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## INTERNATIONAL JOURNAL OF INFORMATION AND COMMUNICATION TECHNOLOGIES

# МЕЖДУНАРОДНЫЙ ЖУРНАЛ ИНФОРМАЦИОННЫХ И КОММУНИКАЦИОННЫХ ТЕХНОЛОГИЙ

ХАЛЫҚАРАЛЫҚ АҚПАРАТТЫҚ ЖӘНЕ КОММУНИКАЦИЯЛЫҚ ТЕХНОЛОГИЯЛАР ЖУРНАЛЫ

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## **KUTEL**

Kazakh universities to foster quality assurance processes in Technology Enhanced Learning

Университеты Казахстана за совершенствование процессов обеспечения качества в обучении с использованием новых технологий

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## TECHNOLOGY ENHANCED LEARNING

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#### Kashkinbayeva Z.Zh.\*, Dergunova Y.Yu., Nurtazinova A.S.

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#### TO THE ISSUE OF TEL AND EDUCATION QUALITY ASSURANCE IN KAZAKHSTANI HEI

Abstract. The paper considers implementation of the technology-enhanced learning to ensure education quality in tertiary institutions of Kazakhstan. Globalization processes, internationalization of higher education, modern tendencies and social demand require essential reforms in education quality assurance, implementation of new technologies and stakeholder engagement in designing academic programs, discussion of the learning outcomes and competences of the future professionals being trained in a particular university. All stakeholders, consumers of education services are involved nowadays in the discussion, development and monitoring of the quality assurance policy, academic programs, education process, program assessment and management. The reforms implemented within the framework of the Bologna process ensure the quality of education, lay the basis for the development of the higher education system and promote the idea of a university's fundamental responsibility for quality assurance which presupposes its commitment to continuously maintain and upgrade the required quality standards. Thus, the university system of internal quality assurance (IQA) can be considered as a set of didactic, technological, technical, methodological and informational support aimed at maintaining the quality of higher education (both as a result and as a process) at a level not lower than the established norms, requirements and standards.

**Key words:** technology, technology enhanced learning, education quality, stakeholders, student-centered education, accreditation, academic programs, IT, internationalization, Bologna reforms

#### Introduction

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In March 2010, Kazakhstan officially joined the Bologna Declaration and became the 47th member of the European Higher Education Area and the first Central Asian state to be recognized as a full member of the European educational space [1]. After joining the Bologna Process, the system of higher education in Kazakhstan has undergone major changes:

- 1. Kazakhstani universities joined the Great Charter of Universities, which has already been signed by more than 650 universities in the world, in order to bring the national education closer to the European standards. More than 60 Kazakhstani universities have signed the Magna Carta.
- 2. A transition has been made to a three-level model of training specialists: bachelor master PhD doctor, based on the principles of the Bologna Declaration.

According to the "National Report on the Position and Development of the Education System of the Republic of Kazakhstan", master students are trained in 118 universities of the country. In 16 universities, PhDs are being trained in partnership with leading foreign universities.

- 3. Advanced technologies and systems of education have been implemented in the academic process of universities: credit education technology has been introduced in all universities, 38 of them offer double-diploma education opportunities; 42 higher education institutions practice distance learning. The modular academic programs, curricula and syllabi are developed in accordance with the Dublin descriptors; the National Qualifications Framework has been established.
- 4. The ECTS (European Credit Transfer System) has been adopted as the basis for the transfer of credit units for the students' academic mobility.
- 5. The Ministry of Education and Science of the Republic of Kazakhstan allocates funds for academic mobility of teaching staff and students; universities provide their funds for academic mobility as well.
- 6. To promote European cooperation in quality assurance and to develop comparable criteria and methodologies, the MES of the RK has created a National Register of Accreditation Agencies, including the national Independent Agency for Quality Assurance in Education (IQAA) and 8 foreign agencies.

