

# LOVE.DIST@NCE

Improving Access and Quality of Inclusive Higher Education  
One Student at a Time

## STUDENT'S AND LECTURER'S ICT SKILLS AND COMPETENCIES IN GEORGIA



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- Ilia State University
- Shota Rustaveli Batumi State University
- Iakob Gogebashvili Telavi State University

## INTRODUCTION

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One of the most important factors in the development of higher education is information technology infrastructure. With the use of information technologies, age, geographical and other social barriers in education can be virtually eliminated. The recent pandemic illustrated well the necessity of enhanced ICT skills for both educators and students.

According to authorization standards for Higher Educational Institutions in Georgia, each university should have a well-developed technological infrastructure and should provide sufficient service to students as well as teaching staff. The institution should offer professional development courses to its academic and administrative staff, that can be training and workshops in using different technologies both in teaching and learning processes<sup>1</sup>. All HEIs in Georgia have to go through the assessment proceeds that examines the existing capacity of the institution regarding different criteria's and after that the institution is granted the right of functioning.

This report will describe the current practice of three Georgian Higher Educational Institutions regarding the student's ICT skills and competencies.

## ILIA STATE UNIVERSITY

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Ilia State University was established in 2006. Being one of the youngest state universities in the county it started building the technological infrastructure. In 2006–2011 there was a mandatory course for Bachelors students – Computer Skill, that gave the basic knowledge to students in using computers and the programs they needed for creating assignments. Later, the course was updated and integrated into the Information Literacy course, where the students were introduced to how to get scientific sources, how to use different searching engines and etc. Currently, all this is integrated into the mandatory course “Techniques of Academic Work” – a 6 ECTS credit course, a combination of information seeking, academic writing and computer skills. The course is obligatory for all students on Bachelor's level. They get familiar with the advance usage of MS. Office, email and Google Drive. In addition to this, they also are tough to use the mind mapping to visualize their ideas and some presentation tools.

There is a special program designed for students coming from ethnic minority groups. Before starting their BA studies, they are having a yearlong intensive language courses as well as the mandatory course in Computer Skills and Information Literacy.

The university technology infrastructure is based on the study information system (argus.iliauni.edu.ge<sup>2</sup>), this one is used for administrative functions such as registration on the courses, financial issues, communication with teachers and university structural unit. In addition to this, all students and university affiliated teachers are given Gmail accounts with unlimited capacity to use. As for the learning management system, the university is using Moodle<sup>3</sup> with integration of Turnitin Feedback Studio. All students are required to have minimum competences of using computers and computer programs, as from the very beginning of their BA studies they are given assignments that has to be submitted in LMS.

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<sup>1</sup> Authorization Standards – National Centre for Educational Quality Enhancement  
<https://eqe.ge/en/page/static/449/avtorizatsiis-standartebi>

<sup>2</sup> Argus.iliauni.edu.ge – Study Information System that was designed at Ilia State University.

<sup>3</sup> Elearning.iliauni.edu.ge – Learning Management System currently used at ISU

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The university offers a big variety of training to its faculty members in order to support them increase their competence in integrating the technologies in the teaching and learning and enhance the quality of the process. In 2014, ISU started implementing a blended learning method in the introductory courses taught at BA level, it means all freshman students had to use at least LMS and study information systems to get the reading materials and submit the assignments and other tasks. Under the Erasmus Plus CBHE projects university is participating in several training modules that have been created and offered to teaching staff:

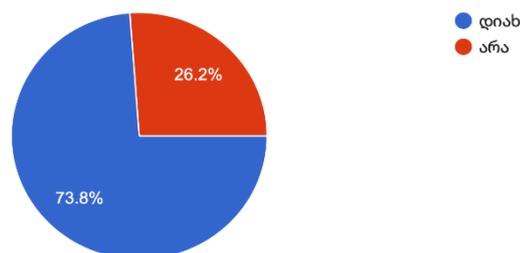
- Academic Integrity for Quality Teaching and Learning in Higher Educational Institutions in Georgia (INTEGRITY)<sup>4</sup> – The core objective of the project was to enhance the quality of teaching and learning processes that are based on the principles of academic integrity and supported by mechanisms and tools that help prevent and detect cases. Almost 500 hundred faculty members attended the trainings and enhanced their knowledge of using similarity detection software; tools for providing feedback; using the rubrics for grading papers and etc.
- Change in Classroom: Promoting Innovative Teaching and Learning to Enhance Students Learning Experience in Eastern Partnership Countries (PRINTEL)<sup>5</sup> – under the project five course modules were designed in innovative learning methods and offered to faculty members to upskill themselves in integrating technologies in their teaching. A center for professional development of the teachers and professors was established at ISU in 2018 and these training modules were integrated in it. The training is conducted in each semester and it is open to all teaching staff, every semester more than 200 participants are being trained in using a variety of tools in their courses.

