

Book of Abstracts

INTERNATIONAL CONFERENCE

Virtual Conference on the Challenges of Online Teaching and Learning



VIRTUAL CONFERENCE CHALLENGES of ONLINE TEACHING and LEARNING



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Khazar University

06 May, 2020

Baku, Azerbaijan

Virtual Conference on the Challenges of Online Teaching and Learning

Khazar University is organizing a Virtual Conference on “the Challenges of Online Teaching and Learning”. The conference involves speakers from all around the World including: UK, Spain, Hungary, Finland, Uzbekistan, Kazakhstan, Azerbaijan and many other countries.

The conference was held on 6th of May 2020 at 15:00 Baku local time.

The Conference will mainly focus on the challenges of online teaching and learning during COVID-19 and how Higher Education Institutions have addressed such challenges to provide high quality learning for students. The speakers coming from all around the world will share their experiences on the following major issues:

1. Challenges of online teaching and learning
2. Solutions to achieve student engagement in learning
3. Technological solutions to meet students’ needs
4. Future implications to avoid these challenges in providing high quality learning

Outcomes

1. Wider awareness and understanding of the challenges concerned with online Teaching and Learning
2. Establishing a platform for further collaboration
3. Determining recommendations of national and institutional levels for the implementation
4. Conference Proceedings
5. Joint Publications (on volunteer basis)

Conference format

This conference is a 3-hour event that will bring together over 100 researchers and practitioners from different European and Partner countries. This conference serves best for the sustainability of PETRA (Promoting Excellence in Teaching and Learning in Azerbaijani Universities - 573630-EPP-1-2016-1-ES-EPPKA2-CBHE-JP) since majority of speakers and participants are the members of this project that we finalized in April 2020.



Challenges of Online Teaching and Learning
Virtual Conference
Khazar University, Baku, Azerbaijan
Programme



Wednesday 06 May 2020

15:00 (Please note that the time stated for each session is in Baku local time (GMT+4))

WELCOME NOTE

Irada Khalilova

Rector, Khazar University

Plenary Session 01 (Chair – Javier Orozco)

15:10 Hamlet Isaxanli, Founder, Chairman of the Board of Directors and Trustees
Khazar University, Azerbaijan

15:25 Javier Orozco, Polytechnic University of Valencia, Spain
Technical teaching solutions for unexpected crisis management

15:40 Eldar Ayanbayev, Kazakh Leading Academy of Architecture and Civil Engineering, Kazakh
American University, Kazakhstan
The experience of organization of distance learning in international educational corporation

15:55 Razim Aliyev, Ganja State University, Azerbaijan
*State of Teaching and Learning at Ganja State University during the COVID-19 Pandemic: Current
Situation and Future Perspectives*

Plenary session 02 (Chair - George Dafoulas)

16:10 George Dafoulas, Middlesex University, UK
E-learning pedagogies: Catering for different learner needs online

16:25 Gábor Erdei, András Buda, József Szabó, University of Debrecen, Hungary
Distance education experience at the University of Debrecen during COVID-19 Pandemic

16:40 Makhmud Kurbonov, Management Development institute of Singapore in Uzbekistan
Launching and engaging in E-learning projects in Higher Educational Institutions

16:55 Zarina Aslanova, Azerbaijan University of Languages, Azerbaijan
Challenges of Online Teaching and Learning at Azerbaijan University of Languages

Plenary Session 03 (Chair - Erdei Gabor)

17:10 Elena de la Poza - Polytechnic University of Valencia, Spain
Learning by doing: the challenge for teaching and research during the COVID crisis

17:25 Kati Clements and Saana Mehtälä, University of Jyväskylä, Finland
Sharing good practices for teaching and learning during Covid-19 crisis

17:40 Aida Jalilzadeh, Nakhchivan State University, Azerbaijan
Online Teaching and Learning at Nakhchivan State University

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Before and After the Covid-19 Crisis Elena de la Poza Plaza

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There is a “before” and “after” the COVID-19 crisis. The “start up” of the crisis impacted all of us physically, our plans changed, measures were taken.

