



EVALUATION OF THE DEVELOPED THE CONCEPTION OF ADAPTING THE HIGHER AND POSTGRADUATE EDUCATION SYSTEM TO THE DIGITAL GENERATION, IN CONTEXT OF KAZAKHSTAN

**Project: Modernisation of Higher Education in Central Asia through New
Technologies (HiEdTec)**

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Project Coordinator: ANGEL KANCHEV UNIVERSITY OF RUSE



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UNIVERSITY OF RUSE

Main authors

STEFANIE OESTLUND – UNIVERSITY OF LUXEMBOURG

ZHANAT NURBEKOVA – L.N.GUMILYOV EURASIAN NATIONAL UNIVERSITY

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EXECUTIVE SUMMARY

An Evaluation of the developed Concept of adapting the education system to the digital Generation considering the specific conditions of Kazakhstan was performed.

The idea is to see that, will the Concept will determine the adaptation of the system of higher and postgraduate education system in Kazakhstan to the new digital learning and teaching or not. This evaluation report will be annexed to the progress reports.

The Concept is designed in accordance with the project of Modernization of Higher Education in Central Asia through new technologies (HiEdTec), WP5.3. CONCEPT for adapting the education system to the digital generation.

Feedback from universities in Kazakhstan was established and regularly maintained throughout the entire development of the Concept, from the beginning of the compilation of a list of achievable desires of Kazakhstani universities, the discussion of a draft document by members of the Council of Rectors of the universities of the Republic of Kazakhstan, at the Republican Academic and Methodological Council of ATU and ENU, at the plenary meeting of the Project office of the Ministry of Education and Science of the Republic of Kazakhstan, which was held at ENU in January 2020, at the educational and methodological council and academic council in each partner university of ENU, ATU and INEU.

Assessment of the developed Concept for adapting the system of higher and postgraduate education to the digital generation, taking into account specific conditions in Kazakhstan, was carried out with the participation of the Ministry of Education and Science of the Republic of Kazakhstan. A letter of the MES RK Department of Higher and Postgraduate Education on the survey was sent to all 115 universities, to which 5 copies of the Concept were sent in three languages: 2 in Russian, 2 in Kazakh, 1 in English.

Thanks to the close feedback from universities organized with the support of the Ministry of Education and Science of the Republic of Kazakhstan, high-quality feedback was received, where the respondents showed great concern about the quality and impact of this document on the education system of Kazakhstan.



INTRODUCTION

The purpose of the Concept evaluation was to gather feedback of knowledge and experience of EU partner country Universities and partner universities of Kazakhstan on developing conception of adapting the higher and postgraduate education system to the digital generation, in context of Kazakhstan.

The goal of the Conception (programme) is to adapt the higher and postgraduate education system to the digital generation by introduction and effective implementation of innovative educational technologies and didactic models in teaching, thus providing the opportunity for **EVERYBODY** to learn at **ANY** time and at **ANY** place with the help of **ANY** lecturer using **ANY** end device – computer, laptop, tablet, phablet, smart phone, etc.

The concept was developed on the basis of:

1. The upcoming adoption of the **EU DIGITAL EDUCATION ACTION PLAN 2020**.
2. **The priorities** of the Education, Audiovisual and Culture Executive Agency at the European Commission published in 2018, one of them is directed to the **“MODERNIZATION OF THE HIGHER EDUCATION THROUGH NEW EDUCATIONAL TECHNOLOGIES”**.
3. **The Governmental Program “DIGITAL KAZAKHSTAN”**, approved by the governmental order of the Republic of Kazakhstan No. 827 December 12, 2017.

To validate the Concept, we used an online questionnaire asking the opinion of the project partners and user of the Concept.

PROJECT OVERVIEW

The main aim of the project is to adapt the education system in the PCs to the digital generation through the introduction and effective use of ICT-based Innovative Educational Technologies and Didactic Models (IET&DMs) in the teaching process.

This aim corresponds to the strategic priorities for the development of education in each of the PCs, i.e. supporting the use of digital technologies and online delivery to improve pedagogies and assessment methods.

The project will help to turn the partner Higher Educational Institutions (HEIs) into innovative Universities and will improve the quality of the trained specialists necessary to perform the Digital Transformation of Industries (Industry 4.0).

The consortium comprises of 24 full partners – HEIs from 4 EU countries and 5 PCs.

