INTER-PROJECT COACHING

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EXECUTIVE SUMMARY

This document provides an outline of the identified possible areas of exchange of information, know-how and good practices in the field of innovative educational technologies with other relevant projects developed under the Erasmus+ framework.

The following steps are envisaged in the development of the inter-project coaching activities focused on knowledge transfer between HiEdTec and the identified projects in the five Central Asian partner countries – Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan:

5 Efficient and effective management of the exchanged knowledge and know how in order to increase the performance and the quality of HiEdTec project outputs.

4 Organisation and participation of joint meetings and events (between HiEdTec and the identified project teams.

3 Establishment of open communication and dynamic cooperation relations with the identified project leaders and their teams.

2 Identification of subject areas of relevant know-how and good practices in the field of innovative educational technologies in education in the partner countries.

1 Collection of information about past and on-going Erasmus+ projects in the field of innovative educational technologies in the teaching and learning at HEIs in Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.

Currently only Step 1 and Step 2 have been undertaken.

INTRODUCTION

Inter-project coaching is an activity which allows project teams to meet with other project consortia members working on a similar topic and exchange ideas, share experience and good practices. Thus, inter-project coaching can be seen as a way of increasing cooperation and collaboration between projects which contributes to the overall improvement of the quality of their work and outcomes.

The current report contains information about the:

- identified ongoing and completed Erasmus+ projects focused on the implementation of innovative educational technologies in the teaching and learning process in HEIs;
- innovative teaching and learning methods implemented in each of the identified projects;
- possible areas of knowledge exchange with the ongoing projects;
- type of knowledge and good practices to be transferred between HiEdTec and each of the identified ongoing projects;
- expected benefits of the future exchange.

COLLECTION OF INFORMATION ABOUT PAST AND ONGOING PROJECTS IN THE FIELD OF INNOVATIVE EDUCATIONAL TECHNOLOGIES

The first step in the development of the Inter-project coaching involved the collection of information about past and on-going Erasmus+ projects in the field of innovative educational technologies in the teaching and learning at higher educational institutions from the Partner Countries (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan).

The sources for the collection of information included the following activities:

(1) **Browsing the Erasmus+ Projects Results Platform** (https://ec.europa.eu/programmes/erasmus-plus/projects/eplus-projects-compendium/) , Section "Complete list of all projects available in the platform". The KA2 (Erasmus+ Cooperation for innovation and the exchange of good practices) were available at: https://ec.europa.eu/programmes/proxy/alfresco-webscripts/api/node/content/workspace/SpacesStore/d7f16371-842e-4617-8823-866bb0ccd4db/ErasmusPlus_KA2_CooperationForInnovationAndTheExchangeOfGoodPractices_Projects_Overview_2019-02-14.xls

(2) **Contacting the National Erasmus+ office in each partner country:**

- **Kazakhstan**
  National Erasmus+ Office
  21, al-Farabi avenue, block 9, offices 225 & 226, 3rd Floor
  Almaty 050059
  Kazakhstan
  E-mail: neo@erasmusplus.kz , nc@erasmusplus.kz
  Web-site: www.erasmusplus.kz

- **Kyrgyzstan**
  National Erasmus+ Office
  Business Centre "Russia"
  19 Razzakova Street
  4th floor Office No 305
  720040 Bishkek
  Kyrgyzstan
  E-mail: neo@erasmusplus.kg
  Web-site: www.erasmusplus.kg

- **Tajikistan**
  National Erasmus+ Office
  22 Shotemur Street, Office 16
  734001 Dushanbe
  Tajikistan
  E-mail: neo.tadjikistan@gmail.com; info@erasmusplus.tj
  Website: http://erasmusplus.tj/

- **Turkmenistan**
  There is no active National Erasmus+ Office (NEO) at the
  moment. Possible approach for the collecting of information –
  contact the Ministry of Education and Science.