Clearly, this crisis is global, affecting everybody worldwide. The crisis brought the end of physical interaction (socialization) for processes, products and services, (deals/trades/agreements/events). Hence, life continues after the crisis, but everything is different. At the present time, we start reflecting on our reactions during the crisis, about the transformation of our habits and how this crisis has pushed us into new directions.

COVID-19 results into an economic crisis coming from the mass job destruction, while digitalization became the answer to fight against its economic effects.

The mass access of most of the population to the Internet and to products and/or services from mobile and/or set platforms, strongly impacts society because it affects the economy and social behavior habits. Thus, technology allowed production continued because it extended contacts between sellers and customers in terms of the number and time of the seller-buyer interaction which reduced transaction costs.

Indeed, many services (bank branches, service agencies, employers of distribution services) and jobs in physical shops stopped (perhaps disappeared forever); administrative-type jobs also stopped and more than ever after the crisis, the continuous digitization and robotization processes became relevant in all sectors (agriculture, education, retail...)(drones; sensors). Indeed, technology-based companies appear that facilitate products and services, and the most demanded job posts require ITC skills.

The technological beneficiaries are the stakeholders (businesspeople or employees) in the market that first adapt to the technology, and then the subsequent creation of new jobs.

From a macro-perspective, apart from the economic, managerial crisis (metrics used: \$, € lost; number of jobs lost), the lack of intra-country autonomy/capacity has been exposed during this crisis. In addition, the print caused by the Covid-19 crisis still must be analyzed from a micro-perspective. As Damasio said (2018), people are moved by emotions and technology, and the non-observable prints of the crisis require time and resources to be measured and combated (quality of living conditions/standards; social isolation; family finance; professional-personal life balance; individual well-being; anxiety about future perspectives).

COVID crisis has challenged us both collectively (society), and individually. It has united us worldwide, and for the meantime it has isolated us by confining us at home.

In this context, technology has become the key answer to our problems. Undoubtedly, digitalization transforms our habits and the way we perform on daily basis but also organizational processes and management.

The possible compilation of information and the techniques for its management have created a myriad range of metrics that attempt to measure what we do, produce, expect and desire as not only

consumers, but also as workers, patients, provider, etc. The “after” crisis requires actions. However, the risk exists if a meta-metric system implemented by organizations allows quantity superimposes on quality, or when macro-perspective makes micro (individuals’ well-being) vanishes.

Keywords: digitalization, Covid-19 crisis; emotions; technology

Sharing Good Practices for Organizing Teaching During the Covid-19 Crisis

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Background: The Coronavirus outbreak has forced teachers worldwide to move their education online. This has created challenges, as teachers and educational institutions have diverse capabilities to access and use digital devices as well as educational software in their daily teaching practices. Even the more technology-capable higher education institutions (HEIs), such as the University of Jyväskylä, have had to rethink their teaching. Thus, teachers all over the world might benefit from learning about the good online teaching practices that their colleagues have been successfully using in their own teaching.

Method: The group [*Organizing teaching during the COVID-19 crisis*](#) was established to provide a channel for teachers to share their experiences about online teaching and to learn about how teachers are coping with the crisis. Facebook was viewed to be the best platform for the group as many people worldwide already use the service, possibly lowering the threshold for joining in. In general, sharing knowledge about practices and technology used seemed to be an efficient and approachable way to disseminate information among teachers.

Results: Currently, the group has over 500 members, including teachers, researchers and educational technology (edtech) company representatives. The topics discussed in the group include, e.g. interesting edtech that could be used in teaching, good practices for organizing education in different scenarios and how the situation has affected daily teaching practices. For example, the disturbance from family members at home has been identified as one of the biggest challenges for organizing teaching. At the same time, the problems with network speed have also been perceived as frustrating. At the Faculty of Information Technology in the University of Jyväskylä, platforms such as the videoconferencing tool Zoom and the Moodle learning management system (LMS) have been used to organize online teaching. Examples of online exams include time-controlled Moodle exams, essay writing supervised through Zoom, oral exams in Zoom (e.g. entrance exam interviews) as well as transforming the master's degree maturity test into writing a public press release.

