brants, and Raimonds Strods

Introduction

Rīga Stradiņš University (RSU), like other higher education institutions (HEIs) in the world, in a proactive response to the global pandemic stopped face-to-face lectures on 11 March 2020, limiting the need for on-site classes as much as possible. At national level, the Emergency Situation came into force immediately with the Cabinet Order of 12 March 2020 (Cabinet of Ministers, 2020). The on-site training process was discontinued, providing remote learning in all educational institutions as far as possible. Also, at RSU, in the morning of 13 March all the planned face-to-face activities of the study process were ‘transferred’ to online, which continued in such form without exception until the end of the semester. Epidemiological indicators and the necessary strict preventive measures to reduce the spread of COVID-19 infection did not leave room and time for discussion of the possibilities of educational institutions to provide quality remote teaching and learning. The Order was adopted at the Cabinet meeting on 12 March, shortly after 17:00. The new conditions were announced by the Prime Minister and the Minister for Health at the press conference following the meeting and reporting to the media in the evening news, which did not actually leave the possibility of preparing for the transition to remote learning.

In this situation, the previous readiness of each HEI to provide not only a technology-enhanced but also a technology-based study process was crucial. Thus, the major research problem of the particular moment was how to assist academic staff on the needs for technical support and outline educational potential, guidelines for students how to work independently on the content and achieve envisaged learning outcomes. That leads to the research question: *how to get along with remote learning and teaching?*

RSU provision and existing organization of processes could be assessed as advanced in comparison with other HEIs in Latvia. A consistent trend towards digitalization of both learning and teaching, and administrative processes was set several years ago. Electronic document circulation, data synchronization in systems, automated workflows, remote application for services, digital communication, etc. were introduced in many processes. Despite the intensive use of the e-learning environment and the technologies integrated in the study process,

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the study process was based on a face-to-face form, which revealed the use of digitalization solutions as an enhancement to the effectiveness of the study process rather than the provision of basic activity. The provision of IT infrastructure may be considered as appropriate, however, its capacity needed to be increased significantly. Most RSU faculties have already implemented blended learning in their pedagogical work in varying proportion. They have used RSU systems and have maintained study course materials in e-studies, offering a wide range of video materials, electronic tests, and other didactic material. However, support for strengthening the digital competence of academic staff was necessary on a large scale. Students were also used to face-to-face learning, using digital solutions as an alternative to enriching the study process.

Undoubtedly, RSU also had to make, on the one hand, a number of well-considered immediate serious organizational, technological, and pedagogical decisions, and on the other hand, series of uncertainties modified implementation of these decisions without knowing what changes the next day would bring about to Latvia and to the world as a whole.

Organizational decisions

The key to having clarity and stability was effective and timely communication, the importance of which is especially emphasized in the global discourse on higher education in this situation (Marioni, Van't Land and Jensen, 2020). Specific procedures for the implementation of the study process were established by the Rector's Decree and informative materials were created for various RSU community groups (students, academic staff, administrative, and support staff). Info-graphics, providing a snapshot of epidemiologically correct behaviour in a quick and transparent manner, were created; support documents precisely describing the requirements and possibilities for ensuring the study process were drawn up (Guidelines for organizing electronic examinations, Methodological material for creating study course content and structure in e-studies (on Moodle platform), Administration of Final examinations during the COVID-19 restrictions). The Information Technology Department developed the necessary technical instructions for the use of IT tools; the Centre for Educational Growth created a set of support materials, providing continuous training, consultations, and experience exchange sessions for structural units. The crisis communication cascade was organized according to RSU structure model. All binding decisions for the organization of RSU activity were communicated from RSU management and Communication Department. Whereas, the binding decisions related to the study process were communicated to the management of academic structural units, faculties, and departments, by the structural units within the Board of Studies (Study Department, Centre for Educational Growth, Student Services, Library, etc.). The Heads of the academic departments were responsible for a prompt transmission of the communication message and for coordinating support and maintaining the quality of teaching. The Centre for Educational Growth and the Study Department collected information on student feedback

and monitoring of the quality of e-learning courses weekly and provided it to the departments. It helped to manage the wide range of study courses and respond to quality improvement needs in a timely manner, as well as to promote dissemination of good practice and experience exchange and sharing.