- **Uzbekistan**
  National Erasmus+ Office
  11th floor
  107B Amir Temur Street

International Business Centre
100084 Tashkent
Uzbekistan
E-mail: coordinator@erasmusplus.uz
Web-site: www.erasmusplus.uz

(3) **Contacting partner universities in each country.**

The Partner Countries (PCs)HEIs collecting the information had to fill in a template table (Table 1).

Project No	
Project Title	
Participating institutions	
Summary of the project	
Objectives	
Outputs	
Subject areas in relation to the implementation of innovative technologies in higher education (HE)	

Table 1. Current and completed Erasmus+ projects focused on innovative educational technologies

The total number of identified projects relevant to the scope of HiEdTec comprised of 23 projects. It has to be noted that not all of these projects were Erasmus+ projects but projects completed under Erasmus Mundus or Tempus.

IDENTIFICATION OF EXPERIENCE AND EXPERTISE IN THE IMPLEMENTATION OF INNOVATIVE EDUCATIONAL TECHNOLOGIES

After the relevant information was collected, each PC consortium institution had to share responsibilities and contact the identified respective projects and collect information about the **experience** and **expertise** of the other projects on developing innovative teaching and learning methods.

The PC consortium institutions in each country had to identify the innovative teaching and learning methods implemented in the teaching and learning process at higher education level and provide a description on the methods and how they are used in the specific educational contexts (Table 2).

Partner country: _____	
Project No	
Project coordinator	
Participating institutions	
INNOVATIVE TEACHING AND LEARNING METHOD IMPLEMENTED	
• Key characteristics of the method	
• Roles of the teacher	
• Roles of the students	
• Innovative educational technologies used	
• Example illustrating the implementation of the innovative method in the classroom	

Table 2. Innovative teaching and learning methods implemented in the identified projects

The leading partners were P2 (for Kazakhstan), P5 (for Kyrgyzstan), P9 (for Tajikistan), P12 (for Turkmenistan) and P15 (for Uzbekistan).

POSSIBLE INTER-PROJECT COOPERATION AREAS IDENTIFIED

On the basis of the compiled information as a result of the research provided by the PC institutions, the HiEdTec partners prepared an outline of the possible sharing of know-how and good practices.

1. **Relevant projects to HiEdTec with partner HEIs from Kazakhstan**

1) **Project Name:** Training Against Medical Error (TAME)

Project Number: 561583-EPP-1-2015-1-KZ-EPPKA2-CBHE-JP

Project coordinator: Karaganda State Medical University (Kazakhstan)

Participating institutions:
- Karaganda State Medical University (Kazakhstan)
- Astana Medical University (Kazakhstan)
- St George's, University of London(United Kingdom)
- KarolinskaInstitutet (Sweden)
- Masaryk University (Czech Republic)
- Aristotle University of Thessaloniki (Greece)
- Zaporozhye State Medical University (Ukraine)
- Bukovinian State Medical University (Ukraine)
- Hanoi Medical University (Vietnam)
- Hue University of Medicine and Pharmacy (Vietnam)

Description of the project:
The overall objective of the TAME project is to introduce innovative pedagogy methods that will provide training for students against medical error (TAME). TAME will innovate curricula towards teaching and learning in safe environment and closer to the needs of the real practice, where medical errors occur. With achievement of TAME's objectives, a great need for the changes in the national healthcare systems will be fulfilled. The training methodologies will be improved, in order to minimize morbidity and mortality resulting from medical errors. Thus, healthcare costs will decrease, the quality of therapy will increase and the public trust in physicians and medicine will be enhanced. TAME's view is multidimensional. The training has plenty of educational

features and we will organize them into 3 fundamental dimensions: (i) teaching methods, (ii) means of curriculum delivery, (iii) learning outcomes.

We will use the experience gained from our preliminary studies as well as from literature, which indicate that discipline-specific aspects have to be considered during teaching against medical errors. The multidimensional approach can be used also after TAME's period in restructuring campus-based teaching towards closer relevance to clinical practice and with patient safety central to undergraduate medical education. The resulting innovated medical curricula will be consistent with the efforts of the accreditation councils for graduate medical education as well as of the national expert medical associations. Medical schools play key roles in resolving all barriers that may hinder transparency and full disclosure of medical errors. Training against medical errors will serve as the basis for enhancing patient-doctor relationships, limiting further harm and improving overall healthcare safety.