In accordance with the standards of institutional and program accreditation, universities establish internal quality assurance systems, involve students and employers in the external assessment of the university activities, creating a wide data base of experts from the list of employers and students.

To improve the training of professionals, the tertiary institutions should develop their quality assurance policy, strategic plans and criteria of assessing their activity. How is it fulfilled in Kazakhstani universities?

#### 1. TEL and Education Quality Assurance in the Zhezkazgan Baikonurov University

The QA Policy of the Zhezkazgan Baikonurov University is being developed since 2005 when the Quality Management System was set up in the higher education institution. Under the KUTEL project, launched and implemented in 2019-2021 to facilitate the quality assurance through technology-enhanced learning, the ZhezU administration (rector, vice-rectors, department heads) together with students have tailored and developed a new QA Policy (2020) which has been discussed and approved by stakeholders (parents/guardians, local authorities-akimat, industrial and business enterprises as well as educational institutions (schools, colleges and other tertiary institutions) who are the so called end-consumers of educational services.

The envisaged timeframe is indicated in the ZhezU Strategic Programme which envisages short-term or current activities planning (for the period of an academic year, designed and updated annually subject to the latest requirements), medium-term goals (5 years) and long-term goals (represented in the mission) attuned to the KUTEL core objectives. [2]

The KUTEL core objective is to promote reform and modernization of HE in Kazakhstan through the introduction of a national quality assurance system for technology-enhanced learning by guaranteeing the improvement and implementation of accreditation standards, guidelines/procedures for quality assurance of TEL courses and study programs at the national level.

*The mission* of the ZhezU is to train professional, competent graduates capable of creating and strengthening the innovative potential of the region and the country. [3]

The Zhezkazgan Baikonurov University strives to become the leading practice-oriented university in Kazakhstan training highly qualified personnel for the mining and metallurgical regional industries, economic and pedagogical personnel for the nascent information society.

The goal is to provide conditions for the dynamic development of the Zhezkazgan Baikonurov University as a major multidisciplinary training center in the Zhezkazgan-Ulytau region called upon to effectively contribute to solving the problems of personnel, scientific-methodological and information-technological support of the innovative development of the national education system, successful implementation of the national strategic plans in the field of education, social and youth policy.

The Zhezkazgan Baikonurov University carries out its activities in accordance with *the Strategic Development Plan of the University for 2020-2025* (developed and approved at a meeting of the Academic Council of ZhezU dated 08/29/2019, Minutes No. 1, with amendments and additions made by the decision of the Academic Council, Minutes No. 6 dated 01/25/2020), declaring its mission, goals, objectives and long-term vision of the university, reflecting its place and role in the socio-economic, educational, scientific and cultural development of the Zhezkazgan region and of the country. It is posted on the ZhezU website: https://zhezu.kz/index.php/ru/2016-11-04-10-06-38/2016-11-04-10-12-05

The mission, strategic goals and objectives of the university are formulated based on the analysis of the material, financial, human and intellectual resources of the team and an assessment of the feasibility of their implementation.

The University has everything required for the intellectual, creative, physical development of students: academic buildings, a dormitory, an assembly hall, a library, reading and research rooms, gyms, an open sports ground. It has well-equipped modern laboratories, classrooms with interactive teaching aids.

The strategic plan of ZhezU for 2020-2025 aims at solving the tasks set for universities, drawn up with an eye to the priorities reflected in the "State Program for the Development of Education and Science of the Republic of Kazakhstan for 2020 - 2025" (Decree of the Government of the Republic of Kazakhstan dated December 27, 2019 No. 988). [4]

The compliance of the mission, goals and objectives with the market requirements is ensured in two directions: the implementation of national compulsory education standards (SCES) and the implementation of the university component, which is formed taking into account global trends, industry focus and employers' demand.

