



**ACCESSIBILITY AND HARMONIZATION OF HIGHER EDUCATION IN  
CENTRAL ASIA THROUGH CURRICULUM MODERNIZATION AND  
DEVELOPMENT**

**Project № 561553-EPP-1-2015-1-BG-EPPKA2-CBHE-JP**

**ERASMUS+ Programme**

**KA2 - Capacity-building in the Field of Higher Education 2015**

**Coordinated by Burgas Free University**

**DEV. 2.6 – ACADEMICA Modernised Curricula Piloting  
Report – Part II (Summer Semester)**



Co-funded by the  
Erasmus+ Programme  
of the European Union

*This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.*



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<b>Contributes provided by</b>	All partners
<b>Work Package N° and Title</b>	WP2 - Development
<b>Deliverable N° and Title</b>	DEV. 2.6
<b>Dissemination Level</b>	International
<b>Deliverable target Group</b>	HE Institutions in EU and Kazakhstan, Uzbekistan and Turkmenistan, educational authorities on all levels, University and professional networks, EACEA and commission services and project reviewers, and any other actors of the educational sector as well as all interested parties.
<b>Language</b>	EN, RU

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## 1. Introduction

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After the end of the experimentation with the e-course (Phase I and II) each partner had to start the modernisation of some curricula in order to get a formal approval at institutional and national level and make the courses available for their students. The national coordinators (one for each CA country), as for the first semester, had the duty to fill a National Report analyzing the results achieved during the second semester, drawing a detailed picture of the single country in relation to the delivery of online courses and the procedure for their formal approval. Based on these national reports, we have prepared the "International Report - part II" that represents an important picture of a significative part of Central Asia. The considerations inside this document permit a clear comparison between Kazakhstan, Uzbekistan and Turkmenistan showing similarities and differences between these countries that have different Higher Education systems.

This report is mainly based on histograms in order to immediately show the results and compare information coming from the three involved countries. To access to primary data at national level and for a more specific picture of a single country, an interested reader can study information contained into national reports, which are published on ACADEMICA website.

## 2. General Information on Modernized Courses

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In this first section, we give an overview of the number of modernized courses and their main characteristics in each country, comparing information between the three countries. Table n. 1 shows the specific number of Institutions participating in the modernisation process in each involved country. The data deriving from this table are pivotal in understanding the balance among more specific data related to the n. of participants and the numbers of modernised courses.

Country	Number of Institutions
Turkmenistan	2
Uzbekistan	2
Kazakhstan	4

Table 1 Number of Institutions involved in each Country

When considering the overall sample of the modernised courses during the second semester we have: **67 modernised courses** and **699 students involved in these courses**.

In Fig. 1 we can see the fraction of modernized courses in each country:

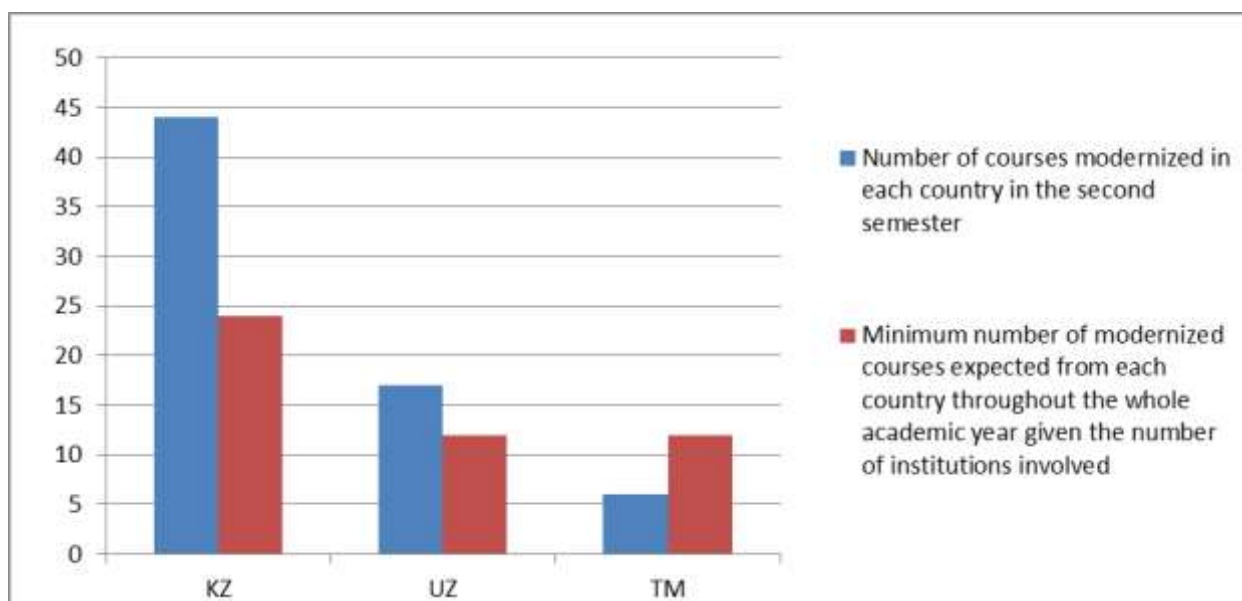


Fig. 1 Number of courses modernized in each country and minimum number of modernized courses expected

Considering these data related to the second semester we can state that Kazakhstan, modernising 44 courses, has achieved the threshold established consisting in minimum 5 curricula modernised in each institution. The same applies to Uzbekistan, where 17 courses have been modernised. Turkmen universities have modernised 6 curricula. It is important to remark that the red column in the Figure 1 represents the minimum number of the modernised courses in the entire academic year, thus, considering both the First and the Second Semester.

Fig. 2 shows the number of students involved in the modernised courses in each country: Turkmenistan involved 60 students, Uzbekistan 110 students and Kazakhstan 529 students. Fig. 2 puts in relation this data with the minimum number of students expected considering minimum number of courses during the whole academic year and with the minimum number of students given the number of effective modernized courses. Looking at data we can notice that all three countries are slightly below the threshold, which consist in minimum 15 students per each modernised curriculum. It should be remarked that considering the minimum number of students expected considering minimum number of courses only Kazakhstan is beyond the threshold, while Uzbekistan and Turkmenistan are slightly below it. To reach the threshold Uzbekistan should have involved minimum 70 students in the first semester, while Turkmenistan should have involved 120 in the same period.