(from http://www.tame-project.org/, Retrieved 24-07-2019)

Innovative aspects of the project concerning the teaching and learning process in the PC HEIs:

➢ **Introduction of interactive electronic scenarios using to develop reasoning skills**

Key characteristics of the method:
- **Roles of the teacher** – Algorithm development, problem statement, discussion organization, analysis and evaluation;
- **Roles of the students** – Solution of situational tasks, decision-making, communication, analysis, participation in the discussion;
- **Innovative educational technologies used** – Training simulation courses, distance, electronic and interactive educational technologies.
- **Example illustrating the implementation of the innovative method in the classroom**– Training simulators to simulate diagnosis and treatment in the "patient-doctor" system.

Description of the knowledge exchange

The possible good practice that could be exchanged between HiEdTec and the TAME project could be linked to the implementation of distance, electronic and educational technologies that would be used by both consortia to boost the transformation of higher education to the needs of present-day digital learners.

The possible focus of inter-project coaching activities would allow the HiEdTec team to get a better understanding of the ways in which the TAME consortium helps academic staff and students from the partner universities develop their skills and competences in using online technologies to create virtual scenarios (as teaching and learning cases) and how they facilitate the process of development of such virtual tutorials.

Type of knowledge to be transferred

The TAME project envisages the modernization of the medical curricula in the partner universities, the implementation of innovative teaching method (through digital technologies) and the design of learning outcomes. With regard to this the type of knowledge to be transferred could be linked to HiEdTec deliverable *2.2. Concept of adapting the education system to the digital generation with regard to the specific conditions of … (Kazakhstan / Kyrgyzstan / Tajikistan / Turkmenistan / Uzbekistan).*

Expected benefits of the future knowledge exchange

- **Knowledge / expertise in: the ways in which curricula can be updated so that they include innovative teaching methods.**

2) Project Name: ModeHEd – Modernizing Health Education in Universities

Project Number: 561857-EPP-1-2015-1-DE-EPPKA2-CBHE-JP

Project coordinator: Leipzig University of Applied Sciences (Leipzig, Germany)

Participating institutions:
Leipzig University of Applied Sciences (Leipzig, Germany)
Charles University in Prague (Prague, Czech Republic)
Pavol Jozef Šafárik University (Kosice, Slovakia)
Fergana State University (Uzbekistan)
Tashkent Medical Academy (Uzbekistan)
Namangan State University (Uzbekistan)
Medical Education Development Center of the Ministry of Health of the Republic of Uzbekistan (Uzbekistan)
The Uzbek State Institute of Physical Culture and Sports (Uzbekistan)
Bukhara State Medical University (Uzbekistan)

Andijan State University (Uzbekistan)
Kokand State Pedagogical Institute Uzbekistan)
Uzbek Medical Pedagogical Association (Uzbekistan)
Kazakh National Medical University Asfendiyarov (Kazakhstan)
South Kazakhstan State Pharmaceutical Academy (Kazakhstan)
Women`s Pedagogical University (Kazakhstan)

Description of the project:
The project is aimed at the modernization of 7 educational programmes and teaching complexes in the field of health care, which are taught at universities:
"Valeology"
"Fundamentals of medical knowledge"
"Age physiology and hygiene"
"Sports medicine"
"Physical therapy and sports hygiene"
"Public health and public health management"
"Improving the provision of first aid"

(from hhttp://modehed.uz/web/index.php?r=site%2Fabout, Retrieved 01-11-2019)

Innovative aspects of the project concerning the teaching and learning process in the PC HEIs:

➢ **Innovative learning technologies on the basis multimedia and audio-visual components**
The MoHed project envisages the development of specific courses which provide knowledge and expertise to academic staff on the creation of electronic coursebooks, their publishing on the Internet and enrichment with different graphs and pictures (TEX Live). The course also focuses on the development of academic staff' skills for the use of HTML format and CTL editor.

