



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

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**DEV. 2.6 – ACADEMICA Modernised Curricula Piloting
Report – Part I (Winter Semester)**



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1. Introduction

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) had also the duty to fill a National Report analyzing the results 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 an "International Report" 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.

This International Report is related to the delivery of the online courses for the first academic semester. This report will be made available for the interested partners that will deliver the online courses also during the second semester so that they can adjust the experience based on previous results.

2. General Information on Modernized Courses

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 we have: **58 modernised courses and 631 students involved in these courses.**

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

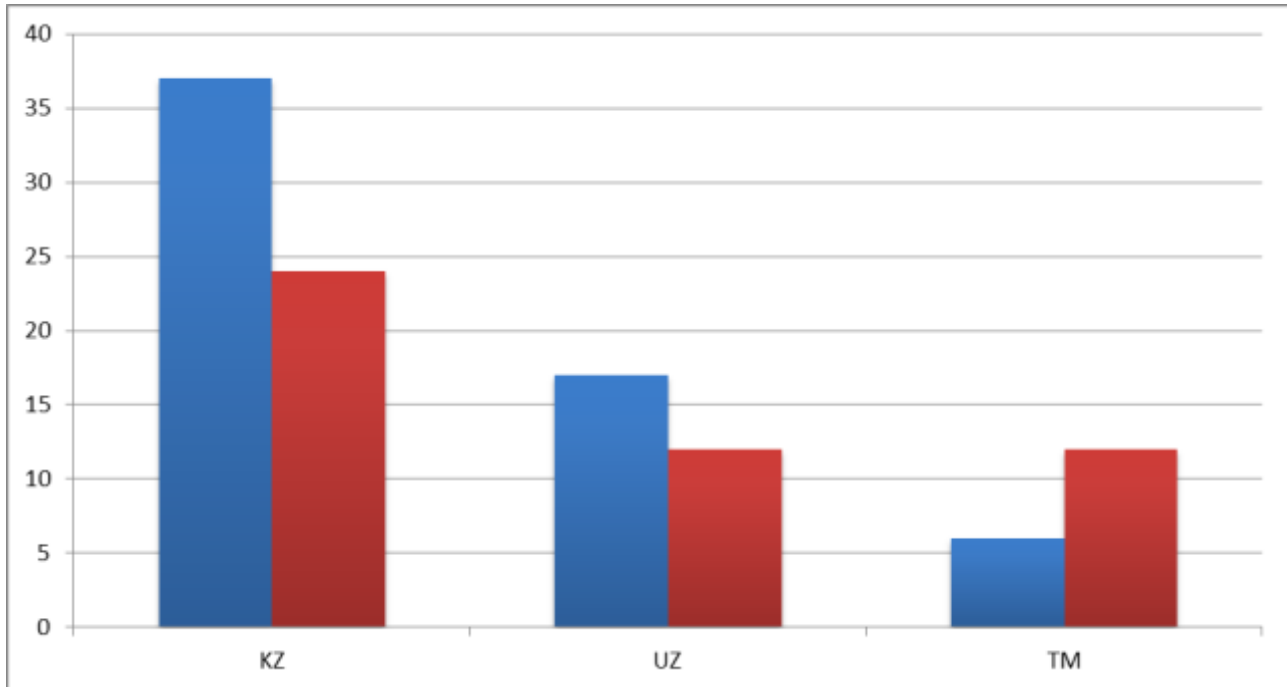


Fig. 1 Blue: number of courses modernized in each country. Red: minimum number of modernized courses expected from each country given the number of institutions involved

These data show that Kazakhstan, modernising 37 courses, has already 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, which means that 4 more modernised courses are required to reach the threshold.

Fig. 2 shows the number of students involved in the modernised courses in each country: Turkmenistan involved 60 students, Uzbekistan 110 students and Kazakhstan 461 students. Fig. 2 puts in relation this data with the minimum number of students expected considering minimum number of courses 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. Uzbekistan should involve 70 more students while Turkmenistan should involve 120 more students.