The consortium includes two types of HEIs: European HEIs with solid experience in the innovative educational technologies and HEIs from Central Asia which want to introduce these technologies and open pedagogies in the field of higher education in order to improve and extend the supply of high-quality learning opportunities tailored to the needs of digital learners. The consortium also includes all PC Ministries of Education which will contribute to the dissemination, extension of impact and sustainability of project results in each PC.



The EU partners are well-known European Universities with rich experience in IETs. In addition, a part of them have established contacts and cooperation with some of the partners from the PCs and are therefore familiar with the higher education system, the facilities available and the main challenges which HEIs in the PCs face. This provisional knowledge of some of the EU partners and their Universities is an essential prerequisite for establishing successful collaboration from the project start.



HiEdTEC QUESTIONNAIRE RESULTS

General Information

A total of 73 responses were received. The geography of participants is shown in Figure 1. 71 (97.3%) of the respondents were from Kazakhstan, 1 (1.4%) from Bulgaria, 1 (1.4%) from Kyrgyzstan. An analysis of the responses regarding the coverage of universities for which the Concepts were provided in three languages shows 61.7% of interest and participation in the survey.

1. Which country are you from?

1. Which country are you from? Вы из какой страны?

73 ответа

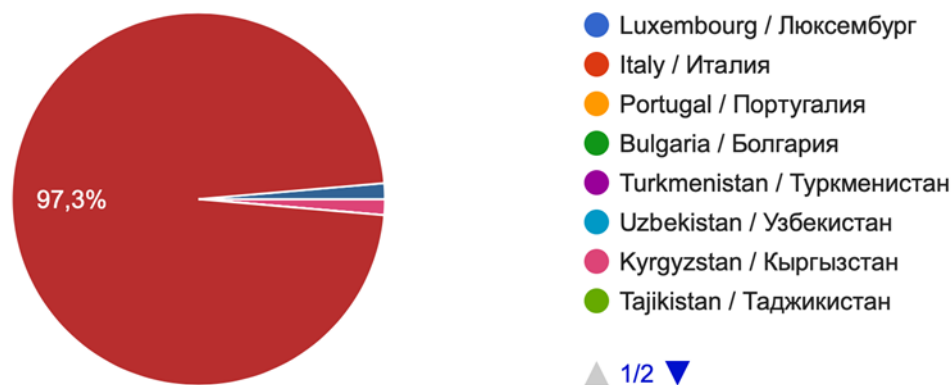


Figure 1. Geography of survey participants by Concept

2. Overall, please tell us how well structured the Concept is 1 means not at all well-structured and 5 means extremely well structured?

Respondents evaluate the quality of structuredness of the Concept developed for Kazakhstan as follows (Figure 2).

Value	Number
1	0
2	1
3	4
4	23
5	45



An analysis of 73 answers on this question shows that 1 (1.4%) of the respondents think that the Concept is not very well structured, 68 (93.1%) of respondents say that the Concept is well and very well structured.

2. Overall, please, rate how well the Concept is structured: 1 means that it is not very well structured, and 5 means it is ..., что она очень хорошо структурирована.

73 ответа

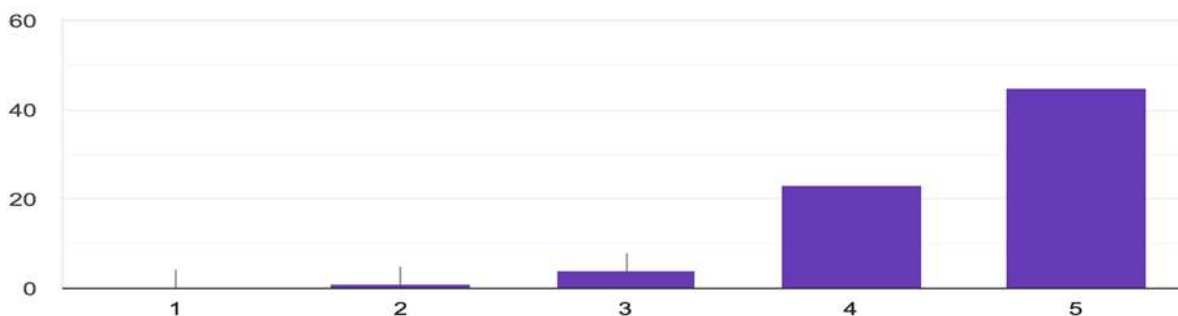


Figure 2. Satisfaction chart with the structure of the Concept

3. Please tell us how you rate the quality using a 1 to 5 scale where 1 means very bad and 5 means extremely good.

3. Please write, how do you evaluate the quality using 1 to 5 scale, where 1 means very bad and 5 means very good. ...ачает очень плохо, а 5 – очень хорошо.