For understanding the current tendency of student's ICT competencies and skills we designed the survey and asked to fill in. The data was collected in April–May 2020, students had two weeks to fill out the form that was sent to them in the study information system. All together 703 responses were collected.

The majority of the students declare that they have personal computers at home, but still 26.2% indicate they don't have at least one computer at home. Being a developing country, not all the families afford to buy computers for their children. Although some of the students are having part time jobs during their studies, the salary they are getting is spent on living expenses.

გაქვთ თუ არა კომპიუტერი, რომლითაც შეგიძლიათ სარგებლობა? Do you have your own computer?

703 responses



<sup>4</sup> Integrity.iliauni.edu.ge – Erasmus Plus CBHE project iNTEGRITY

<sup>5</sup> Printel.am – Erasmus Plus CBHE project PRINTEL

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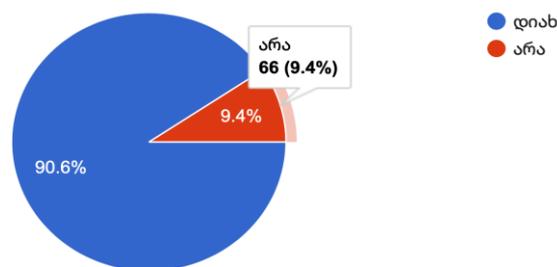
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We also asked about the accessibility to the internet, as it turned out 17% of the respondents (n=703) don't have internet access at home at all. This can be explained with two major reasons - due to the geographical location not all the villages and peripheral places are equipped with the internet connection. Besides, families with lower income can't afford to pay the monthly fees for the internet. Unfortunately, these students are facing the problem that they can't attend the synchronous classes and only participate in asynchronous activities by visiting friends with internet connection. We also asked, if they were using mobile phones for educational reasons, attending the classes and submitting the assignment, as it turned out 18.6% of the students (n=703) are using only mobile phones to do everyday activities at the university while distance teaching.

As the university is providing corporate Gmail accounts to all the students, we asked them if they use them on a daily basis. As it is shown on the diagram below 90.6% of the students stated that they use emails for communication. In addition to the email communication, they are able to use the Google Drive and Google Classroom, in the classes that requires the usage of the following tools.

იყენებთ თუ არა საუნივერსიტეტო ელექტრონულ ფოსტას? Do you use corporate email that university provided?

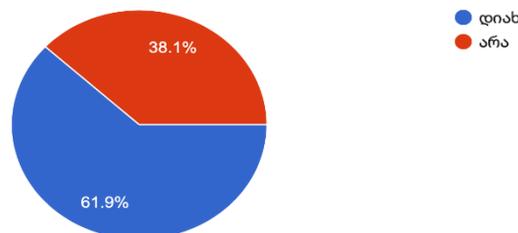
703 responses



We also tried to identify if there was an ICT component integrated in any of the courses they attended so far at the university. 38.1% of the students (n=703) stated that they have never been taught such at any course at the university.

უნივერსიტეტში რომელიმე კურსის ფარგლებში თუ უსწავლებიათ კომპიუტერული პროგრამების გამოყენება? Does any of the subject... had at the university covered ICT components?

703 responses



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In order to assess the existing situation regarding the ICT competences and to explain the outcomes of students surveys we also conducted in depth interviews with ISU faculty and administration staff members. Due to the pandemic the interviews were done online in the beginning of September. In total we had six faculty members and one administrative staff member.

Together with the faculty members we tried to find out the major problems they are facing regarding the usage of technology and also, we asked them to comment on the student's ICT skills as well.

The majority of the faculty members stated that even though they had lower competences in using the technological solutions they managed to transfer all the classes into a virtual learning environment. From the ICT perspective, the easiest was to use video conferencing tools to conduct synchronous activities. Five out of seven teachers said they attended the short training university offered to prepare themselves for delivering the classes. Some of the teachers find it difficult to identify the proper medium for asynchronous activities, and the tool they chose depended on the activity itself. The majority of teachers are using LMS currently available at the university to conduct mid-term and final exams. All seven teachers attended a training offered by the university where they were explained the basic usage of LMS, creating the assignments, quizzes, forums and etc.

The biggest challenge teachers underline during the interviews is the time spent on getting familiar with the tools and the necessity to find the right solution for each activity. As they stated due to the high risk of academic misconduct and cheating they try to diversify the activities, thus they need to think of different ways/tools to make the assessment components.