Conclusion: A group in a popular social networking service can be used to share good practices about online education during a crisis situation, such as the current Coronavirus crisis. It is essential to have a community of active members to ensure rich communication. However, it should be kept in mind that people have got different ways of using social networking services, and posting, reacting and commenting cannot be solely observed to establish how active different members of the community are in following the discussions. Thus far, the group has seemed to be a good channel for reaching different kinds of users. In general, teachers and educational institutions with different capabilities, to organize online teaching, should be encouraged to share their experiences in order to find solutions for HEIs that are at different stages of the organizational edtech adoption process.

Keywords: good practices; online teaching; higher education; COVID-19 crisis

Mapping a Building Sustainability Curriculum into the Student's Brain

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Background: Students usually lack motivation for learning subjects which they perceive as difficult to learn. For this reason, in the last decades, teaching approaches have been developed based on a constructivist one to teaching and learning. The aim of these approaches is to increase knowledge acquisition by the introduction of mind maps.

Knowledge is more easily acquired as a link between concepts and propositions (Douma, Ligierko, & Romano, 2009), hence it is clear that there is a need to introduce techniques of visual representation of knowledge. There are numerous techniques for visualizing information in teaching process. Some of them are: conceptual maps, mind maps, conceptual diagram, visual metaphor, semantic networks, etc. There are numerous techniques for visualizing information in teaching process, such as: conceptual maps, mind maps, conceptual diagram, visual metaphor, semantic networks, etc.

Methods: A concept map is a top-down diagram showing the relationships between concepts, including cross connections and their manifestation. Since concepts are very clearly connected to each other, concept maps represent knowledge structures as a whole and can be used as a learning or teaching strategy applied at the same time as a means of assessing students' understanding of science concepts (Usta & Ültay, 2016).

Our approach has been to expose the students to a basic structure (concept map) of the Materials for Sustainable Building curriculum, and guide them into the collaborative exploration, development and documentation of different branches as they are introduced in class. Using this approach, each student develops one part by defining concepts, preparing examples, finding applications and connecting their work to the collective map.

Results: This methodology has provided a natural integration of the interdisciplinary competences required for tackling sustainability problems and fostering the individual background natural immersion into the class team. Sustainability requires interdisciplinary analysis, often praised as a source of creativity, for generating new paths while challenging established beliefs by bringing together contributions onto a clear knowledge structure supported by mind maps. The research was started on the course 2017-18 analyzing through different surveys carried out on scores and student satisfaction (table I). Clear advance on learning acquisition is shown.

Assessment is based on a rubric evaluating depth and breadth of personal progress, and by a peer evaluation on the relevance and importance of personal contribution. The result has been rewarding and well received by students who learn more easily through this self-questioning strategy.

Table. Experimental results for the course per year

Indicator	Course 2016-17	Course 2017-18	Course 2018-19
Course average score \pm std. dev.	6,3 \pm 0,2	7,0 \pm 0,1	8,1 \pm 0,1
Average student satisfaction \pm std. dev.	7,4 \pm 0,4	8,1 \pm 0,2	8,6 \pm 0,1

Conclusion: The results obtained from our academic research develop a successful approach for knowledge acquisition development not only for Sustainability topics, but also for all technical courses with an edge for flipped teaching. The acquisition of sustainability competences, and the related pedagogical approaches, are the keys to achieve sustainability. It is also relevant to take note of the increased workload by faculty in charge.

Although this year's course is not finished, the progress has been maintained and the required online teaching due to the COVID19 crisis has connected smoothly without the problems of other courses.

Follow-up research could provide insights on how to better use, rethink, redesign, and combine these with other pedagogical approaches to provide a more sustainability-oriented education.

Keywords: Assessment, mind maps

Distance Learning Solutions at the University of Debrecen (during the coronavirus pandemic)

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Introduction: At the University of Debrecen, initiatives have been launched for almost 30 years that have tried to integrate various elements of distance education into the framework of traditional education. In the first period, in the 1990s, it started even more in the classical form, based on paper-based documents, but from the 2000s onwards, electronic versions also appeared. At first, the individual faculties and institutes searched for solutions independently. They created their own servers on separate hardware, although more than once the same software package was used to support the teaching-learning process. In order to increase the efficiency of fragmented resources, in 2010 the University developed two central systems into which previous fragmented attempts were integrated. First, a separate Moodle interface was created for teacher training in the University, which also covered seven faculties, and then a central Moodle server was put in place, which was used by all faculties and for various priorities and central units. On these servers, the instructors advertised various courses and uploaded the materials according to their own needs, although most only allowed them to issue and submit assignments in this way. The number of users has been growing, but we haven't been able to talk about a leap or full application until recent months. The coronavirus, on the other hand, fundamentally transformed this condition.