Technological decisions

An invaluable advantage was RSU previous investment in IT infrastructure: availability of communication solutions and experience in their use, well-maintained systems and functionally adapted e-learning Moodle platform, *Panopto* solution for video lecture recording, *Turn it in* tool for verification of the originality of the content, experience in using *Big Blue Button* for provision of interactive remote communication, extensive use of *Microsoft* software (*Ms Teams*), a range of patient simulators, task simulators, mannequins, and VR simulators available at the Medical Education Technology Centre. In rapid response to current needs for online sessions, *Zoom* licences were purchased and *Respondus Monitor* was provided for remote examinations. A wide range of interactive technical training on the functionality of the tools and possible scenarios of use in both study and administrative work was provided in a remote form. In addition, despite the situation of technical shortage due to high demand, computers, and cameras were provided for staff, as well as for students in some cases, as needed. IT staff were available for technical assistance and individual advice.

Pedagogical decisions

The main pedagogical decision, despite the lack of time to adapt gradually, was to continue provision of the study process – teaching study courses – providing practical work, placements, interim examinations and final assessment. The pedagogical process and the dynamics of its quality development are characterized by the terms ‘ongoing’ and ‘non-stop’. Continuous monitoring of student and academic staff feedback, analysis of the range of materials available in e-studies and user movement scenarios provided information on the necessary improvement. The Heads of departments and study programmes themselves also actively indicated the necessary facilitation activities to the Centre for Educational Growth and other support structural units. Colleagues of the Centre for Educational Growth provided numerous consultations in which they practically helped academic staff to adapt pedagogical solutions to remote learning and teaching, organized regular activities of teaching experience exchange, understanding that communication, exchange, and learning from each other are critical at this time. The Centre for Educational Growth, basing on an immediate study of the situation, developed a support study course in e-studies. It included and is currently supplemented by a wide range of support materials for academic staff on how to organize communication, develop didactic materials, manage the learning process, and assess the learning outcomes. Academic staff needed both human encouragement and practical advice and assistance in the

implementation of the remote study process and understanding its regularities and adapting them to specific areas, as previous experience in using educational technologies and providing remote learning, as well as views on quality standards and opportunities to provide them online were very different. Research also shows that academic staff, regardless of the amount of knowledge and experience in the respective sector, need to try, observe, reflect, and analyse the pedagogical advantages of the use of evidence-based technologies (Guillen-Gamez and Mayorga-Fernandez, 2020).

Students, the same as academic staff, needed support, which was mainly provided in a decentralized way in study courses, programmes, and departments, both through regular communication of relevant information and technical support, as well as by helping to adapt to the new learning approach. This support package also included advice for students on how to organize their learning in the new situation. The isolation and social distancing imperative to reduce the spread of COVID-19 can in fact be seen as an amplifier of the long-standing development trends – to innovate in learning and teaching approaches by changing the methods and tools used. Like at RSU, trends in higher education in general reflect an intensified transition to blended learning, which encourages academic staff to combine face-to-face and online training experience in a well-considered and meaningful way, including synchronous and asynchronous pedagogical activities. The nature of this approach is the effective achievement of learning outcomes by combining different types of learning and teaching skillfully: face-to-face learning and teaching, online learning and teaching, self-paced learning, creative didactic methods and approaches, using media, technologies and technological solutions (Valiathan, 2002; Garrison and Kanuka, 2004; Garrison and Vaughan, 2008; Kerres and De Witt, 2010; Graham, Woodfield and Harrison, 2013; Adams, Scheer and Kopp, 2018). Blended learning is also seen as a catalyst for boosting students' digital skills and competitiveness in the future labour market (Thomas, 2019).