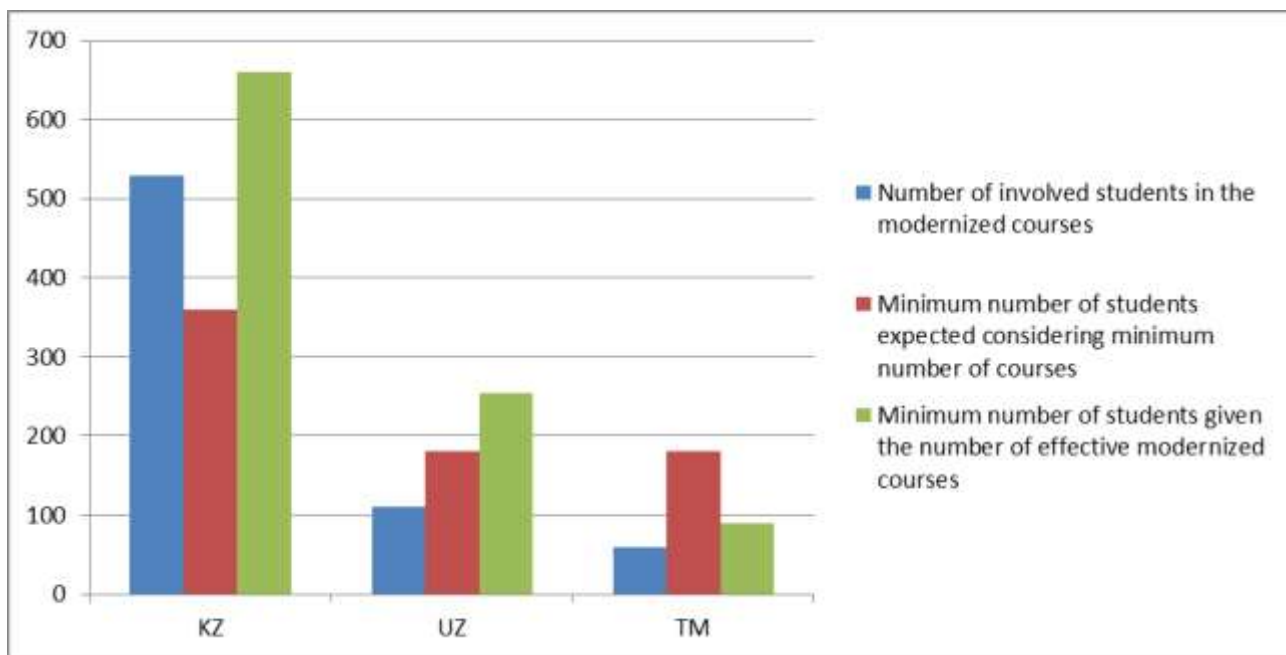


Fig. 2 Number of students involved in the second semester modernised courses compared to the minimum number of students expected considering the minimum number of courses and compared also to the minimum number of students given the number of effective modernized courses

As in the first semester, also for the second one all the modernised courses were approved both at institutional and national levels.

In Kazakhstan the approval process developed through several steps, involving various institutional bodies depending on the single Universities:

At Shokan Ualikhanov Kokshetau State University (KokSU) - where the modernised courses were 9 for the second semester - courses are reviewed and approved at the meeting of the issuing department, then they are approved by the teaching and methodical commission of the Faculty of "Technique and Technology"; finally approved by the Decision of the Faculty Council.

At International Information Technology University (IITU), that modernised 24 courses, these are reviewed and approved at the meeting of the issuing department then reviewed and approved at the meeting of the Scientific and Methodical Council of IITU.

At Kostanay State Pedagogical Institute (KSPI), which modernised one course during the second semester, the steps for institutional approval of the course included:

- 1) The council of the department on Informatics and Computer sciences (the discussion and referencing of the modernised course);
- 2) Presenting the reference letters by the scientists outside and inside the institute;
- 3) Approving the course by the Science and Mathematical faculty;
- 4) Approving the course by the Scientific Council of KSPI.

At Abay Myrzakhmetov Kokshetau University (KUAM), where the modernised courses were 10 in the second semester, they were reviewed and approved at the meeting of the issuing department, consequently approved by the teaching and methodical commission of the Faculty, and finally approved by the Decision of the Faculty Council

In Uzbekistan courses were included in the following specialties: Computer Engineering, Telecommunication technologies, Mechanization of agriculture, Management in agriculture. The implementation of modernized courses had to undergo the approval of the Academic and



Methodological Department of Institution. Both the Uzbek institutions involved completed this process.

At Samarkand Veterinary Medicine Institute (the ex Samarkand Agricultural Institute - SAI) the institutional approval of the courses was carried out following steps: the modernized courses were presented to departments and faculties of lecturers and after their discussion the courses were approved by the Academic and Methodological Department.

At Tashkent University of Information Technologies (TUIT) the modernized courses were approved by the Academic and Methodological Department of TUIT before the courses started. The approval was discussed and documented by the Head of this department, so further realization of ACADEMICA courses became justified by TUIT administration.

In Turkmenistan all the modernized courses were approved by the Rectors of the Institutes.

## ***2. Teaching method used in the selected courses***

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As in the first semester, the most used teaching approach in all the involved countries is the face-to-face lesson. In some cases, as in Uzbekistan, this is because students must attend all the classes for their courses and they also receive a government grant for that.