At the beginnings: The spread of the virus in Europe has already predicted that there will be a change in education as well, but in the beginning not many people thought that educational institutions would have to be closed as well. In Hungary, on March 6th, 2020, the government decided that university education could not be continued in the traditional form. Higher education institutions brought forward the spring break for next week, during which educators had to prepare for distance learning. In order to start moving in this direction thoroughly, it was first necessary to check whether the appropriate technical background was available and what software was accessible. There was basically no problem with the available tools, it was more a question of the internet connection. There were those who had to buy a package that would allow adequate data traffic. In addition to the software available and downloadable on the network, of course, Moodle servers were also available, but it had to be reviewed whether special modules meeting different needs were integrated into the system or the servers had to be prepared for the jumping load. However, it was also expected that there would be access and connection problems, so it was necessary to review what other solutions could be used for non-attendance education. In the changed situation, all courses had to be converted to digital form. A significant problem, however, was that most of the instructors were unaware of the possibilities of distance learning and online education, and had no experience in this field. Most were not prepared to use Moodle either. That is why many people had to learn the basics of digital distance learning during the one-week break, while also having to start producing curricula and series of tasks for students. Although a week is not too long to clarify such a large number of issues, the vast majority of the

problems encountered have been addressed through the collaboration of faculty and students. On March 16, the digital phase of the semester could start, the students of which were officially notified about the information and tasks to be performed through the administrative framework (Neptun).

In the first phase of finding solutions, the instructors uploaded the material for each course over a period of weeks. Most of the time, it meant one of the Moodle servers, but Google Drive was often applied as well, and due to the proficiency of some instructors, the individual website of the instructors also served as a possible alternative. Starting from an asynchronous educational process, these materials mainly meant text files and ppt presentations, but additional materials and link collections were also prepared to support the students' individual learning and practice.

Evolving solutions: During the initial period of distance learning, a number of technical and / or software usage problems arose, and the servers were often overloaded, resulting in frequent access problems. In addition, the new situation was unusual not only for faculty staff but also for students, a significant proportion of whom had also not used Moodle before. As a result, the first feedbacks showed that most of them require synchronous communication, contact with instructors, especially in the case of practical subjects.

Most of the instructors responded to the demand by starting to hold synchronous classes at the usual time with the help of some kind of software that also allows voice and screen sharing in general. Using the Moodle webinar (BigBlueButton) seemed an obvious solution, but as voice and image sharing requires significant server resources, access problems continued to increase, leading to more and more people looking for alternatives. For example, the use of Skype has been raised by many, but experience has shown that not everyone has always been able to connect, and there is a staff limit for this solution. Because Microsoft products are available at a discount to university students and faculty, using Microsoft Teams was a logical choice. It is considered simple to use, relatively quick to use, easy to learn, although some features work better than other solutions. In addition to these, some have used Webex, a subscription-intensive and somewhat cumbersome but improved during the epidemic, Google Meet, Zoom as well as Discord.

For some practical subjects, screen sharing was not enough either. It was necessary to use a program that also allows you to transfer control of the screen, such as GoToMeeting and Zoom. Of these, Zoom is more widespread, which, when used for a virtual presentation, provides a 40-minute connection free of charge for groups of up to 100 people. The owners of the surface also allowed unrestricted use in the first period of the epidemic, but after a few days this discount was revoked. However, for a not-so-high subscription fee, the limitless option can still be purchased.