RSU operational approach both in the state of emergency and in regular activities is characterized by defining achievable quality goals in synergy with the provision of comprehensive support. Its aim is to increase and strengthen the positive attitude of RSU academic staff towards the potential contribution of digital technologies to the study process by providing competence development activities at a convenient time, scope, and level (Guillen-Gamez and Mayorga-Fernandez, 2020). The provision of resources and tailor-made professional development opportunities strengthen institutional capacity (Willems, 2019) in order to become a source of competence, where academic staff are aware not only of their professional ability, but also of the constant need to grow. At the same time, students are becoming more skilled of the sector in the creative, intellectually and virtually challenging, academic staff-facilitated study process. In order to monitor the situation and draw conclusions on quality assurance and the necessary improvement both on the regular agenda of higher education and especially in the emergency situation caused by COVID-19, it is important to obtain timely and accurate feedback from the key stakeholders – academic staff

and students. This is what has allowed RSU to act immediately, in accordance with the burning needs and, to predict what is necessary in the near future.

Methodology

The survey on the organization of remote learning at RSU took place from 15 April to 25 April 2020, but 88% of valid answers were received by 19 April. The survey was organized using the computer-assisted web interview (CAWI) method. Each student received a link to the questionnaire form either in Latvian or in English (both of them were comparable). As the links were not personalized, it was not possible to identify directly situations where one student had completed several questionnaires. Out of 2,079 initial answers received, 8 were identified as duplicates according to IP address and the information provided about the faculty, study programme, year of study, as well as the content of answers. In these cases, answers to the open-ended questions were integrated in one answer, while from the closed questions only the last answer of the same respondent was included in the data file. Hence, 2,071 valid cases were used for the further analysis. The standard error for this sample size and the population of 8,137 does not exceed 1.9% with a confidence level of 95%.

The average time to complete the questionnaire was about 16 minutes, however, as there were both students who completed it within a few minutes and those who kept the form open for more than 6 hours, the median time is more accurate, which is about 10 minutes.

Before data analysis, the data were weighted by two variables – the faculty, as well as integrated variable from the study level and the year of study, thus minimizing the differences in response rate between different faculties and study levels.

The questionnaire consisted of 5 demographic questions and 18 research questions (including 6 open-ended questions where answers were not mandatory), most of which included ordinal scale variables. As the aims of the research were not scientific, but applicable, that is, it was necessary to get a feedback from students about the study process as soon as possible in order to react quickly to the situation, a wide range of people participated in the development of questions, including different levels of university management, education, and research experts.

Given the applicable nature of the study, some of the open-ended questions, especially those related to individual study courses mentioned by respondents, were not coded and analysed in an aggregate way, but used at the local level to improve the content of the respective study courses. The closed questions were analysed, comparing the situation between the faculties, study years, etc. A month later the second stage of survey was conducted, therefore some of the questions also served as the instrument to measure changes in the attitude of students and their reaction to the improvements made. The conclusions of the both stages were integrated into the improvement of the activity, but only the results of the first stage of the survey will be covered within the boundaries of this chapter.

In order to identify how the academic staff coped with the challenges of remote learning and teaching and to promote the circulation of good practice in the organization, Centre for Educational Growth organized 7 weekly webinars, which were conducted from 8 April 2020 until 20 May. A total of 27 academic staff and one representative of the Student Union, as well as 2 international cooperation partners from other universities shared their individual experience, covering the ideas of 20 academic structural units on how to improve the quality of remote learning. Each webinar lasted between 1.5 and 2 hours and was provided on the *Zoom* platform. On average, 40 members of academic staff actively participated and communicated in one session. Each webinar was recorded and the oral permission of the participants had received in order to analyse it and store in the video library of academic staff continuing education activities so that the content discussed was available to all university staff. Webinars were transcribed as qualitative data sets and qualitative content analysis was used to identify the most relevant topics for academic staff, which describe the transition from face-to-face to remote learning. Statements and quotations (in total 71) about the implementation of remote learning were selected as research units, which formed a coding sheet. In the next stage, similar codes were collected and 7 categories were created, which revealed the most important topics to the academic staff in the context of the implementation of remote learning. When creating the categories, the researchers followed the rule of qualitative content analysis, so that the categories were internally homogeneous and externally heterogeneous.