This notwithstanding Uzbekistan and Kazakhstan use also technology-enhanced classes mostly in the form of blended courses.

Only Kazakhstan already uses pure distance classes delivered through an e-learning platform.

Looking in detail, in Kazakhstan the four Universities involved used 44 face-to-face classes, 34 technology enhanced classes in computer laboratory, 26 e-learning platforms in form of blended learning sessions, 10 pure distance classes delivered through e-learning platform.

All the countries involved see technology-enhanced learning and distance learning as an opportunity and their aim is to strengthen its role in the national higher education system. They understand that this practice needs to be implemented at different level: starting from planning the educational process and ending with the use of ICT-based approaches within the classes.

They are willing to bring in these developments starting from the ACADEMICA experience that helped the students to get more interested in new technological approaches. Even if not used as pure method, in Uzbekistan and Turkmenistan platforms like Moodle are becoming increasingly sought.

In Uzbekistan, in particular, distance learning has started to get promoted by the Government that recently issued a decree for improving the higher education system through distance learning methods. This is perceived as a step forward in the continuous improvement of the quality of the classes and in providing more opportunities to students who cannot attend in person.

## ***3. Modernization of courses***

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In this third section we will show the process of the modernization and the means used to achieve it. Below, you can find a chart summarizing the solutions and means adopted by the 3 countries in order to modernize their courses.

Lecture notes:	33	KZ	6	TM	11	UZ
Multimedia Lessons:	37		6		5	
Presentations:	39		6		15	