These audio and video sharing solutions not only enable more efficient knowledge transfer, but also help you stay in touch. Much more accurate, faster, more personal and personalized communication and assistance can be achieved with their applications. However, with the right settings or utilities, the virtual connection also provides an opportunity to ask anonymous questions or problems to the instructor. (The latter is particularly important because feedback from students can not only help prepare for similar situations, but also lay the groundwork for a later [at least partial] distance learning training structure.) Certainly, these factors also played a role in the fact that quite a few instructors experienced more people attending online lectures than before in contact classes. How intense or nominal the presence was, however, was no longer easy to control.

This element is also part of one of the problems of digital education - in many ways perhaps the most significant - which is nothing more than measurement and evaluation. These two important moments in virtual space are not easy to implement at all. The immediate feedback and formative assessment moments of the contact hours can only be somewhat replaced by the online consultations. However, students are often uncertain about the amount and depth of the acquired knowledge, and the adequacy of their pace of progress as well. Therefore, a number of check or self-check tasks have been developed for feedback. Some of them became available on the interface used to deliver the curriculum, others on web pages (e.g. redmenta.com, socrative.com, quizlet.com, wordwall.net). Final assessment is important in many ways and that is why in the current special situation, special attention had to be paid to enable students to prepare properly for the exams. This was facilitated, for example, by the instructors compiling sets of tasks that could be solved in an alternative way to each topic. (Incidentally, this solution was raised more than once by the students themselves.) The incoming good solutions were also included in the practical or exam mark by some of the instructors, so those students who continuously worked, were more confident in receiving good grades at the end of the course.

By the end of the half-year, the epidemic situation had significantly improved so much, so that in addition to complying with the rules of health, it is even possible to take attendance exams in some faculties of the University of Debrecen. Nevertheless, it is already known that most online surveys will be implemented with the help of screen and webcam sharing. Many will also use tests (eg Moodle; redmenta.com) but many have also introduced new evaluation methods (eg presentation of an individual project, development of a case study).

Experiences: Students, despite their individual schedules and location-independent learning, overall experienced more negative months of digital distance learning. On the one hand, they lacked face-to-face meetings (with both peers and teachers), despite the fact that online classes provided an opportunity to meet at least virtually. The majority of students feel that they have had to complete more assignments than in class-room teaching situation, and although these were not always mandatory. Many felt the need to solve them, as they felt they also contributed to a successful semester. Instructors also feel more burdened. Not only did they have to develop the aids of a new form of training, they had to master the application of new digital solutions, but they also had to continuously expand and revise the curricula produced during the preparation week, adapting them to the needs of the students and using the experience. The demands induced the use of newer and newer programs, the use of which also had to be learned and practiced, but the contact and individual feedback also required a lot of time and energy.

However, despite the negatives, experience shows that with the development towards interactivity, it may be possible to start distance learning courses at a later stage. Based on the experience forced by the pandemic situation, teachers can further develop their curricula, supplement the topics with parts and aids that meet the needs of the distance learning form, or at least some of the traditional solutions can be replaced by new internet-based solutions. This can not only bring economic benefits (eg. save travel costs for students and teachers, spend less on infrastructure, etc.), but also involve groups that have been excluded from learning so far (eg. for financial reasons). Thus, the number of people interested in higher education may even increase.

Keywords: distance learning, education, teaching, solution

Investing in Educational Technology Following Covid-19 Pandemic: The Case of Azerbaijan

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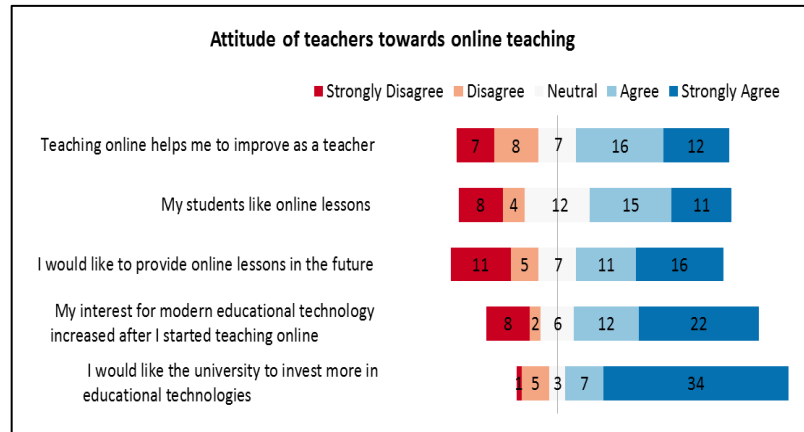
Background: The COVID-19 pandemic has resulted in universities shut all across Azerbaijan. As a result, universities were pushed to switch to online classes through the application of various technologies. Some universities had already been utilizing different types of Learning Management Systems (LMS) whereas others had yet to decide means of online communication with students. Ganja State University, for example, decided to deploy social media and video conferencing tools to provide online lessons.