Results

In order to understand what factors have influenced the learning process with the transition to remote learning, first, we made some modifications to a series of questions included in the questionnaire, i.e. some variables were merged:

- 1 The question ‘How accurate information about the process of studies do you receive from the sources listed below’ included nine sources of information, including administrative management, academic staff, fellow students, and the Student Union. The accuracy of the information was measured on a scale consisting of the following answers: (1) Accurate information; (2) Not so accurate information; (3) Inaccurate information; (99) Have not received. Cronbach’s alpha test was applied to measure the internal consistency of the data (value ‘Have not received’ was excluded from the analysis). The alpha value received was 0.864, indicating that all the nine variables should be interpreted as a single scale. Removing any variable from the scale would reduce the alpha value. Thus, basing on all the nine variables, we created an aggregated variable ‘Accuracy of the information received’. The new variable had values from 9 to 27, where the lowest values were assigned to inaccurate information, and the highest ones to accurate. As the answers to ‘Have not received’ were not

part of this scale, we recalculated the values of the new variable proportionally to the applicable answers, if no more than six answers 'Have not received' were given. On the other hand, if this answer was more frequently chosen (7–9 times), the missing value was assigned for the new variable (30 missing cases in total).

- 2 The same categories of persons (administrative management, academic staff, etc.) were also assessed in response to the question 'Please, describe your cooperation with those involved in remote learning – do they support you more than before, about as much as before or less?' The answers were measured on a scale: (1) Currently support more than before; (2) Support about as much as before; (3) Currently support less than before; (99) Difficult to say. Again, the value 'Difficult to say' was excluded from the analysis. Cronbach's alpha test result was 0.863, and removing any variable from the scale would reduce it. Thus, basing on all the nine variables, we created an aggregated variable 'Support received'. The new scale had values from 9 to 27, where the lowest values were assigned to less support, and the highest ones to more support. The same manipulations as mentioned above were performed with answers 'Difficult to say', i.e., proportional recalculation with up to six such answers or missing the cases with more answers (131 missing case in total).
- 3 Similarly, a single scale was developed from the question 'How would you rate your e-study courses in general at the moment?', where 11 different aspects of e-studies were measured on a scale: (1) Sufficient to acquire the courses; (2) Improvements are required; (3) The situation is critical. There were no missing values here. The value of Cronbach's alpha for all the 11 variables was 0.877, and again removing any single variable from the scale would reduce Cronbach's alpha value. The aggregated scale was called 'Assessment of information in e-study courses', because the aspects included in the variables were mostly connected to information, e.g. information on online consultations is available, information on assessment criteria and tests is available etc. The new scale had values from 11 to 33, where the lowest values were assigned to low assessments, and the highest ones to high assessments.
- 4 Four answers from the multiple choice question 'From the list below, please check what the current benefits are for you from studying remotely' also formed a valid scale with Cronbach's alpha value 0.662. These values were: (1) Opportunity to study flexibly, to plan the time and place of studies; (2) Opportunity to learn new information-communication technology tools for communication and cooperation; (3) Opportunity to motivate myself for independent studies; (4) Opportunity to improve skills for independent search and acquisition of study materials. Therefore, we created a variable 'Seeing opportunities in the new situation' where the number of opportunities checked were counted – the possible values were from 0 to 4.

During the next step, the four newly created variables were analysed in the context of the other four variables, which directly reflected the answers provided by the students:

- 5 ‘Can the independent work assigned for the study courses be completed in the time provided for it?’ – (1) No; (2) Rather no; (3) Rather yes; (4) Yes; (99) Other (please specify). The last answer (67 cases) was excluded from the analysis.
- 6 ‘How much time do you currently spend studying compared to regular onsite studies?’ – (1) More time than studying onsite; (2) About the same amount of time as studying onsite; (3) Less time than studying onsite; (99) Difficult to say. The last answer (114 cases) was excluded from the analysis.
- 7 ‘Has remote learning changed your ability to motivate yourself to study?’ – (1) It has become more difficult to motivate myself for learning; (2) The ability to motivate myself for learning has not changed; (3) It has become easier to motivate myself for learning; (99) Difficult to say. The last answer (92 cases) was excluded from the analysis.
- 8 ‘Studies in your programme are organized at the usual time according to the timetable for lectures and classes.’ (1) Less than 20% of lectures and classes; (2) 20–40% of lectures and classes; (3) 40–60% of lectures and classes; (4) 60–80% of lectures and classes; (5) More than 80% of lectures and classes; (99) Difficult to say. The last answer (243 cases) was excluded from the analysis.

In order to avoid potential risks related to the use of factor analysis for ordinal scale variables or variables not normally distributed, we compared the values of Pearson and Spearman correlation coefficients between all the variables described above. The highest difference discovered between the pairs of variables was 0.057 (Pearson correlation coefficient value was 0.381 and Spearman rank correlation coefficient 0.324, respectively). Hence, there were no risks potentially leading to misinterpretation of the results.

Principal Component Analysis was performed for all eight variables using *varimax* rotation to separate components as clearly as possible (rotation converged in four iterations). The result of the analysis is presented in [Table 9.1](#) (values of the component 2 were inverted manually in order to have the same orientation for all the components). Three components were discovered all together explaining 63% of the variance.

The first component explaining 28% of the variance has a clear message – it involves availability of information and support. Information and support are available mostly in situations when there are minor changes in comparison to the usual timetable. It also involves possibility to complete assignments on time. Therefore, this component is significantly dependent on the academic staff and university in general.

The second component explaining 19% of the variance more relates to personality of the student. If the student is able to see opportunities in the new situation, is interested to learn new things instead of assessing the crisis as a dysfunction of usual processes, self-motivation is natural.

The third component explaining 16% of the variance is more difficult to explain. We called it ‘Orientation towards self-paced learning’ and positive values

Table 9.1 Rotated component matrix of factor analysis

Variables	Component loadings		
	Availability of information and support	Seeing opportunities, self-motivating	Orientation towards self-paced learning
Evaluation of information in e-study courses	0.773	0.202	0.193
Accuracy of the information received	0.749	0.069	0.223
Support received	0.677	0.105	-0.124
Studies are organized according to the usual timetable	0.630	0.114	-0.086
Student's ability to motivate himself/herself to study	0.073	0.865	-0.023
Seeing opportunities in the new situation	0.232	0.786	0.101
Less time spent studying than onsite	-0.125	-0.063	0.889
Assignments can be completed on time	0.410	0.291	0.593
<i>Variance explained</i>	<i>28%</i>	<i>19%</i>	<i>16%</i>

Variables explaining the content of each component are bolded.

here are rather characteristic of mature students. They need basic information, but in general, they cope on their own – the story is more about learning, less about teaching.

All the factors identified relate to a more positive assessment of the situation. The first two components present a closer correlation (coefficients above 0.3) with the question ‘Does the current study process remotely ensure full acquisition of the study courses?’ – availability of information and support or seeing opportunities and self-motivation allow evaluating remote learning as more successful. However, the third component has only a weak correlation – the orientation towards self-paced learning allows to a lesser extent taking into consideration the actual form of studies.

In the same way, all the components negatively correlate with stress. The questionnaire did not include direct tools to identify stress, but its presence was identified in answers to the open-ended questions. Therefore, the researchers decided to codify these questions by reviewing all the textual answers of the respondents and identifying the manifestations of stress and increased emotionality according to the following criteria:

- 1 Direct mentioning of stress or psychological difficulties;
- 2 Positive answer to the open question about the need for psychological support;
- 3 Aggressive or dissatisfied attitude in comments, attitude prevailing over facts;
- 4 Emotional means of expression (several exclamation marks, capital letters, emotional epithets, etc.).