Video Lectures:	27	1	6
Case Studies:	31	6	9



Fig 3 Fraction of the solution adopted to modernize courses in Kazakhstan

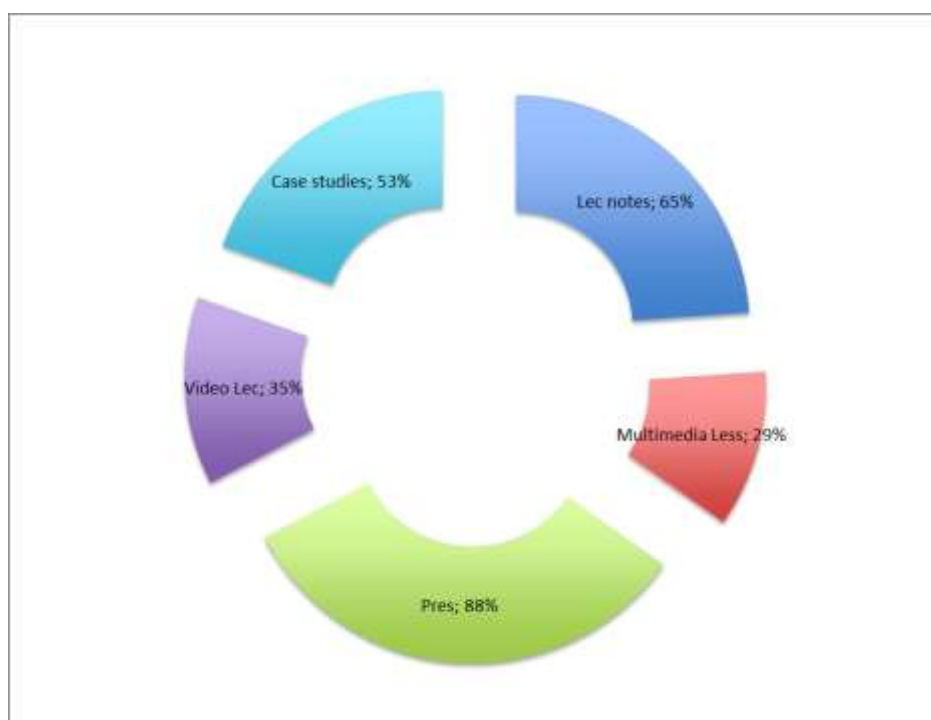


Fig. 4 Fraction of the solution adopted to modernize courses in Uzbekistan



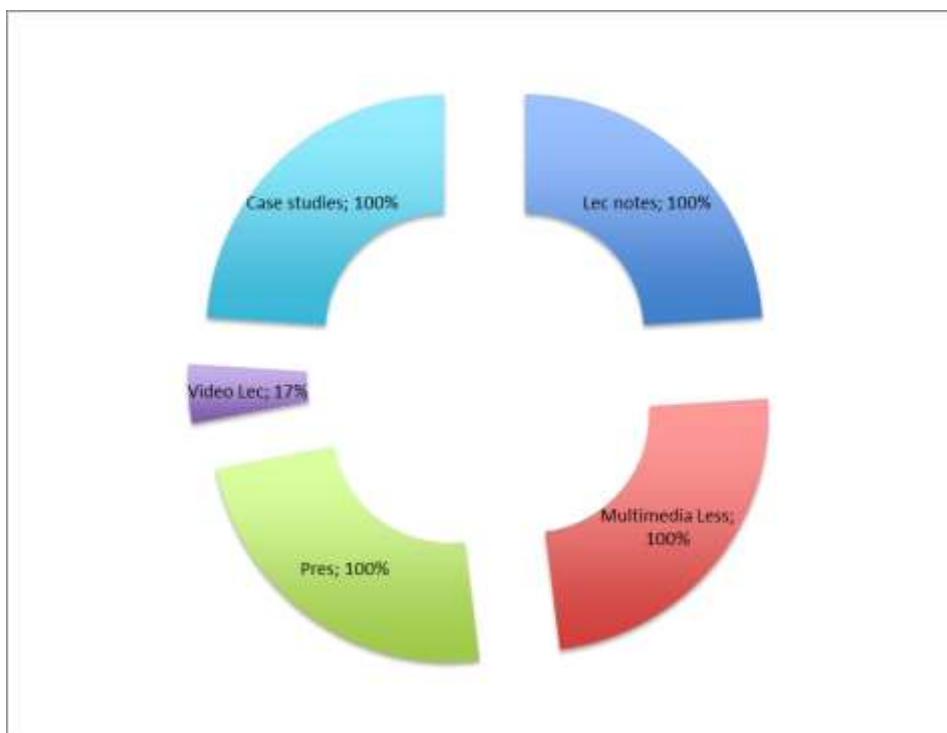


Fig. 5 Fraction of the solution adopted to modernize courses in Turkmenistan

In relation to the percentages that go beyond the 100% threshold, we consider that one single course has made use of the same solution (lecture notes, multimedia lessons, etc.) more than once.

Both Uzbek and Kazakh institutions highlighted that the choice of criteria and methods to modernize courses depends highly on the specialty, the contents and materials of the single course. In Kazakhstan multimedia presentations have been modernized also taking into account new contents and topics, such as social networking, cases online, Prezi-presentations, mediated and tandem learning. Turkmen partners pointed out that digital learning is still in its initial state, however, the actions taken to improve education with the help of new digital methods are completely compatible with the steps that their state is taking in educating

Regarding the range of modernization in each institution of the 3 countries involved, the process and dynamics differs from a country to another.

In Kazakhstan the volume of modernization of selected courses ranges from 30-60% as follows:

	KokSU	IITU	KSPI	KUAM
Up to 30 %	5	9		4
Between 30 and 60 %	2	13		2
Over 60 %	2	2	1	4

The current result demonstrates the stable improvement of the motivation of students into using new technologies in their disciplines connected with their specialties. Furthermore, the volume of modernization of training courses has an average degree, which indicates a positive dynamics of the results of work within the project.

In Uzbekistan: Modernization range of selected courses is not big difference between Institutions. But existing difference are related to specialties of the students, fields and topic of the courses. Moreover, specialties of the institutions are completely difference. Number of

modernized courses up to 30%: by SAI it is 3 and by TUIT - 6; and in range 30%-60%: by both institutions are 4. Over 60% both universities didn't modernize.