Before the pandemic, a platform had already been created with the help of open source learning platform Moodle via the participation in European Union's Erasmus+ programme PETRA (Promoting Excellence in Teaching and Learning in Azerbaijani Universities). But, since Moodle platform was not diffused totally and minority of teachers migrated, this approach was deemed time consuming to take. Thus, to have an immediate response, the university determined to employ tools such as Facebook and Zoom, the application of which is relatively easy in comparison with LMS.

Exploiting these approaches, teachers provided more than two hundred lectures in Facebook live, and more than twelve hundred lessons via Zoom. Some lessons had more than 5K views. The numbers indicated that the interest of teachers and students in online teaching and educational technology has grown to a significant degree. To support this claim with empirical evidence, a short survey was designed to measure attitudes of teachers towards online teaching.

Methods: Using Google forms an online survey was conducted among teachers at Ganja State University and several other universities in Azerbaijan. Respondents included 50 male and female teachers, majority of whom tried online teaching for the first time. The main objective of the survey was to measure the attitude of the teachers towards online teaching and educational technology in general.

Results: Based on the survey results shown below, it is obvious that teachers are usually in favor of application of online teaching and educational technology and satisfied with the positive results it brought about. The results for the last question especially stood out, in which 34 out of 50 respondents were strongly agreed that universities should invest more on educational technologies. Accordingly, observations show that many universities in Azerbaijan are keen on investing in different types of online teaching tools. The question then arises as to whether purchasing online technologies will improve state of teaching and learning. Whether it is worth investing in educational technology is what will be focused on the next paragraph.



Conclusions and caveats: The current situation arisen due to COVID-19 pandemic stimulated and encouraged universities in Azerbaijan to invest in some types of educational technologies. But, we should recognize that educational technology cannot be considered a panacea for educational reform (Kimmel & Deek, 1996).

Concerns whether *technology* or *media* affects the *learning* process goes back to the last century. In the great media debate, which continued for years between Richard Clark and Robert Kozma, Clark stated that media is merely a delivery device and has no significant difference in the learning outcome. It is teaching methods that have the most influence on learning. Kozma, on the other hand, argued that media could and should be used more than a vehicle for delivery. Using the correct medium could have an impact on the student’s cognitive skills.

When examining the effectiveness of educational technology applications for enhancing student achievement, Cheung and Slavin (2013) found that educational technology applications generally produced a positive, though modest, effect in comparison to traditional methods. Also, measuring the effectiveness of educational technology to understand its contribution to deep understanding has often times proved difficult (Jenkinson, 2009).

Technology, when properly applied, can be a very effective tool for improving and enhancing teaching and learning experiences. However, incorporation of educational technology, into teaching must be accompanied by systemic change in the educational process (Kimmel & Deek, 1996). Thus, a proper analysis and planning should be done before impulse purchasing of educational technology.

Keywords: educational technology, online teaching, COVID-19 crisis

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Online Teaching and Learning at Nakhchivan State University

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Purpose of the work: As the whole world is face to face with a pandemic called COVID-19, all the universities and other educational institutions are dealing with many difficulties related to teaching and learning. The research study was done to be presented in a virtual international meeting where many local and European universities are present. The purpose and scope of this study was to analyze the current situation of learning and teaching in the educational sphere, to study online teaching and learning at Nakhchivan State University. In order to do that, Learning Management System and other online programs used at Nakhchivan State University were mentioned and their functions were analyzed. I have mentioned in the research paper that, the major platform used at Nakhchivan State University is LMS and it has got many functions to fulfill online teaching and learning. The system was created at Nakhchivan State University as a result of the grant gained from “The Project for the Establishment of Electronic Education Network and Digital Multimedia Infrastructure for Nakhchivan State University” in 2014. The platform helps the lectures deliver, video lessons and free works to the students through the system. It was also mentioned in the article that, in order to follow the student achievement, teachers had placed tests and open questions in the system.