73 ответа

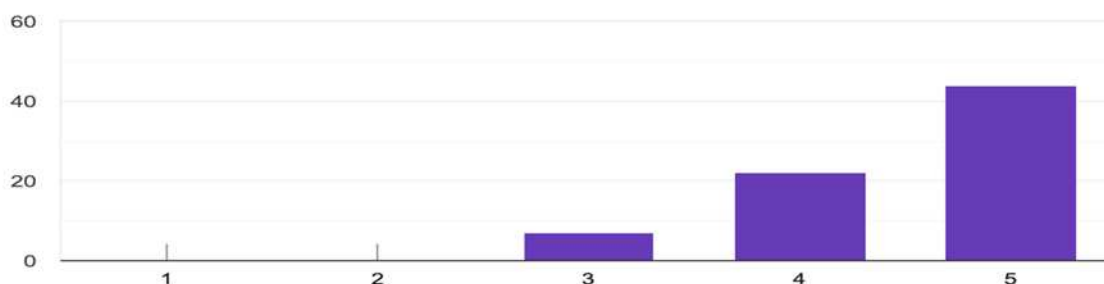


Figure 3. Quality Score Rating Scale

The quality of the scale used is from 1 to 5, where 1 means very poor and 5 means very good. Of 73 respondents, more than 90% have high quality of the used rating scale, that is, the quality of the scale is considered satisfactory 7 (9.6%), evaluated good - 22 (30.1%) and excellent - 44 (60.3%) respondents (Figure 3).

4. Now we have a few questions about the layout and content. Please tell us your level of agreement with the following statements about the Concept, using a 1 to 5 scale, where 1 means you strongly disagree and 5 means you strongly agree. If a statement does not apply to you, please select "NA."

We received answers to the question about the layout and content of the Concept, where the agreement with the statements about the Concept was evaluated on a scale of 1 to 5, where

- 1 - means that you strongly disagree,
- 2 - disagree
- 3 – neutrality
- 4 – agree
- 5 - completely agree
- NA (not agreed) - If it has nothing to do with the issue

4. Now we have a few questions about the layout and content. Please tell us your level of agreement with the following statements about the Concept, using the scale from 1 to 5, where 1 means that you strongly disagree and 5 means you strongly agree. If this question does not concern you, please select "NA." / Теперь у нас есть несколько вопросов о макете и содержании. Пожалуйста, сообщите нам Ваш уровень согласия..., а 5 означает, что Вы полностью согласны. Если данный вопрос к Вам отношения не имеет, пожалуйста, выберите "НС (не согласовано)"

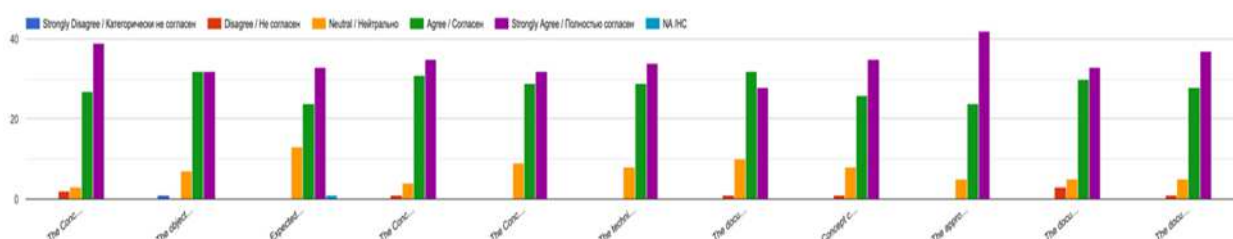


Figure 4. Indicators of the Concept

Table 1

	Indicators	1	2	3	4	5	NA
1.	The objectives of the Concept are clearly stated	0	2	3	27	39	0
2.	The objectives of the Concept are fully feasible	0	0	7	32	32	0
3.	Expected Results of the Concept	0	0	13	24	33	1
4.	The concept is understandable.	0	1	4	31	35	0
5.	The concept is directed to relevant individuals	0	0	9	29	32	0
6.	Technical tools (electronic and paper versions) used in the Concept are available	0	0	8	29	34	0
7.	The document is practical and dynamic.	0	1	10	32	28	0
8.	The concept contributes to the progress of the project.	0	1	8	26	35	0
9.	The language used is suitable	0	0	5	24	42	0
10.	The document has an appropriate duration.	0	3	5	30	33	0
11.	The document is well structured	0	1	5	28	37	0