In Turkmenistan all modernized courses are in both institutes (Culture and Finance).

In relation to the electronic resources used in the process of modernization, we have drafted below a chart that gives an overview of all the resources and their use in each country.

Discussion:	34 KZ	0 TM	11 UZ
Assignments:	40	0	10
Collaborative Space:	24	0	6
Wikis:	18	0	0
Quizzes:	21	0	10

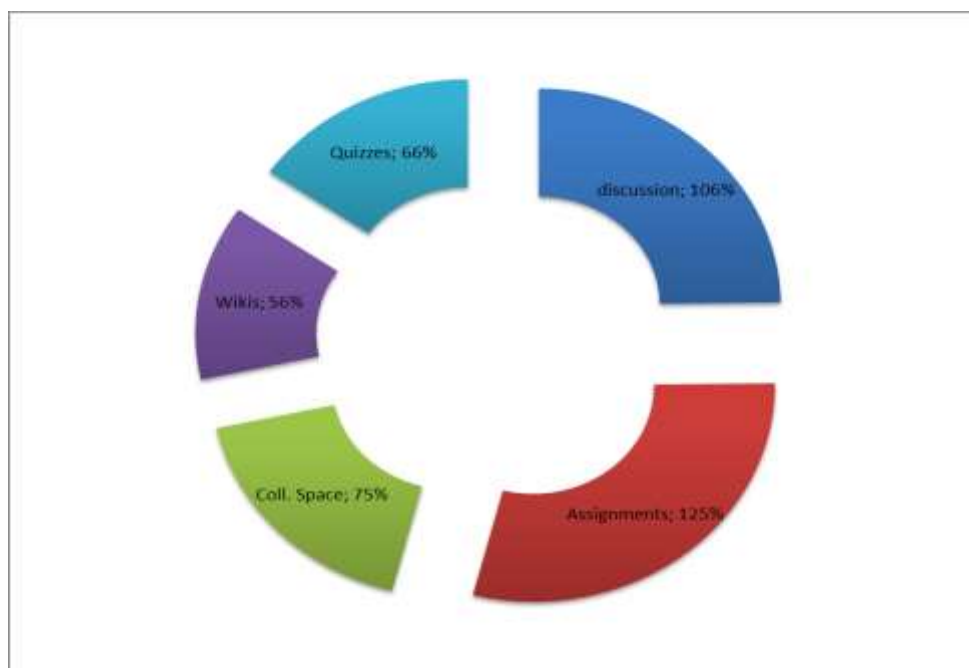


Fig 6 Fraction of the use of the electronic resources in Kazakhstan

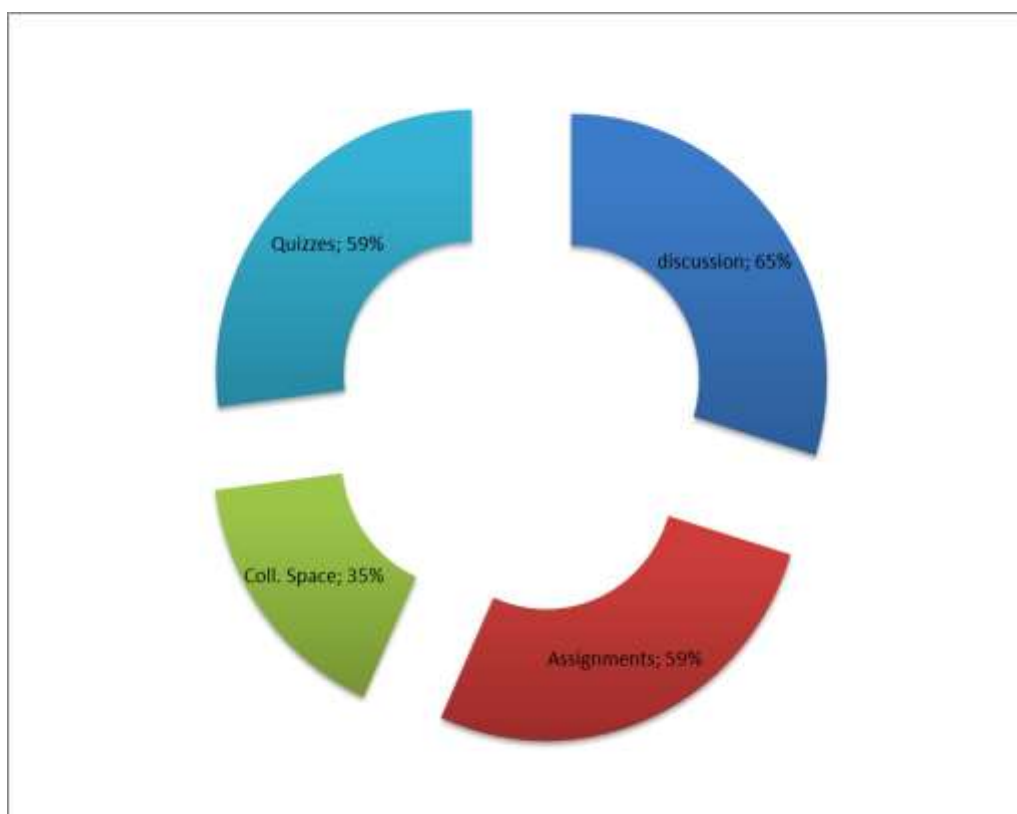


Fig. 7 Fraction of the use of the electronic resources in Uzbekistan

Concerning this last result, Kazakhstan highlighted that the rapid updating and development of ICT creates the problem for teachers choosing adequate tools for optimizing the teaching of specific disciplines. One of the selection criteria is based on the analysis of the didactic properties of ICTs and the deduction of corresponding didactic functions from them. As an example, here are some of the properties of the wiki technology: Technological property (Multimedia material) - Didactic property (Optimization of learning through the use of sight and hearing) - Didactic functions (Introduces diversity in the teaching work, activates and preserves involuntary attention, helps develop all kinds of speech activities); Technological property (Collective access to material) - Didactic property (Possibility of individual and group work on teaching material) - Didactic functions (Allows to conduct educational projects, develops social, information and language competencies. Discussions are used on the vk space during performance of self-work of students. Assignments are reflected in the syllabus and used for developing creative thinking and alternative decisions taken based on cases. Collaborative space as Edmodo has been used as a platform for sharing ideas and submitting tasks (quizzes and iSpring mode tasks) online having a stimulating deadline.

In Uzbekistan both institutions don't use Wikis resources, because Wiki doesn't have a lot of information in native language of Uzbekistan for specialties involved in the project.

In Turkmenistan this result shows that the online learning technologies have not been used before and the teachers know little about it.

#### ***4. Delivery and updating of the modernized courses***

The use of VLEs in the involved countries is quite differentiated and depends also on the level of availability and accessibility of technology-enhanced teaching and learning.



In Kazakhstan, where online learning is more widespread, each university uses its VLE. In particular, KokSU and KSPI, being state universities, use virtual learning environments based on AIS Platonus, IITU - Moodle, KUAM - TAMOS.

In Turkmenistan there is a general willing to use VLE as an instrument of the new digital education in order to improve the quality of teaching and teaching methods. The presence in both institutes of virtual laboratories created with the support of the ACADEMICA project is considered a basic condition for the modernization of the entire education system.

In Uzbekistan there is a Moodle-based VLE used in the educational process. It is implemented and methodologically supported by the department of "The center of Implementation of electronic education" under the Ministry of Higher and Secondary Specialized Education. Besides, all institutions have the same centers that technically support VLE and methodologically support teachers.