All teachers highlight the fact that not all the students are able to participate in the course activities, not because they don't have ICT competences, but because they have problems with the accessibility of computers and the internet. They state that the majority of the students found it easy to navigate through the different tools and actively participated in the activities, both synchronous and asynchronous, they believe this generation, as digital natives, has basic skills of ICT.

## SHOTA RUSTAVELI BATUMI STATE UNIVERSITY

Until now, Batumi State University, like other universities in Georgia, had minimal experience implementing online teaching components, although this was not entirely a remote teaching format. Distance learning elements were used mainly at the master's level by visiting lecturers from other universities. Also, for the last 4-5 years the University has been actively using the BSU multifunctional student portal, though not for assignments. Since 2017, the University has been actively using the Moodle platform as part of the Erasmus + INTEGRITY Project. In addition, the University has no practical experience in preparing distance learning courses and offering them to interested target groups (except for the practice of delivering teaching courses online (according to the educational programmes) in the current period.

The University gradually offered professors certain trainings on developing ICT competencies, but this was not systematic and did not cover all areas of ICT, since the trainings funded by BSU are delivered on the basis of research and survey of the needs of professors and lecturers focused less on the need for training in this area.

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Due to the Covid-19 in 2020, the transition to distance learning in the country has posed other challenges to the University. On the one hand, the need for online training, which required different, more advanced ICT skills of professors and teachers. On the other hand, the knowledge and application of the methodological peculiarities for the implementation of online courses, which still remain a problematic issue for the university.

Given the situation described, we were interested in how professors and students assessed their own skills, needs, and the support mechanisms used by the university. 135 lecturers and 327 students of BSU took part in a survey on ICT competencies carried out within the framework of the Erasmus + project Love Distance at Batumi Shota Rustaveli State University (BSU).

Please, below find the results of the survey of lecturers and students separately:

## Lecturer Survey Results

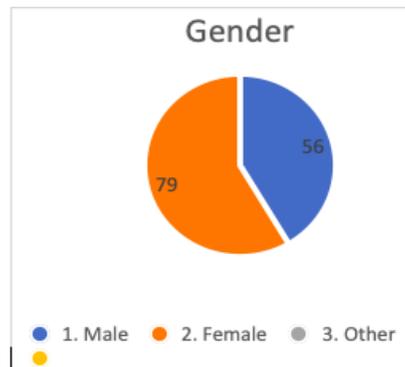


Diagram 1

Of the 135 lecturers surveyed, 56 (41%) were female and 79 (59%) were male (Diagram 1). As for the age of the lecturers participating in the survey, it looks like this (Diagram 2)

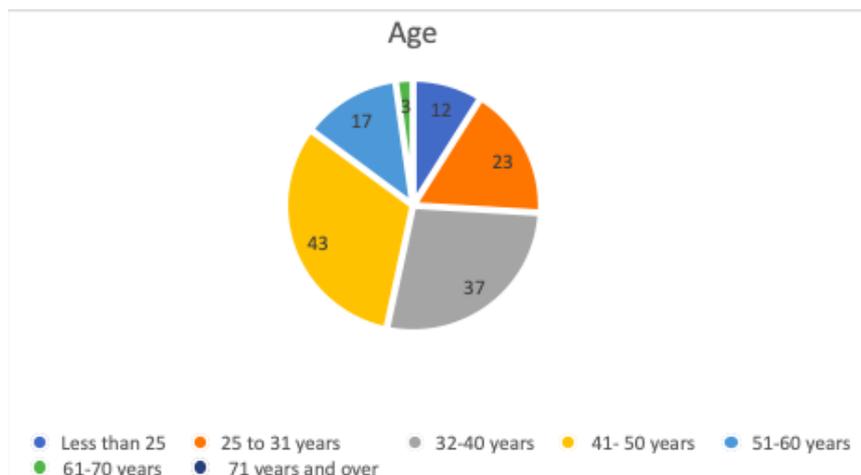


Diagram 2

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As the results show, most of the lecturers who participated in the survey are between 32 and 50 years old (32-40 years old - 27%, 41-50 years old - 32%).