There is no specific method underlying the specific knowledge and skills to be acquired by the academic staff. Still, the use e-learning materials in the classrooms calls for enrichment of teaching staff knowledge and skills to create relevant teaching materials and for communicating with the learners. Similarly, students have to able to work with the e-learning materials and communicate

with their peers and tutors. The i**nnovative educational technologies used** – Blended learning, Cognitive learning or videography, E-learning courses.

Description of the knowledge exchange

The possible knowledge exchange could involve exchange of information about the design of e-learning materials, as well as the exchange of information on how the innovative educational technologies are implemented in the e-learning material design and the process of teaching and learning in the Kazakh universities members of this consortium.

Type of knowledge to be transferred

Development and implementation of online classes using virtual reality.

Expected benefits of the future knowledge exchange

- **Knowledge / expertise in:** the ways in which virtual reality could be used in the classroom along with the knowledge of the mechanisms and tools for the development of e-learning resources.

3) Project Name: Implementing a Central Asian Centre for Teaching, Learning and Entrepreneurship (CACTLE)

Project Number: 561495-EPP-1-2015-1-AT-EPPKA2-CBHE-JP

Project coordinator: Vienna University of Economics and Business (Austria)

Participating institutions:
Kyrgyz National University named after Zh. Balasagyn (Kyrgyzstan)
International University of Kyrgyzstan (Kyrgyzstan)
Kyrgyz State University named after I. Arabaev (Kyrgyzstan)
Bukhara State University (Uzbekistan)
Fergana State University (Uzbekistan)
Westminster International University in Tashkent (Uzbekistan)
Vienna University of Economics and Business (Austria)
University of Friedrich-Alexander in Erlangen-Nuremberg (Germany)
Oberta University of Catalunya (Spain)
University of La Coruna (Spain)

Description of the project:

This project is dedicated to implementing a "Central Asian Centre for Teaching, Learning and Entrepreneurship – CACTLE" to promote and strengthen the relations between Central Asian HEIs and enterprises as socio-economic actors to foster entrepreneurial and entrepreneurial competencies by:

- improving the teaching competencies of HEI teachers;
- creating further training opportunities for employees of enterprises and institutions;
- qualifying students in entrepreneurship and business development

in cooperation with the Ministries for Higher Education, regional chambers of commerce and enterprises as a contribution to promote entrepreneurial and occupational self-reliance in Kazakhstan, Kyrgyzstan and Uzbekistan.

The **objectives** of the project are:

1. **Sustainable implementation of a CACTLE**
   Implementing a CACTLE as a virtual expert network institutionalized at the participating universities with a sustainable perspective.
2. **Professionalization of HEI-teachers**
   Qualifying of at least 27 HEI-teachers as "Certified University Teachers – CUT", 18 HEI-teachers as "Accredited Management Trainers – AMT" on the basis of a certification program for CUT and AMT with a scope of 90 (CUT) and 60 (AMT) contact hours. Another 27 HEI-teachers will be qualified as CUT by the first alumni during the third project year.
3. **Professionalization of employees**
   Qualifying employees of enterprises/institutions in at least 48 CACTLE-further trainings designed and held by AMT in special fields of economics and business in KG, KZ and UZ.
4. **Professionalization of students**
   Qualifying at least 90 students in KG, KZ and UZ in the field of "Entrepreneurship and Business Development – EBD" on the basis of a core-curriculum in a scope of 10 ECTS or equal in English or Russian.

(from http://www.cactle.eu/mission/aims-objectives/, Retrieved 01-11-2019)

Innovative aspects of the project concerning the teaching and learning process in the PC HEIs:

➢ **Improving the teaching competences of academic staff**

An essential element of the work on the project is the development of:

- an e-learning platform that will be used for the training of students.

- training courses for academic staff – "Creative Training" and "Methodology of Teaching Economic Sciences". The second course contains the acquisition of knowledge and skills to work with 13 innovative teaching and learning methods.
- a Central Asian Centre for Teaching, Learning and Entrepreneurship

Description of the knowledge exchange

It would be interesting to get to know the e-learning platform and course design, as well as the different innovative teaching and learning methods introduced to the teaching staff involved in the CACTLE project.