Teaching materials on most of the currently taught courses within university departments are located at this system resources. Teachers use this platform as learning management system as well, with possibilities to planning the course(s), assigning and providing course material etc. Unfortunately, despite all these, according to the statistics, this platform is not used so actively by most teachers: some are not aware fully what kind of opportunities available, so this barrier needs to be overcome in nearest future.

Regarding the existence of specific indications from national regulation, Turkmenistan pointed out that the national regulation had not previously had a legislative basis until September 2017, when the law on digital education was adopted. Turkmenistan is at the beginning of the path to using digital methods of teaching, previously they were scattered and not coordinated.

In general terms the 3 countries perceive as vitally important to develop a digital agenda for Higher education and they need coordination and a unified approach on the use of VLE.

Regarding the establishment of the ACADEMICA laboratory in the institutions of the different countries, they gave the following overviews:

The Kazakh institutions used the ACADEMICA laboratories as follows:

KokSU: Training sessions: lectures, laboratory works, practical classes, seminars; the work of teachers on educational and methodological complexes of disciplines, master classes, scientific and practical conferences, consultations and examinations, etc.

IITU: The ACADEMICA laboratory is actively used by instructors of different department for lecturing, having practical classes, laboratory works, and seminars. Scientific conferences and seminars held there aim at not only sharing knowledge and skills gained through the project with colleagues but distributing information about the ACADEMICA project among other universities of Almaty. The laboratory is seldom not used as the instructors like having additional consultations and exams there.

KSPI: A laboratory on "ICT" ACADEMICA was opened on the 29th of September, 2017. It has been used as a laboratory for conducting face-to-face lessons, webinars and meetings on the project (The second national event, Section on the International conference).

KUAM: The laboratory, opened within the framework of the Academician's project, greatly helped in the implementation of modernized courses. On the basis of the laboratory there were training sessions on modernized disciplines, there was a problem-free admission to the Academic platform and other Internet resources.

In both the Uzbek institutions there is a special laboratory with the equipment of the project ACADEMICA, that is used for teaching of all face-to-face classes of lecturers in the frame of project. These laboratories are always open for students involved in the project out of classes.



In Turkmenistan laboratories will be a great step towards the modernization of both teaching methods and the availability of teaching materials for students. Moreover, they will contribute to improving the quality of mastering multimedia material. Methods and techniques from ACADEMICA laboratory are a good beginning for the development of computer-based training courses in Turkmen institutions.

The assessment process in the institutions differs from a country to another and also within a single country

In Kazakhstan the methodology for assessing the learning outcomes is aligned with the European assessment requirements and taking into account ECTS:

The alphabetic score and its digital equivalent in points are determined by the percentage of the correct answers, respectively, as indicated in the table below.

Evaluation by letter system	Digital equivalent (points)	%	Evaluation according to the traditional system
A	4,0	95-100	excellent
A -	3,67	90-94	excellent
B+	3,33	85-89	good
B	3,0	80-84	good
B-	2,67	75-79	good
C+	2,33	70-74	satisfactory
C	2,0	65-69	satisfactory
C-	1,67	60-64	satisfactory
D+	1,33	55-59	satisfactory
D	1,0	50-54	satisfactory
F	0	0-49	unsatisfactory

In Uzbekistan method of assessment are different from ECTS. All classes will finish with assessment and it is mandatory. Each subject has three type of assessment:  
 intermediate assessment - related with theoretical lessons, contains 40% general assessment. This assessment depends on volume of subject can be separated in two parts.  
 current assessment - related with practical lessons and labs, contains 30% general assessment. In this assessment the students will be assessed in all practical lessons or labs.  
 final assessment - related with end of subject, contains 30% general assessment.  
 There are three types of assessments: oral, writing and test.

In Turkmenistan the knowledge assessment system is based on a five point system, where 1-2 are the lowest scores and 5 highest. This method of assessing knowledge is universal and is used in all the institutions. There is also a method that has been credited or not credited for training courses that are designed for listening and without evaluation on a five point system. No changes are foreseen for 2018.