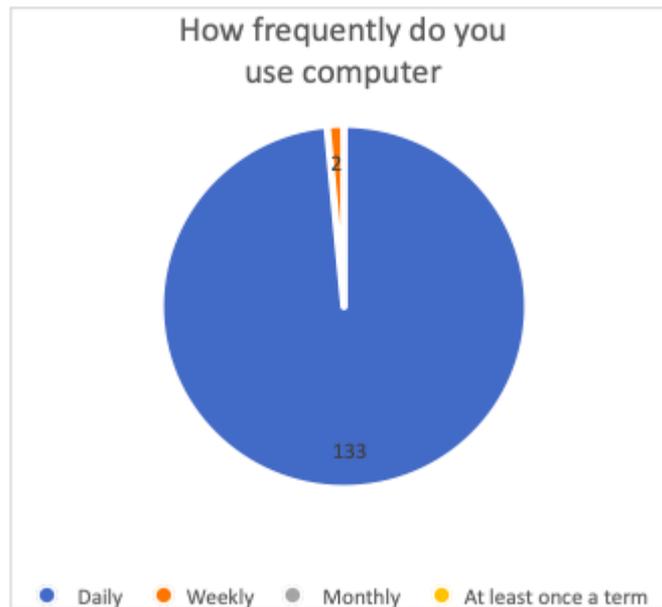


Diagram 3

To the question related to the frequency of computer use, as expected, the answer "Daily" was marked by 97.7% or 133 respondents, and the answer - "Weekly" - 1.48% or 2 respondents (Diagram 3).

Respondents' answers to the question "For how many years have you been using computers and / or the internet at the university" are also noteworthy. As expected, 76% or 102 respondents have been using a computer in their daily activities for more than 6 years, Less than 1 year - 1% or 1 respondent, Between 1 to 3 years - 7% - or 9 respondents, Between 4 to 6 years - 17% or 23 respondents (Diagram 4).

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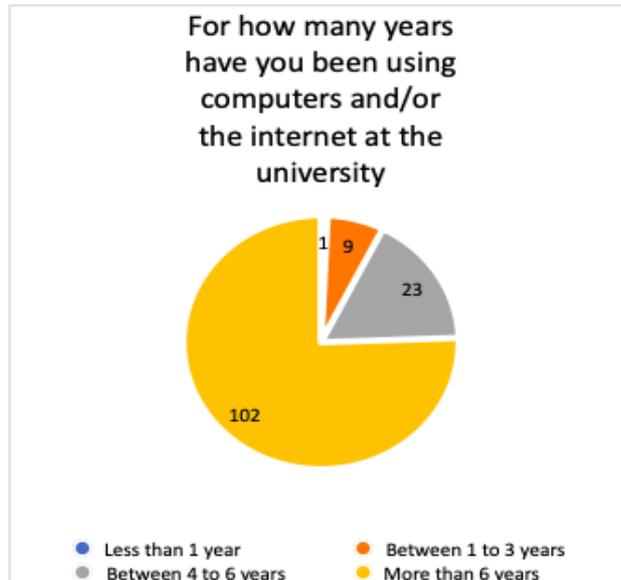


Diagram 4

As for the question "For what percentage of time have you used computers and / or the internet in class in the past 12 months?", The answer **More than 75% of all lessons** were marked by 57 respondents (42% of respondents), **51 to 75% of all lessons** - 40 respondents (30% of respondents), **25 to 50% of all lessons** - 22 respondents (16%), **11 to 24% of all lessons** - 12 respondents (9%), **Don't know** - 4 respondents (3% of respondents). Answers **6 to 10% of all lessons**, **1 to 5% of all lessons** and **Less than 1% of all lessons** were not marked by any of the respondents.

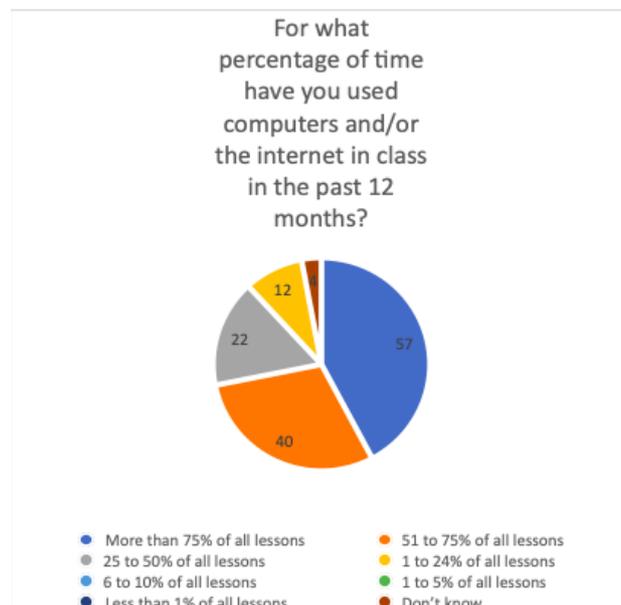


Diagram 5

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According to the questionnaire used in the survey, Batumi Shota Rustaveli State University had attempted to enhance the ICT competencies of professors and teachers, although professional development-oriented training didn't cover all areas. University-funded trainings for BSU academic and visiting staff on "Using Office PowerPoint Slides for Effective Teaching" was delivered; In the frames of the Erasmus + INTEGRITY project, BSU academic and visiting staff participated in the webinars related to Assignment creation and Evaluation using Turnitin and the trainings related to rubrics and paper reviewing using Turnitin.