An analysis of the respondents' answers (Table 1) shows that for the purpose of the concept, 66 (93%) are clearly formulated and 64 (89%) are fully feasible. The expected results are 57 (81%). 66 (93%) respondents consider the Concept to be quite understandable and have an appropriate duration, the Concept is directed to the relevant persons - 61 (87%) out of 70 respondents who answered this question approve. 61 (87%) respondents believe that the document contributes to the progress of the project. 60 (85%) respondents note that the



document is dynamic and practical. 65 (92%) argues that the document is well structured. A total of 692 votes out of 779 mark the Concept well and excellently.

5. We would also like your feedback on the outcome of the Concept. Please tell us your level of agreement with the following statements using a 1 to 5 scale, where 1 means you strongly disagree and 5 means you strongly agree.

The results of the Concept are evaluated in accordance with the statements given in the table. The level of agreement with these statements is shown on a five-point scale from 1 to 5, where

- 1 - categorical disagreement,
- 2 - disagreement
- 3 – neutrality
- 4 –agreement
- 5 - full agreement
- NA (not agreed) - If it has nothing to do with the issue

Table 2.

	1	2	3	4	5	NA
The document will have an impact on the education system.	0	1	10	28	32	
The document is useful for digitalizing the education system.	0	0	5	33	33	
The glossary and documents presented in the premise of the Concept are clear.	0	0	1	34	35	
Glossary and documents presented in the background of the Concept are useful	0	0	3	28	40	
The concept clearly indicates the goals of digitalization in the partner country.	0	1	10	31	29	
The results of the Concept are consistent with the goals set.	0	1	7	30	32	
This Concept is fully in line with my expectations for a digitalization document.	1	3	15	20	32	
Documents were circulated in advance to familiarize themselves with the Concept in the respective partner country.	1	1	10	23	33	



6. If the Concept document was not appropriate in length, what would you have added or deleted?

24 dissenting opinions were received on this subject.

Most of whom note that the Concept is quite sufficient in volume and depth and there is nothing to add, everything is consistent, everything is quite enough. Everything is adequately described for the initial stage of modernization of the higher education system, all points are important,

The concept is quite complete (The Concept is appropriate in length), no comments, suitable (the essence of the question is unclear - why adjust the material to the volume).

The following suggestions and additions were put forward:

- 1) We would like to see the timing and dynamics.
- 2) Roadmap for the implementation of these tasks with specific dates
- 3) The main activities, practical steps to introduce the Concept into the education system
- 4) a lot of text, would add more graphics, drawings, and so on.
- 5) It is necessary to add the point of training or retraining of personnel (teachers) that are able to work in the era of digitalization. Able to develop and apply innovative methods in education using information technology.
- 6) In paragraph 4.1, the Development of credit accounting and credit recognition and recognition of learning outcomes and alternative certification of students through the MOOC platform of rating universities for blended learning (TOP - 600 according to QS or THE) and certification courses of world-class IT vendors. The question arises: How will universities need to evaluate loans for a specific educational program. With certified courses, everything is clear, they are available in universities, but this is a specific discipline.
- 7) Today, many universities are equipped with interactive educational tools, have e-learning platforms, use certification courses of IT vendors, etc. It is necessary to formulate requirements for a specialist (and not just list what he should be able to, but create a list of disciplines with their contents). As a basis for development, you can use documents SWEBOK and SE2004. The result of the work should be designed a system of visual display of requirements for specialists
- 8) In section 3. Add 3.10. Creation of a unified national digital educational platform-aggregator for the integration of all open digital educational resources of the Republic of Kazakhstan

1. The implementation main factors, that influence to organizations. 2. The main functionalities of digitization system to learn. 3. How long is it possible?