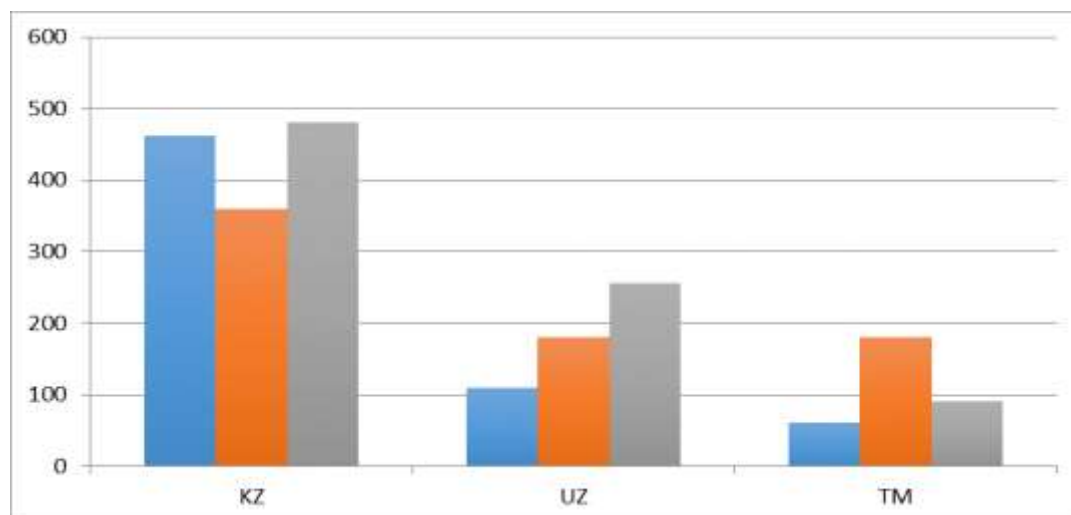


Fig. 2 Blue: number of involved students in the modernized courses. Orange: minimum number of students expected considering minimum number of courses. Grey: minimum number of students given the number of effective modernized courses

Considering that we are depicting just the first phase of the experimentation, that comprises two semesters, all the partner countries' institutions can still increase the number of students involved in modernised courses throughout the second semester.

A great achievement was related to the degree of approval of the Modernised curricula. All of them were approved both at institutional and national levels.

In Kazakhstan the approval process involved mainly the Departments of Informatics and Computer Sciences as follows:

1. Discussing and referencing the modernized course by the Council of the department
2. Presenting the reference letters by the scientists outside (stakeholders) and inside the university;
3. Approving the course by the faculty;
4. Approving the course by the Scientific Council.

They mostly include ICT-related courses.

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 institutions involved completed this process.

In Turkmenistan the modernization has been applied to the following courses: Engineering of Automated Libraries - Database (Microsoft Access), Information system and technology in the economy, International payment system, Modern computer technology, Sound Control, Sound Engineering.

All the modernized courses were approved by the Rectors of the Institute.

3. Teaching method used in the selected courses

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.

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.

4. Modernization of courses

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:	46 KZ	6 TK	11 UZ
Multimedia Lessons:	38	6	5
Presentations:	45	6	15
Video Lectures:	25	1	6
Case Studies:	13	6	9