The University purchases technical equipment, including computer technologies. Thus, the material - technical base of the University is replenished every year in this direction. computer technology, and the material and technical base of the University is refreshed every year in this direction. In addition, the purchase of computer equipment for a big part of the staff takes place within the framework of various projects, however, the current situation in the country still raises the problem of fully equipping the staff with computer technologies.

## Student Survey Results:

A total of 327 students participated in the survey. The number of girls and boys were approximately equal: 51% or 167 boys and 49% or 160 girls (diagram 6)

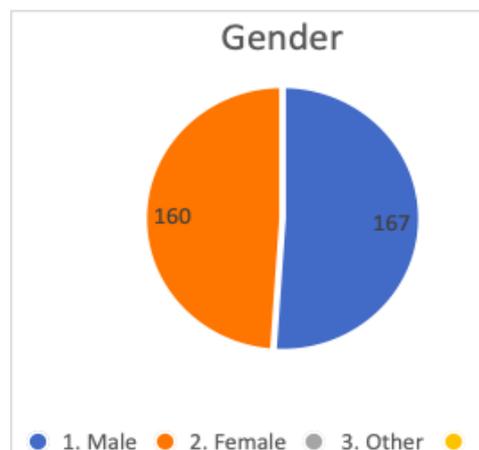


Diagram 6

The majority of students surveyed, 81% or 264 students, are between 17 and 20 years old. (Diagram 7).

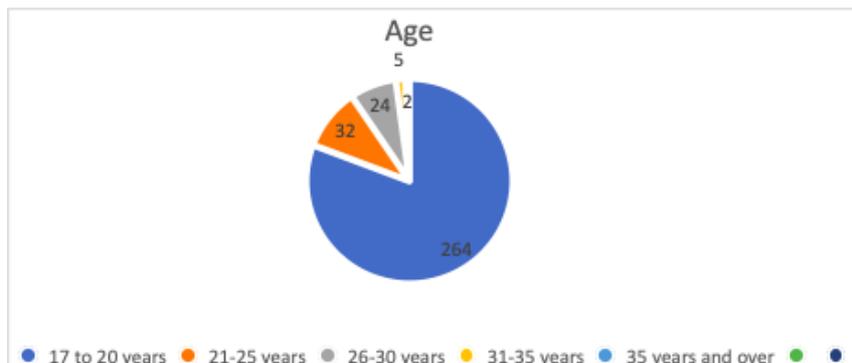


Diagram 7

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Undergraduate students were mainly active in the survey, as evidenced by the fact that 213 or 65% of the 327 students surveyed were undergraduates (diagram 8).

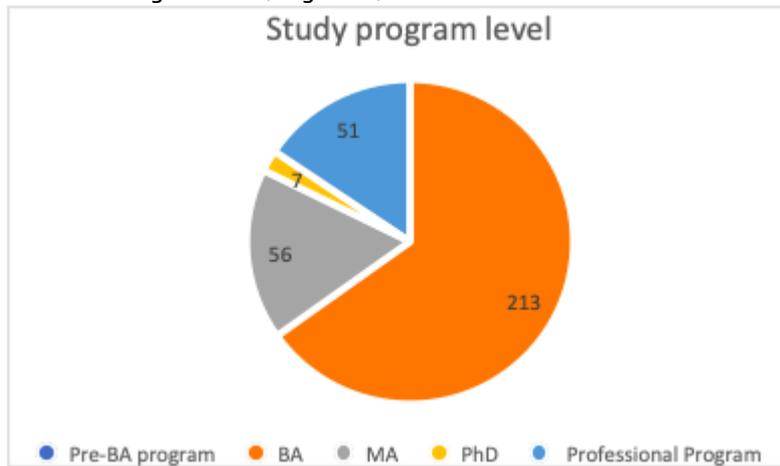


Diagram 8

The students' answers to the question "How often do you have to prepare educational materials using computer / smartphone?" The students' answers were as follows: The answer **Everyday** was marked by 322 respondents (98%) and the answers - **Once in semester** and **Never** were not marked by any of the students (diagram 9)