As a result, approximately 15% of the respondents with stress or increased emotionalism were identified. The variable 'Stress' correlates most closely (coefficient values at the level of 0.25) with the first component – respectively, higher stress is related to a lack of information and support. A less significant correlation is found with the focus on self-paced learning. There is also a weak correlation with seeing opportunities and self-motivating. Here, however, a different paradigm obviously prevails – interest in the things happening around, enjoying the opportunities instead of stress reduction and need to cope with the situation. Hence, the stress is less frequently an issue in general.

If we analyze the connection with socio-demographic variables, then it can be stated that students from Latvia and those currently in Latvia have higher values in the factor indicating availability of information and support. However, the relationship is ambiguous and in some of the variables that make up this factor, the opposite correlation can be observed. This is especially true when the accuracy of the information received is measured – international students are significantly more likely to indicate that they receive accurate information from their fellow students. It is because self-organization for international students works better, which can be explained by the formation of closer communities among them compared to local students, which can be seen as a kind of survival model. We can observe this model in many universities with international student communities opposing themselves to the local student majority.

Availability of information and support is generally more important for first-year students, while mature students are more likely to have higher scores in the other two components. In general, we could conclude that initially academic staff support is more important, while in later stages, independence and ability to learn develop. However, this development can have two directions – in some cases it is simply the ability to cope with the situation and learn, while other students are more interested in learning something new, therefore they require less external motivating agents compared to those who simply cope with the situation well enough.

The following highlights crystallized within the seven categories identified in the content analysis of the experience of academic staff expressed in the webinars and the topics describing them, demonstrating RSU academic staff's action strategies in implementing remote learning:

1 Communication:

- 1.1. News Forum on the e-learning environment as a central platform for communication;
- 1.2. Communication with students was mainly about the:
 - 1.2.1. Use of e-learning environment and various technological tools;
 - 1.2.2. Fulfilment of the requirements of the study course;
 - 1.2.3. Emotional state in an emergency;
- 1.3. Communication with colleagues was mainly about creating an e-learning environment and ensuring efficient information flow for students.

2 Development of e-learning environment:

- 2.1. The search for a unified structuring approach;
- 2.2. A well-considered approach '*less is more*' was used in the placement of materials;
- 2.3. Up-to-date information and changes were published only in one place.

3 Development and provision of the study content:

- 3.1. Recording of all lectures in video format to provide asynchronous learning opportunities, while conducting online seminars to ensure synchronous learning in the state of emergency;
- 3.2. Well-considered training videos (5–10 min) were created to reduce their passive use;
- 3.3. Teaching materials already created by other universities were searched for and used;
- 3.4. Open access ICT tools were used to diversify the form of providing the study content;
- 3.5. Representatives of the sector were invited to online lectures, as well as colleagues who are more accessible online than in face-to-face format;
- 3.6. *Zoom* online discussions were held on the unclear issues of study content;
- 3.7. Active learning and teaching methods were sought and implemented, where students had to take responsibility and had to study, draw conclusions and cooperate;
- 3.8. Narrated PowerPoint lectures were recorded, which would have been explained in face-to-face classes;
- 3.9. In addition, motivating online guest lecturers were organized to provide moral support to students (time management, self-motivation, how to cope with stress);
- 3.10. Creative solutions were sought to advise students on how to acquire skills at home that are usually acquired in laboratories or simulation rooms during onsite training.

4 Creating tasks:

- 4.1. Before the classes, students were provided with material (textual, audio, video) for learning the basic issues of the topic;
- 4.2. Group work was provided (on *Zoom* platform);
- 4.3. Ways were found how students could demonstrate their skills, for example, students recorded short videos on how they were counselling patients (members of the household);
- 4.4. The lecturer filmed a deliberately erroneous action when performing the manipulation, and students had to recognize and describe it;
- 4.5. Online workshops on the analysis of literature were held;