One of the respondents answered that the concept only has one point 9.1 "Implementation of digitalization tools of the highest complexity: digital analytics based on Big Data, Blockchain, Artificial Intelligence, Data Science (Data Science) technologies in the educational process" corresponds to the modern ICT development trend, it should be expanded and given more attention to it, and the remaining points have already been implemented for the most part.

7. If you disagree with any of the points above in No.5, please comment here mentioning the reasons.



18 answers were received, half of them confirm their full agreement with all points, the importance of all points, no comments.

Some respondents expressed their doubt and disagreement:

- 1) It is doubtful the achievement of project results, dynamics and sustainability, since almost all the tasks of the concept require large financial costs.
- 2) Documents were not available on the project website. The documents themselves were received only upon request.
- 3) This Concept is fully in line with my expectations for a digitization document, because have to added list of cases and templates to show real factors (most of instructors aren't ready to learn / study it). A document (concept) will not have a practical impact on the education system, like many other similar documents.
- 4) As expected. In the concept, it is desirable to more reflect such a moment as the mechanisms of the legal framework for online learning.

An analysis of the results of the final assessment of the developed Concept and a large number of calls and letters during the questionnaire shows great desire of universities to improve the education system through new technologies. However, despite the fact that published Concepts on the site of the project (<https://hiedtec.ecs.uni-ruse.bg/index.php?cmd=cmsPage&pid=34>), on the sites P2, P3, P4 (for example <http://www.enu.kz/downloads/yanvar-2020/hiedtech-kontseptsiya-rus.pdf>) and all 115 universities received the Concept (as evidenced by the register of the KazPost system with notes about receiving a registered letter with a document), paper versions of the Concept were not brought to performers at the some universities and that not all respondents had at the time of the survey. Nevertheless, the evaluation results of the Concept are positive.

8. Was the Concept sent to you on time?

Replies received from 71 respondents. 12.7% of which claim that they received the document at the wrong time, received in a timely manner - 87.3%



8. Was the Concept sent to you on time? / Была ли Концепция выслана
вовремя?

71 ответ

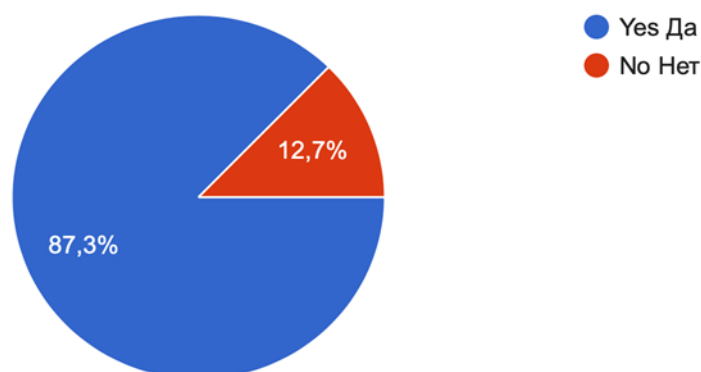


Figure 5. On the timeliness of sending Concept

9. Did you get the chance for comments and criticism?

73 responses were received, of which 11% claimed that there was no opportunity to comment, 89% of respondents had the opportunity to comment and criticize.

9. Did you get the chance for commenting and criticizing? / У Вас была
возможность прокомментировать и высказать критику?

73 ответа

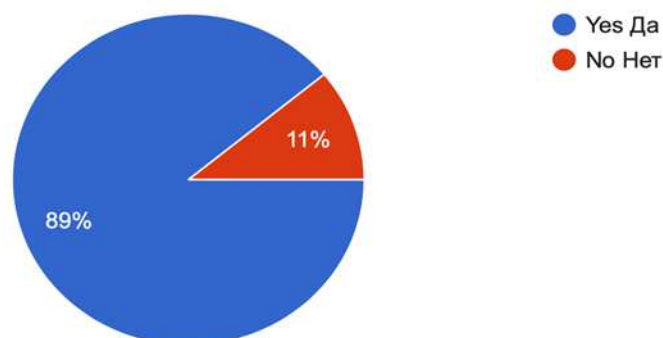


Figure 6. On providing time for comment and criticism

10. Did you have appropriate time to revise and give comments on the document draft?

72 answers were received, of which no 19.4%, yes - 80.6%



10. Did you have an appropriate time to revise and give comments on the document draft? / Было ли у Вас дост... прокомментировать проект документа?
72 ответа