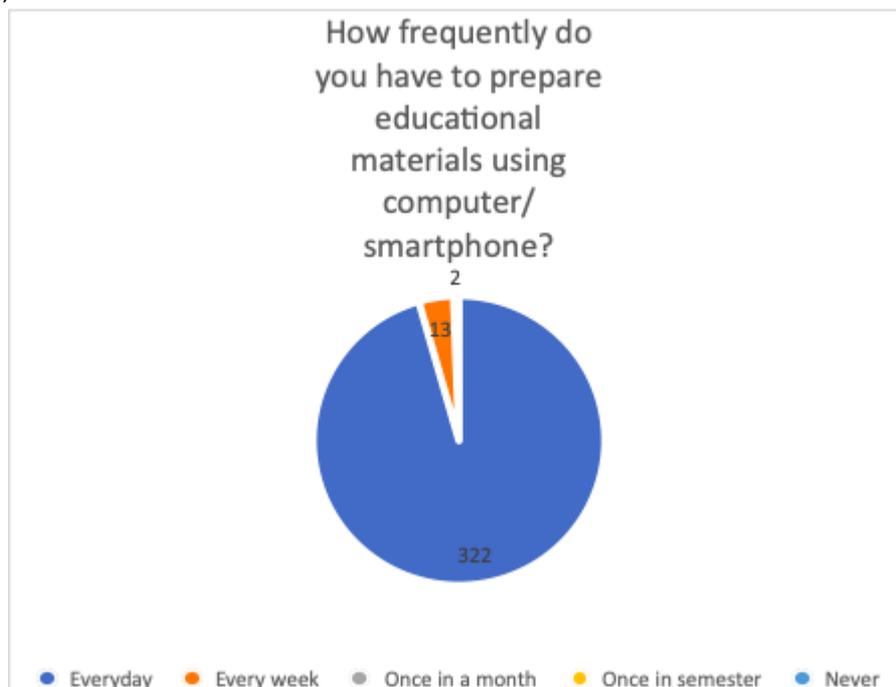
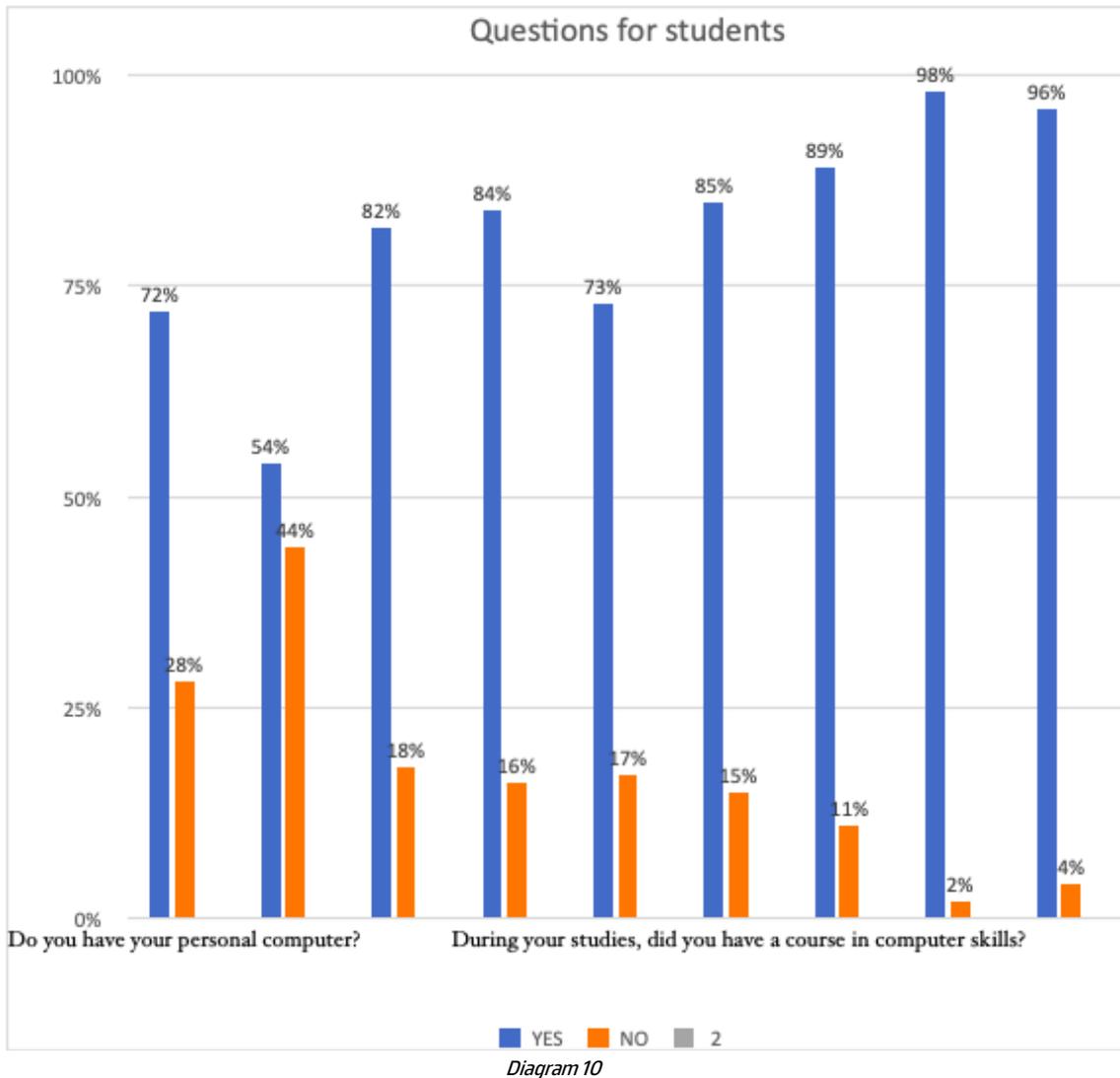