The general principles of organization and operation of the "Central Asian Centre for Teaching, Learning and Entrepreneurship" will be also of interest, since the HiEdTec intends to develop Centres for innovative educational technologies.

Type of knowledge to be transferred

The types of knowledge to be transferred involve exchange of information about the:

- general principles of structuring, organisation development and operational capacity development underlying the establishment of the Central Asian Centre for Teaching, Learning and Entrepreneurship;
- structure and content of the e-learning platform for the online course development;
- innvotaive teaching and learning methods to be implemented in the training of academic staff and HEI students.

Expected benefits of the future knowledge exchange

The expected benefit of the knowledge exchange will be used in the organization of trainings for trainers who will train lecturers to implement innovative educational technologies in the HE process.

4) Project Name: Engineering Educators Pedagogical Training (ENTER)

Project Number: 598506-EPP-1-2018-1-PT-EPPKA2-CBHE-JP

Project coordinator: Polytechnic Institute of Porto (Portugal)

Participating institutions:

DTI University (Slovakia)

Tallinn University of Technology (Estonia)

National Research Tomsk Polytechnic University (Russian Federation)

Kazan National Research Technological University (Russian Federation)

Tambov State Technical University (Russian Federation)

Don State Technical University (Russian Federation)

Association For Engineering Education of Russia (Russian Federation)

Al-Farabi Kazakh National University (Kazakhstan)

Academician E. A. Buketov Karaganda State University (Kazakhstan)

Kazakhstan Association of Engineering Education (Kazakhstan)

Vyatka State University (Russian Federation)

Association for International Education Support "Bologna Club" (Russian Federation)

Description of the project:

ENTER aims at creating a novel multicultural and international approach for formal post-graduate professional and pedagogical education for engineering educators. Furthermore, it is focused on low cost and convenience, thus strongly based on e-learning technologies, whenever feasible, and designed with the objective of being internationally recognized and accredited. ENTER wants to go further than existing offers, offering the possibility of customization and adaptation to educators and HEIs' needs (e.g. national or regional context) and cover multiple areas of engineering.

- The ENTER collaborative/network approach, focused on HEIs and educators' needs (low cost, convenience, mutual recognition, peer-reviewed quality assurance, customization), aims to greatly increase the number of engineering educators enrolled in pedagogical and professional improvement programs.
- This will have a profound impact in the quality of engineering education, first on ENTER member HEIs, but later on all EU.
- ENTER governance model and aims will also focus on openness and excellence. The mechanisms will be defined for the seamless addition of new members and rigorous peer-review quality control will be enforced.
- i-PET programme accreditation is also one of the project's objectives.

Innovative aspects of the project concerning the teaching and learning process in the PC HEIs:

➢ **Introduction of an innovative multilevel system for pedagogical training of academic staff**

An innovative multilevel modular system of pedagogical training of engineering teachers will be developed. This modular system is based on the international network cooperation directed on development and self-development of the personality, education at future teachers of such qualities as self-motivation, initiative, reflexivity and innovative susceptibility.

The underlying idea of the ENTER project is the implementation of three programmes (basic, fundamental, advanced) for engineering educators with a variable set of modules based on modern education technologies such as e-learning.

Description of the knowledge exchange

Since this project started in 2018, the results are not yet available and we have the opportunity to cooperate in the implementation of the projects. This will allow exchanging information and adjusting the work on the improvement and use of modern innovative educational technologies (including e-learning and distance learning).

Type of knowledge to be transferred

- The experience of European practice in the effective training of highly qualified teachers of engineering disciplines, generalized by the executors of this project.
- Share the results of curriculum development based on modern learning technologies, such as e-learning and individual learning.
- Experience in international cooperation and dissemination of results, legal support and rules of network cooperation.