- 4.6. Students were provided with an opportunity to choose the tasks to be performed based on their own interests.
- 5 Assessment process:
 - 5.1. Moving from student assessment to the student self-assessment process, using self-evaluation tests and a 360-degree method of assessment;
 - 5.2. More active use of the tools for verification of the originality of the content (*Turn it in*);
 - 5.3. Providing feedback during learning and regarding the learning outcomes achieved;
 - 5.4. The principles of *Open book* and *Closed book* tasks were used in the examinations;
 - 5.5. Remote assessment using *Respondus Monitor* system.
- 6 Administration of the study process:
 - 6.1. Registration of virtual attendance was applied;
 - 6.2. A more flexible approach in relation to students for submission of course assignments at a specific time was allowed;
 - 6.3. Academic staff tracked the students' progress by drawing up *MS Excel* tables, or a *Progress Bar* activity was created in e-learning environment;
 - 6.4. Office staff of academic departments were more often involved to help fulfil the administrative obligations of studies.
- 7 Professional development:
 - 7.1. Learning from the experience of colleagues;
 - 7.2. Independently searching for educational materials regarding the implementation of remote learning on the Internet;
 - 7.3. Learning in continuing education activities provided by RSU.

Carrying out qualitative content analysis and defining the categories that reveal the most important topics for RSU academic staff in the implementation of remote learning, a number of conclusions were highlighted that describe different contexts for the implementation of remote learning:

- 1 Academic staff developed learning and teaching solutions suitable for RSU students by searching for information intuitively and independently and by adopting examples of good practice from colleagues.
- 2 Webinars for academic staff, the initial goal of which was to promote the exchange of experience, transformed into the new site for innovations in studies and for cooperation projects between departments.
- 3 The following methods gained a greater value in the learning and teaching process in the context of achieving learning outcomes:
 - provision of well-considered materials to students before learning new topics;

- use of various ICT tools to diversify students' learning experience;
- organization of online discussions on unclear issues arising in the process of learning the study content;
- provision of feedback in the learning process and on the learning outcomes achieved;
- change of emphasis in assessment from evaluation of students' work to peer-to-peer evaluation.

Conclusions and lessons learned

In general, the analysis of experience shows that the technological provision of RSU in an emergency has been sufficient in terms of volume and quality. Despite the need for a significant increase in resources, the existing developments can be considered as a fundamental, operationally expandable and adaptable basis for the new conditions within COVID-19 situation. Trends in higher education in general show that the availability of digital resources, although very important, does not solve the challenges by itself that, basically, are not technical either at present or in the future. The drive of all HEIs is the attitude, especially preparedness for change of its community, knowledge, skills, and cooperation. Student feedback shows that it was not so much centrally organized learning support that was needed, but more timely and clear information on organization of study process on behalf of the Dean and the Head of the study programme in line with encouraging communication, openness, and accessibility. The support from the academic staff of each with the oral permission of the participants study course, regular feedback, and professional mastery was of utmost importance to students to be able to follow the course. Similar to the group of student respondents, the uncertainty, and stress caused by the emergency was at the same time a factor promoting and weakening the performance. The unforeseen situation has led to immediate mobilization for action, while at the same time not providing a roadmap for how long changes to prepare, as well as how to suddenly refocus and effectively adapt the content and form, and to create a new working reality. Fatigue, fear of the health, threats to the financial situation, rapidly changing information signals that notified of the tasks to be performed within specific deadlines, or, on the contrary, a lack of guiding information have added to stress.

Although before COVID-19 the situation was not identical in all study programmes and study courses, we already had a number of developments. Among them, we can mention such as the number of digital materials in the e-learning environment, their structure, academic staff experience and expertise in working with different educational technologies, existing student-adapted combined learning practice, as well as flexibility and openness to various new learning scenarios. They have allowed us to ensure a study process of sufficiently high quality, including practical final examinations in both health care and social sciences. Insurmountable conditions for students and academic staff, as well as management and support staff, have provided an opportunity to assess their competence

for balanced, effective action in crisis conditions, highlighting specific areas for improvement:

- knowledge of the availability of any institutional and personal resources (technology, psychological resilience, skills, organization of processes, etc.), having a good grasp of them, development of a common approach and the ability to adapt it individually;
- provision of unified and effective communication and feedback at the institutional and individual level;
- the need for the development of digital learning and teaching competence in order to promote understanding of its nature and legitimacy among both implementers and process organizers;
- flexibility to adapt to a new situation and consistently well-considered management of organizational and pedagogical change;
- conceptual evaluation of the current approach to blended learning and self-paced learning and implementation of the form of distance learning as a direction of development of the near future.