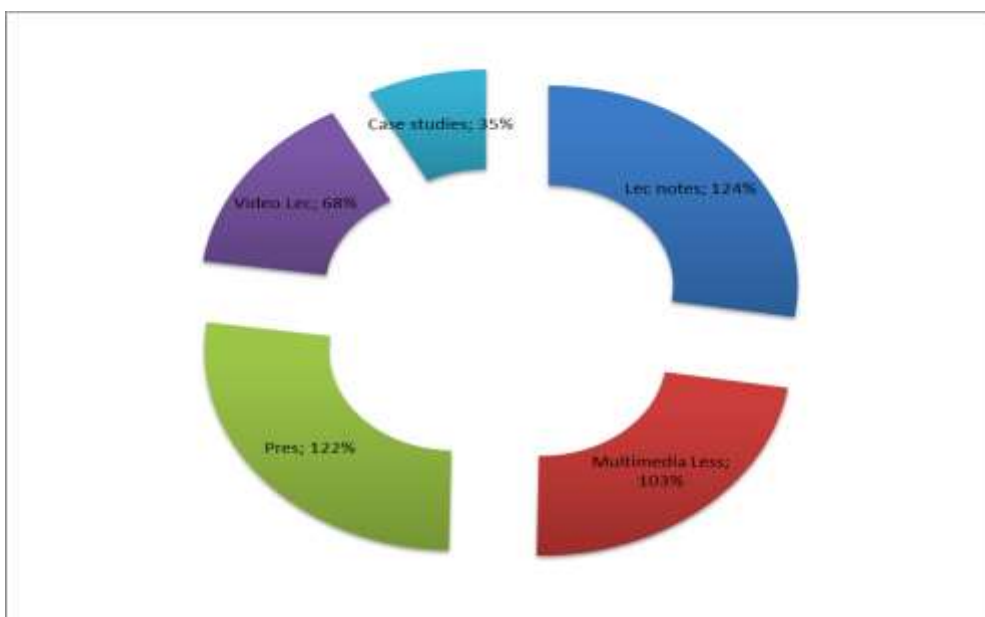


Fig 3 Fraction of the solution adopted to modernize courses in Kazakhstan

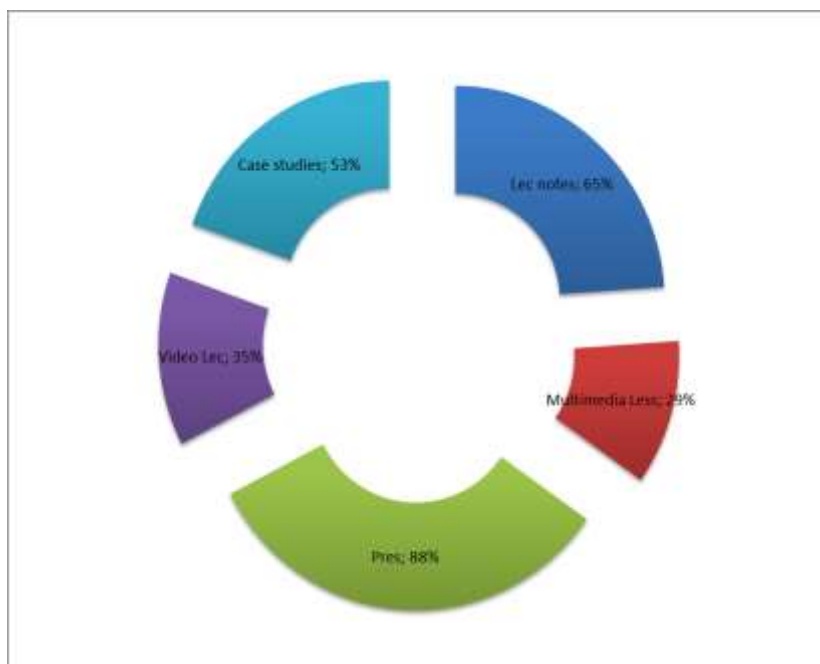


Fig. 4 Fraction of the solution adopted to modernize courses in Uzbekistan



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.

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 - from 30 to 50%
IITU over 60%
KSPI from 30 to 60%
KUAM up to 30%.

Thus, 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 are 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 is 3 and by TUIT is 6; and in range 30%-60%: by both institutions are 4. Over 60% both universities didn't modernize.

In Turkmenistan 3 courses in each of the two institutions were completely re-designed with the acquired skills. Common points, such as desktop databases-for TSIC and ICT-for TGIF, exist between the processes of modernization in the two Universities. However, each institute has modernized its courses taking into account its specifics (Sound and Cinema Production-for TSICand International Banking -for TGIF).