The mission, goals and objectives of the university have been set forth in compliance with the National Program for the Development of Regions for 2020-2025, the Comprehensive Plan for the Socio-Economic Development of the Cities of Zhezkazgan, Satpayev and the Ulytau District for 2019-2022, as well as the requirements of the labor market, which is expressed in the following: in 2020, the university graduates' employment rate reached 82.6%, the University places priority on constantly raising the competitiveness of its training programs tailored to meet the labor market demand.

The Zhezkazgan University trains professionals for work in an information society, using uniform quality standards in education. It introduces new academic programs in response to the volatile market needs, new

technologies, forms and methods of training; supports and develops cooperation with government and business structures, public organizations and business entities of various forms of ownership, with international organizations, professional and academic communities, etc., and strives to participate in the consolidation of the efforts of higher education, the state and society in the development of a common information space.

The strategic plan for the development of the University has been designed observing the hierarchy of goals and objectives. All representatives of the senior management of the University (rector, vice-rectors, directors of institutes, heads of departments, and heads of structural divisions) are involved in the process. Tasks are distributed among performers at each planning stage. The strategic development plan implementation is regularly monitored.

The strategic plan of the University maps out the following main directions of development:

- -Providing high quality education in accordance with the needs of industrial and innovative development of the country, the labor market
  - -Development of human resources and a system of advanced training for employees
  - -Information support of the educational process and active use of innovative educational technologies
  - -Scientific support of accelerated diversification of the economy
  - -Strategy for the internationalization of education and ensuring academic mobility
  - -Modernization and systemic improvement of the educational process
  - -Improving the material and technical base.

The strategic development plan of the Zhezkazgan Baikonurov University includes activities, expected results, indicators, deadlines, responsible performers of work and serves as a fundamental document regulating long-term, short-term and current planning of the activities of all major structural divisions of the University. The document has been replicated, made available at each structural unit and communicated to the teachers, students, undergraduates and university staff. The development strategy of the University is projected at all levels of management, structural divisions and key processes of the University using modern methods of strategic planning and management.

The effectiveness of implementing the mission, goals and objectives of the university is evaluated on the basis of monitoring the main indicators (criteria) of quality and the timing of the planned activities. During each academic semester, the main indicators of the activities of structural divisions and the entire University are analyzed and compared with those of the previous years for compliance with instructive and regulatory documents of the Ministry of Education and Science of the Republic of Kazakhstan. Annually, reports on the implementation of the Strategic Plan of the University and its institutes and departments are heard at the Academic Council of ZhezU.

Every year, all structural divisions, institutes and departments develop and approve annual plans to achieve the goals and objectives set in the University mission and strategies. Work plans are approved at meetings of the departments and councils of the institutes, the Academic Council, the AIC, where the heads of departments, teaching staff and students are represented as members. To organize work in various areas of activity, the most experienced employees from among the teaching staff and personnel, the most active students are involved as working group members.

To meet the demands of the society and the national and international educational standards, the Zhezkazgan Baikonurov University undergoes the process of insitutional and academic program accreditation (by *IQAA*), as well as internal and external audits of the education quality management system. The self-assessment process is carried out first by the internal audit members and then the *SWOT-analysis* findings and the report are sent to IQAA, which is followed by external audit of international and national experts.

As a result of the SWOT-analysis the PR- specialists of ZhezU select the strengths of the University to highlight them in promotion of the HEI during the prospective students' recruitment, admission and enrollment campaigns. They emphasise the University advantages in ads and promo-booklets and videos.

The main *advantages* of the University over its competitors are:

- the ZhezU status of the only higher educational institution in the city and the region that provides training for the dominant industrial enterprise - the Kazakhmys Corporation;
- Customized personnel training and the academic programs content taking into account the demand of industrial enterprises;
  - Highly qualified teaching staff;
- Digitalization, material and technical support of the educational process (regular updating of the educational and laboratory base), *implementation of TEL* in education process.
- Demand for graduates in the labor market, a high percentage of graduates' employment and an annual growth of this indicator.