Similar to the trend, reflected in the description of results, which characterizes the aspects of mutual support and learning of local and international students, there are two trend vectors in the development of academic staff competence. One of them is the academic staff strengthening digital skills individually, searching for resources in research and approving their findings in independent attempts, and the other – those whose pedagogical competence development is more effective in cooperation and exchange of experience with other colleagues and students.

Common features in groups of students and academic staff are in the vision of a crisis or an opportunity. Students who do not see only obstacles in this situation and dysfunctions of the day-to-day study process can learn and acquire new valuable habits of self-improvement and cooperation. Also, if academic staff are opened for creative searching to diversify their pedagogical activity in order to promote the effectiveness of achieving learning outcomes, they tend to see the crisis as an opportunity to get a new perspective on their previous pedagogical experience. They are more motivated to invest in large-scale work at a hectic pace today, so that it balances out in high efficiency in the longer term.

Analysing the academic staff opinions and discussed actions in the webinars to provide remote learning several levels of academic staff digital competence can be distinguished:

- academic staff, whose level of digital competence is below average, do not dare to try new technologies on their own until they have repeatedly participated in identical training and gained extensive material from other academic staff experience;
- academic staff, whose level of digital competence is mediocre, show extreme caution, scepticism and lower motivation to experiment with technologies in achieving learning outcomes;

- academic staff, whose level of digital competence is average, but who themselves in self-assessment considered it as advanced, face the dissonance of objective reality and self-assessment, which undermines the courage to continue attempts and possibly even justifies the fear of working with technologies they know well;
- academic staff, whose level of digital competence is above average, but whose self-assessment is inadequately critical, which sometimes undermines their motivation and does not allow them not only to experiment with tools of a high level of complexity, but even to try to work with the technologies that they would be successful with;
- academic staff, whose level of digital competence is advanced and who not only successfully innovate themselves, but also are ready to support colleagues with advice and pedagogical assistance;
- academic staff, whose level of digital competence is advanced, but who are more motivated to engage in individual experiments than to pass on their experience to others and learn from each other.

Although the results of the survey do not provide an opportunity to classify students' perceptions and actions, their oral feedback, as well as the experience described by the academic staff, allow us to draw similar parallels in action. It can be concluded that both the efficiency of students' learning and pedagogical performance of academic staff are equally influenced by objective factors of experience and digital literacy, as well as by psychological and emotional aspects, which must be adequately taken into consideration when designing support framework for continuing education for academic staff and facilitating students on their learning pathways.

Looking back at the experience gained during the COVID-19 pandemic quite naturally calls for a debate on the driving forces and obstacles to the development. Actually, this emergency can be seen as a revolutionary force in the higher education sector, which came only with an imperative must, without leaving any options or offering alternatives. The question was not about whether 'I want/I don't want, I know/I don't know, I can/I can't'. Representatives of the education sector know particularly well that the most difficult thing is changing the usual practice and changing thinking. Paradoxically, a human sometimes lacks the power to change the mind-set, but an external driver directs it immediately. A factor in the effectiveness of rapid change is the indiscriminate situation and the deficit of guilt or power agency. What we can blame for the fact that the pedagogical process needs to change rapidly is in fact a dehumanized, depersonalized COVID-19 infection to which we cannot say 'no' and for which arguments concerning time constraints or traditions established in pedagogical practice do not exist. It has embodied global destruction and, at the same time, a revitalizing comprehensive review and change of routine and practice. The summary concludes that this dehumanized force, which has brought progress and at the same time disastrous effect, should be turned into sustainable development potential by humanizing means – strengthening the understanding, skills, and continuous critical reflection of the HEI communities on any digital or analogous conventional tool.

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