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:	32 KZ	0 TK	10 UZ
Assignments:	28	0	6
Collaborative Space:	23	0	6
Wikis:	13	6	0
Quizzes:	32	1	10

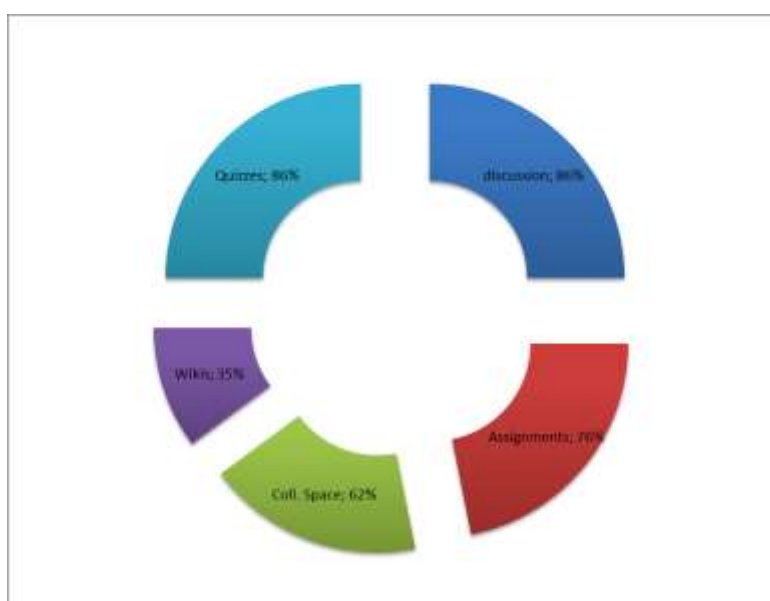


Fig 6 Fraction of the use of the electronic resources in Kazakhstan



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

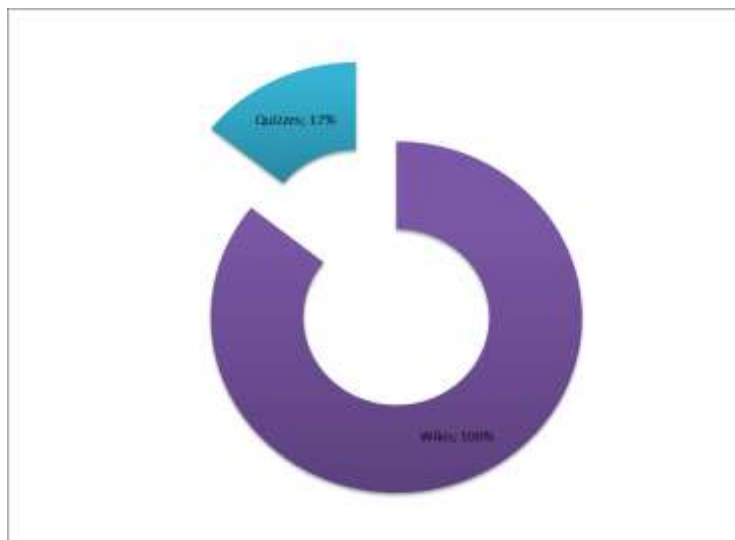


Fig 8 Fraction of the use of the electronic resources in Turkmenistan

Concerning this last result, Kazakhstan reported differences in the educational motivation of students from the experimental group, so on the control group, these students showed higher results than students who did not participate in the experiment.

In Uzbekistan: since, 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. Another type of resources is used by both institution teachers relatively similar.



In Turkmenistan this result shows that the online learning technologies have not been used before and the teachers know little about it. The Collaborative Space and Discussion technologies are used in the classic version of classroom employment. Wikis is this most popular method as a way of obtaining specialized information from the Internet. With Quizzes, individual teachers are being experimented to improve the quality.

5. 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.

In general terms the 3 countries perceive as vitally important to develop a digital agenda for Higher education and they need a 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:

In Kazakhstan, private universities MUIT and KUAM were the first of the partner universities that opened ACADEMICA laboratory. Unlike private higher education institutions, the state organization of higher education when purchasing equipment undergoes a state procurement procedure or a price proposal (3 offers from different organizations), which led to a significant delay in the opening of the ACADEMICA laboratory at KSPI (September 2017) and KokSU (November 2017).

In the Uzbek institutions are established 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 it is 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. In addition, they will contribute to improving the quality of mastering multimedia material.



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

According to the requirements of credit technology, in Kazakhstan the student passes two control works and directly exam (final control). Between the control works, the student performs various tasks that are assessed by the teacher. Thus, for a semester, the learner gains the appropriate number of points that affect the final grade.

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 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 is the 1-2 lowest score and the 5 highest score. This method of assessing knowledge is universal and is used in all 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.