Although, there are some challenges ahead, there are also solutions to avoid these challenges. Through the article, I have mentioned technological and methodical solutions to achieve students’ engagement and future implications to avoid the challenges in providing quality, too.

Methods: I have used both qualitative and quantitative research methods to collect data for the study. LMS platform of Nakhchivan State University was referred to collect certain data about the system and also the statistics of the teachers and students involved in online teaching and learning helped to evaluate their engagement. Also, a survey had been done by me among the teachers and students to decide which online programs were used for teaching and learning except LMS platform. Descriptive and inferential statistics, specific questions or hypotheses, small samples and the description of these samples were used to collect data and get the article ready for the presentation. For example, internet site, and news pages had been used in order to back up the statistics used.

Result: During the research, I analyzed the system, online platforms and the challenges Nakhchivan State University uses. Also, I mentioned the solutions to achieve student engagement. In the research, future implications and technical solutions to meet students’ learning needs have been presented.

Conclusion: The research showed that each educational institution should always be technically ready to face and overcome the problems and issues such as the new Coronavirus pandemic (COVID-19) and Nakhchivan State University is ready to overcome the major difficulties of teaching and learning.

Keywords: teaching, learning, pandemic, LMS, educational platforms, student engagement

Challenges and Solutions of Online Teaching and Learning

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The Azerbaijan University of Languages teaching staff and students use such technological applications as ZOOM, Skype, What's App and Microsoft Teams. The choice of all these applications depends on the number of students in class, subject and general preference of both teachers and students for achieving better results. This survey is based on the practical experience of the teachers who identified the most frequent and appropriate ways of online teaching.

It is difficult to engage all the students simultaneously. The tutorial groups should be of the optimal sizes to have small groups of students that can ask and answer the questions. The groups can be divided in accordance with students' performance. Stronger group can move faster, while weaker students will receive more attention and support from teachers.

Due to being present at home all the time and lack of physical interaction, it is difficult for the students to follow their normal 5 hours like at university. That is why, the lectures should be shorter, i.e. 1 hour twice a week. Shorter lectures would draw the attention of the students in a wide range.

In this situation with/of pandemic, it is difficult to create online tests-based assignments for everyone. Hence, it would be wise to suggest the task-based assignments, coursework, open-questions to solve and to write, essays on different topics and blended tasks. The coursework questions should be more complex than usual test questions, because it is presumed that students will use internet and books to find a solution. Another priority of this is that course works are not limited in time like tests and it would motivate the students for self-study.

The syllabus of university presumes physical presence of students. All learning materials come in from books, handouts and in class engagement on tutorials. It means that all learning materials should be implemented to solve the issue.

Physical presence at the university allows the teacher to spend more time with a student outside of the class hours. For example, there could be different projects, tasks which could not be fit during lecture hours. That is why, the teacher should create a special calendar for open hours in order for students to get hold of the teacher when they need to.

Concerning the online learning challenges, it is necessary to stress that communication is the main issue for students. Students should have transparent communication from university regarding changes happening, equipment required for online learning and detailed instructions.

Another point is that, it's very important to write a Student Manual or Guide that would explain how to install necessary application and equipment required for learning, how to manage the time during the day with new timetable, and how to utilize the teacher and gain access to materials. No doubt, online teaching and learning will never substitute face-to-face interaction, but in such a case of emergency, there remains no more choice for us.

Summarizing all the important points, we came to conclusion that the following solutions should be achieved:

1. Shorter hours and frequent lectures.

2. Shorter tutorial groups divided by the students' performance.
3. Online equipment like Zoom, Microsoft Teams allowing the teacher to visualize the learning material.
4. More informal rules.
5. Communication regarding changes happening, equipment and detailed instructions.

Keywords: online teaching and learning, challenges and solutions, teacher and student interaction