Diagram 9

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Compulsory teaching courses in all educational programs of BSU undergraduate level includes the course "Information Technologies", which significantly contributes to the development of students' IT skills. However, this course is not taught in all levels of educational programs at BSU.

Naturally, students in a pandemic also faced the need for appropriate technical equipment. The university tried to deal with all the problems identified through student applications as much as possible, however, due to the number of students (6,800 students), it is not possible to solve all the problems.

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## IAKOB GOGEBASHVILI TELAVI STATE UNIVERSITY

Telavi State University has the experience of supporting distance learning. The university does not have the full distance learning courses but supports the elements of distance learning in the study programs in several ways. University is the participant of several Capacity building projects funded by the EU Commission that supports the creation of supporting mechanisms for special target groups of students with distance learning. One is the project "Developing programs for Access of disadvantaged groups of people and Regions to higher Education (DARE). The project was already finished in 2018, but university management is working in the direction of sustainable development of its results. One of the objectives of the project was working on the raising experience in academic staff in the direction of E-learning. To work on this problem TeSaU purchased the equipment to equip the E- laboratory with the project funds. The laboratory is used to record lectures, so that students with special needs could listen repeatedly to them. Academic staff members are step by step trained by using Moodle that became the main ground to build courses for Telavi state university staff.

Another project is Printel. In the framework of the project "PRINTEL", The University carried out the following activities to develop the ICT skills of the academic staff: 6 academic staff member were trained as trainers (TOT) in modern teaching methods in different areas:

- A. Video as a teaching tool for teacher and student;
- B. Active teaching in the inverted classroom;
- C. Blended/Hybrid learning;
- D. Active Learning - Technology-Enhanced Collaborative Learning;
- E. Active Learning, and ICT-enhanced teaching: M-learning and gamification.

In the framework of the project, the University purchased new technological equipment (video cameras, smart board, computers and server), which helped the staff to carry out a modern and innovative teaching process. The trained staff trained another 215 staff at the University. The staff actively started using these methods in their own learning process. During the COVID - 19 pandemic this project gave to the university an opportunity to carry out a quality distance learning process. The Printel project has greatly helped the University in developing staff ICT skills and creating the most favorable educational conditions for students.

TeSaU helps lecturers to overcome the challenges posed by online learning as much as possible. Training is conducted systematically and online instructions are placed for working remotely for both academic staff and students with the help of IT and Quality Assurance Services. For lecturers who do not have computers at home, the university provides notebooks for them for temporary use to qualify the teaching process. Relevant services of the university try to manage to communicate with students of special populations to provide administrative assistance with video conferences and individual consultations. Additionally, to these activities information letters are published and the hotline of IT is functioning.

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TeSaU staff use different forms of lecturing: discussions, surveys, interactions, brainstorming, lectures are recorded and uploaded to a special platform. Lecturers provide students with online textbooks, slideshows, use ZOOM, Google classroom and Hangout platforms. Students receive individual feedback. Students with different experiences are offered individual approaches, given different assignments to simplify the learning process.