#### • Dual training.

Annually the National Chamber of Entrerpreneurs "Atameken" (NCE) of the Republic of Kazakhstan monitores the tertiary education quality nationwide. The experts check, analyse, observe and make critical remarks and comments about the academic programs, evaluating their applicability, urgency, demand and value. The NCE "Atameken" and Ministry of Education and Science of the Republic of Kazakhstan allocate educational grants to the HEI according to the ranking and based on the University students' academic performance and the graduates' job placement rate.

Human, educational, financial, informational, infrastructural, other material and technical resources enhance the capabilities of the University.

There is an ongoing process of analyzing the available resources, the reserves for the development of intellectual potential and the possibilities of enhancing the competitive position of the University. Adequate resources are included in the strategy, cost balance is assessed, risks are identified and critical points are highlighted. The sources of material resources are budgetary funding and extra-budgetary funds, which include: training of students on a paid basis, dormitory payments, research activities, renting canteens, cafes. The University has an educational and material base that provides training of specialists in accordance with the mandatory national standards. The strategic plan implemented at the expense of these resources aims at improving the quality of educational services, meeting the needs of students, teachers and personnel.

The University holds meetings with the stakeholders during seminars in which the faculty, curricula and program designers present their programs and make amendments based on the recommendations of customers, companies, board of directors, students, their parents/guardians, local authorities, business enterpises, etc. Such meetings are usually held quarterly (once in three months) or at least semiannually. For decades the feedback was a paper-based or text-based document (questionnaries sent by postmail or via e-mails) and since 2020 it is in the electronic form (google forms, online survey, apps and polls) which make the feedback and evaluation process easier, faster, fair and objective.

As part of designing a development strategy, there was carried out an analysis, including an assessment of the competitive position of the University in the educational services market of the Ulytau-Zhezkazgan region, taking into account the areas of specialists training by competing universities. The main competitors of ZhezU in the educational services market of the Ulytau-Zhezkazgan region are the branches of universities from Russia and other parts of Kazakhstan, which provide educational services for DLT.

How is the policy supported by IT? The University uploads the QA Policy, Strategic Plan, Academic Programs and Catalogue of Elective Courses, available grants and admission rules as well as other legal and regulatory documents on its website www.zhezu.kz, making all the vacancy positions and grant competition processes transparent and accessible for every intending, prospective applicant. From 2014 to 2021 the education process as well as information and documentation procedure enabling electronic data exchange and better controlling and monitoring the quality assuarance was supported by LMS "Platonus". Since August 2021 it has been replaced by LMS "Univer" (designed by *Al-Farabi KazNU*). Some universities (*SDU, KAFU*, etc.) use the Moodle platform in education process and in documentation turnover as well as in getting feedback and providing virtual tours.

#### 2.KUTEL practices in education process

The KUTEL project implementation resulted not only in the development and introduction of QA Policies to improve the education quality but also in significant changes in designing academic programs, new courses, curricula and syllabi as well as in mastering technologies and pedagogical principles.

The pedagogical principles serving as a general guidance:

1) Inclusion; 2) Equality; 3) Quality assurance; 4) Consistency & Transparency; 5) Innovative approaches; 6) TEL; 7) Motivation; 8) Student-centered education.

The syllabi were amended and new modules or courses were introduced such as "Service Learning", "Media Literacy", "Globalization", "Migration", "Conflict Resolution", or "Multilingualism & Multiculturalism", "Language of Mass Media", etc. Technical majors, academic programs use their campus laboratories as well as virtual labs which were developed by other national universities. One of the leading designers and developers of the virtual labs is D. Serikbayev East-Kazakhstan Technical University in Ust-Kamenogorsk.

Top-ranking universities in Kazakhstan share their experience in training professionals as well as in application of modern educational technologies, e.g. *IITU in Almaty, Astana IT University* and others.