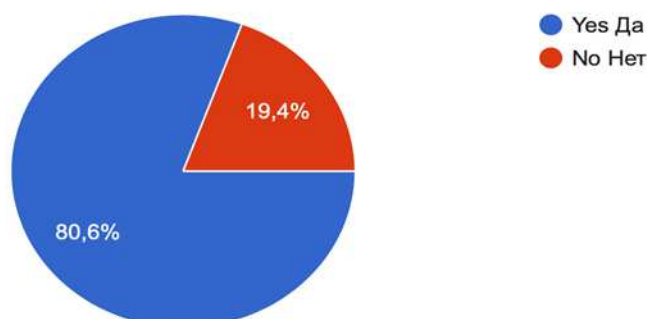


Figure 7. On providing time for comments on the draft document

11. Was the final documents produced and sent in an appropriate time after the draft was circulated?

70 answers were received, of which 17.1% disagree, 82.9% agree that the document was prepared and sent in due time.

11. Were final documents prepared and sent in due time after the development of the preliminary (draft) version? / Б... предварительного (чернового) варианта?
70 ответов

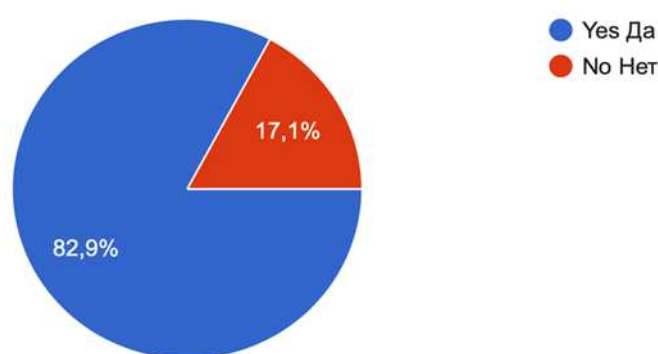


Figure 8. About providing a draft Concept for discussion

12. Was the final documents produced and sent in an appropriate time after the draft was circulated?

Received 17 responses, most also claim that there are no comments, criticism was received on time. There was an answer: I received the document late, maybe we had problems at our university.



13. Any other comments:

Were received 18 replies.

Also, most of the responses confirmed the absence of comments.

The following specific suggestions and notes were made:

- 1) We consider it appropriate to use traditional teaching methods on an alternative basis in connection with the detrimental effect on the health of the younger generation of engineering and technology designed to provide digitalization.
- 2) Thank you for your Concept, but we need find the ways to digitize from simple.
- 3) The document is a little late (by 5 years), some positions require extensive explanation, for example, the mechanism for recording online courses (in loans) and online mode as a form of holding a seminar, lecture, etc.
- 4) The concept is extremely necessary at this stage of development of Digital Kazakhstan.
- 5) add more graphs / drawings / diagrams.

14. Which county's document are you referring to?

73 responses were received and everyone evaluated the Kazakhstan Concept.

CONCLUSION

This report is the Evaluation of the developed the conception of adapting the higher and postgraduate education system to the digital generation, in context of Kazakhstan created for HiEdTec project. We chose a questionnaire as methodology to estimate the quality of work and evaluate the results for future deliverables.

The suggestions and additions indicated in the answers are shown in

- 1) at the university level: the need to develop programs/roadmaps for the implementation of the objectives of the Concept, indicating the timing and duration of projects in each university, taking into account the specific conditions of the institution
- 2) at the country level: to improve the mechanisms and regulatory framework for the implementation of the objectives of the Concept both in the material, technical and methodological and substantive aspects of digitalization of the system of higher and postgraduate education
- 3) at the country level: the difficulty in implementing a common policy and ensuring a single level of digitalization due to the difference between universities in terms of funding and the staffing potential of universities.

Analysis of the results of the survey on the assessment of the developed Concept for adapting the system of higher and postgraduate education to the digital generation, taking into account specific conditions in Kazakhstan, shows a great desire of universities to improve the education system through new technologies. The concept has been praised for all indicators.

We can conclude from answers that:



- The structure of the Concept is very high;
- The quality of the Concept is very high;
- The quality of the layout and content is high;
- The level of agreement about outcome of the concept is high;
- The workflow and timing between partners is on high level;
- Content of developed deliverables is appropriate;
- The Concept is useful for users.