The importance of ICT is recognized in all high educational institutions of Georgia. There is a special regulation according to which all BA programs contain one obligatory course of IT at TeSaU. This is offered to students in the very first year of their studies. The Covid-19 pandemic situation with its challenges has shown that about 90% of TeSaU students are able to use ICT. There are ethnic minority students among them. The problem of using ICT was vivid with socially vulnerable students as they have a major problem with the access to the technology. To face the challenge caused by the pandemic situation, TeSaU administration did a small survey to find out what ICT was used by the students in the online lecture process. It appeared that 61,6 % of the students used smartphone, 23,2% used laptop, 11,9 % used personal computer, 0,3 % used Tablet, 3 % had possibility to use both laptop and smartphone, 0,3 % used netbook, 0,3 % used "Books" (small netbooks used for the 1 st year school children in Georgia, granted by the Ministry of Education, Science, Culture and Sport. It seems that these students have shared equipment with their 1st year siblings).

In the frame of LOVE.DIST@NCE project another survey was conducted to see how the level of readiness of ICT was among TeSaU students and its staff. The different questionnaires were sent to students and to staff.

We have received 212 responses from students. Out of all students who replied to our questions 74.5% were female and 25 % male. Their age was different: 45.8% were from 17-20, 35.8 % - from 21 to 25, 13.2% from 26 to 30, 4,7% were from 31 to 50 and the rest were 35 and more.

We were also interested in their level of studies. Majority of the students -82.1% - were BA students, 8 % Master students, 9.9 % were students of pre-BA and professional / vocational programs. 85.8 % of students use computers and smartphones every week, less than 1% say they use this equipment once in a week. 64.6% have their personal computers, thus 93.9% have access to and use the internet at home. 96.7% use their smartphones and mobile phones for learning purposes.

71.2% of students say that university offers courses in using computers and computer programs. 89.6% have reading materials in electronic formats/ e-medias. 69.3 % of students say they have an IT course in their study curriculum. There are doubts that the students who answered negatively on this question have not studied these courses yet. 76.9% of students say that they have the assignments that have to be written not on paper. 99.5 % use university corporate email. From the student's point of view only 53.8% of lecturers use the technologies for feedback.

To sum up the replies received from students, most of them have the equipment and access to the internet at home. The proof of it is the %age of the daily used equipment for study purposes. University management uses corporate mails to communicate with them and offers obligatory IT study courses to help to support the online learning process.

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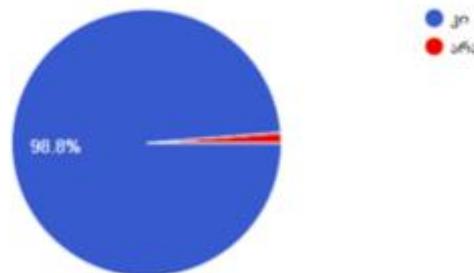
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Regarding the lecturers survey, we have received 80 replies. 80 % were female and 20 male. The majority of our academic staff - 33.8%- was 51-60 years old, 25% from 41 to 50 years old. There were similar percentages (15%) of academics whose age varied from 32-40 and 61-70. The rest percentage is distributed to the age more than 71. 97.5% use computers every day. From this number 77.5% started using the computer more than 6 years the others started to use it less than 6 years.

The question, how much time was dedicated to using computer and internet during the last 12 months on the lectures, most of them (58.8%) answered that they used from 51% to 75% of lecture time for it, 21.3% used from 25% to 50 % of lecture time.

90 % knows that university offers some training to upgrade the skills in ICT. All of them state that there is an AEMS system functioning at the university.

7. იყენებს თუ არა თქვენი უნივერსიტეტი სწავლის მართვის სისტემას (AEMS)?  
80 responses



58.8% have already taken their study courses to LMS. Here is the list of trainings offered by TeSaU and passed by them in the following directions:

- 41.3 %- Courses on the pedagogical use of ICT in teaching and learning Subject-specific training on learning applications (tutorials, simulations, etc.)
- 36.3.% Other professional development opportunities related to ICT.
- 33.8%- Introductory courses on internet use and general applications (basic word-processing, spreadsheets, presentations, databases, etc.)
- 23.8%-Equipment-specific training (interactive whiteboard, laptop, etc.)
- 22.5%- Advanced courses on applications (advanced word-processing, complex relational databases, Virtual Learning Environment etc.)



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- 20%- Course on multimedia (using digital video, audio equipment, etc.) Participate in online communities (e.g. mailing lists, twitter, blogs)
- 20%- Personal learning about ICT in your own time
- 11.3% - Advanced courses on internet use (creating websites/home page, video conferencing, etc.)

To sum up the lecturer's replies, we would like to underline that most of them are familiar with the ICT technologies and are supported by the university with different workshops and trainings to upgrade the IT skills.