Leading universities in the Republic of Kazakhstan (KAFU in Oskemen, S.Seyfullin KazATU and others) arrange webinars, online and offline conferences to promote internationalization of higher education nationwide.

As for the technology requirements, during the pandemic lockdown the syllabi of the courses were amended taking into account online or blended (online and offline/partly on-campus) format of instruction. Various online resources, application and platforms were used: Platonus LMS, Google Classroom, Google Form tests, Zoom video-conferencing, Google Jamboard, Miro board, Trello, FlipGrid for video responses, Padlet board, Canvas, Coursera, MOOCs, TedEd, YouTube educational videos, video recordings of ZhezU lecturers, etc.

Faculty members incorporate SMART-goals within their course programs while teaching student groups (for a particular academic period).

The critical determinants that affect the decisions taken with regard to QA concepts and methods:

- Criteria of assessment:
- Team productivity and staff qualification (professional development and advanced training in excellence workshops and courses);
  - Technological excellence;
  - Stakeholders involvement

Crucial changes in the implementation of KUTEL project, particularly technology-enhanced learning and QA Policy caused by the natural force-majeure factors such as pandemic lockdown and switching from in-person, on-campus mode to online or sometimes blended formats (online mixed with offline) sparked MOOCs, facilitated a wide use of online resources as well as applications and computer programs. All these factors proved the XXI century being definitely different as an era of digital and technology-based education.

#### Conclusion

In the modern world of universal computerization, ICT is included in all spheres of human life (IT-based management, data base, documentation turnover, etc.) and especially in the field of education. [5; 3] First, the introduction of ICT in education significantly accelerates the transfer of knowledge and accumulated technological and social experience of mankind not only from generation to generation, but also from one person to another. Secondly, modern ICTs, improving the quality of training and education, allow a person to more successfully and quickly adapt to the environment and the ongoing social changes. This gives each person the opportunity to obtain the necessary knowledge in a post-industrial society. In addition to the obvious attractiveness for students, the use of these technologies enables the teacher to constantly update the content of education; to implement any type of activity, including control and self-control over the results of students' educational activities. All higher education institutions in Kazakhstan develop their QA Policies and academic programs considering the demand of the particular regions of our geographically vast country and apply update technologies in teaching and learning, tailoring student-centered curricula to the needs of all stakeholders.

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#### ТЕГИ ОРЕСПЕЧЕНИЕ КАЧЕСТВА ОБРАЗОВАНИЯ В КАЗАХСТАНСКИХ ВУЗАХ

**Аннотация.** В статье рассматривается внедрение TEL для обеспечения качества образования в высших учебных заведениях Казахстана. Процессы глобализации, интернационализация высшего образования, современные тенденции и социальный спрос требуют существенных изменений и дополнений в обеспечении качества образования, применении новых технологий и привлечении заинтересованных сторон к разработке академических программ, обсуждению результатов обучения и компетенций будущих специалистов, обучающихся в конкретном университете.

В настоящее время все заинтересованные стороны, потребители образовательных услуг вовлечены в обсуждение, разработку и мониторинг политики обеспечения качества, академических программ, образовательного процесса, оценки программ и управления ими. Одна из важнейших целей Болонской реформы - обеспечение качества образования как основы для развития системы высшего образования. Идея фундаментальной ответственности университета за обеспечение качества предполагает его приверженность поддержанию надлежащего уровня качества и его постоянному совершенствованию. Систему внутреннего контроля качества (IQA) можно рассматривать как совокупность дидактического, технологического, технического, методического и информационного обеспечения, направленного на поддержание качества высшего образования (как результат, как процесс) на уровне не ниже установленные нормы, требования и стандарты.

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#### ХАЛЫҚАРАЛЫҚ АҚПАРАТТЫҚ ЖӘНЕ КОММУНИКАЦИЯЛЫҚ ТЕХНОЛОГИЯЛАР ЖУРНАЛЫ

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