Expected benefits of the future knowledge exchange

- **Knowledge / expertise in:** methodology of creating e-courses taking into account the individual approach to students and adapt the legal

framework of Kazakhstan to the modern requirements of online education.

5) Project Name: Kazakh Universities to Foster Quality Assurance Processes in Technology Enhanced Learning (KUTEL)

Project Number: 598377-EPP-1-2018-1-EPPKA2-CBHE-SP

Project coordinator: Guglielmo Marconi University (Italiy)

Participating institutions:
Burgas Free University (Bulgaria)
University of Turku (Finalnd)
Hellenic Open University, DAISSy Research Group (Greece)
Shokan Ualikhanov Kokshetau State University (Kazakhstan)
International Information Technology University (Kazakhstan)
Abay Myrzakhmetov Kokshetau University (Kazakhstan)
Omirzaq Sultangazin Kostanay State Pedagogical University (Kazakhstan)
Zhezkazgan Baikonurov University (Kazakhstan)
Ministry of Education and Science of the Republic of Kazakhstan (Kazakhstan)
The Independent Agency for Accreditation and Rating (Kazakhstan)
Public fund "Youth front of Leader of the Nation" (Kazakhstan)
Almaty Institute of Power Engineering and Communications (Kazakhstan)
Caspian State University of Technologies and Engineering named after Sh. Yessenov (Kazakhstan)

Description of the project:
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 a national level.

This aim will be reached through the following actions:
- Transfer of knowledge from EU to Kazakhstan institutions (with mutual benefit)

- Access to the Quality Assurance (QA) standards to all the educational institutions/universities in Kazakhstan
- Improvement of long-term cooperation among universities, accreditation centers, business and public authorities in education for a more aware integration and implementation of technology-enhanced learning (TEL) methods and QA frameworks for accreditation and recognition.

The specific objectives are as follows:
1. Modernize and reform teaching methodologies through the introduction of a quality assurance (QA) framework in blended learning.
2. Improve, develop/implement accreditation standards, guidelines and procedures for quality assurance of TEL study programs according to EU practices at Kazakhstan universities
3. Establish the framework to improve TEL quality assurance and e-learning methodology on HE institutional level in Kazakh universities
4. Provide training for Key actors of HE educational and public authorities responsible for accreditation/evaluation of TEL programs

(from https://www.kutel-project.eu/index.php/partners/eu-partners , Retrieved 19-12-2019)

Innovative aspects of the project concerning the teaching and learning process:

➢ **Establishment of a framework to improve the methodology for quality assurance of technology-based learning and e-learning**

The main output of the KUTEL project will be the introduction and implementation of a framework for quality assurance of technology-enhanced learning. It will be useful to get familiar with this QA framework since it will allow the members of the HiEdTec consortium to check whether the competences and skills that will be obtained by the PC academic staff during the digital skills training courses comply to the quality assessment standards described in the QA Framework.

Description of the knowledge exchange

The project started in 2018, so it is at the initial stage. Future cooperation with the members of the KUTEL project will focus mainly on the gathering of information about the QA Framework content and the standards included in it.

Type of knowledge to be transferred

The knowledge that could be transferred includes exchange of information and expertise about the quality assurance standards, methodology for quality assurance of curricula that contain technology-enhanced learning (TEL) methods and QA frameworks for accreditation and recognition.

Expected benefits of the future knowledge exchange

The expected benefits of the future knowledge exchange could be found in the modernization and reforming of teaching methods using innovative educational technologies of mixed, electronic and distance learning so that it is possible to provide high quality training of graduates.

2. Relevant projects to HiEdTec with partner HEIs from Kyrgyzstan

1) Project Name: Management – Innovation – Development

Project Number: 561539-EPP-1-2015-1-ES-EPPKA2-CBHE-JP

Project coordinator: University of Las Palmas de Gran Canaria (Spain)

Participating institutions:
- Polytechnic University of Catalonia (Spain)
- Slovak University of Technology in Bratislava (Slovak Republic)
- **Instituto Superior Tecnico de Lisboa (Portugal)**
- University of Genova (Italy)
- Kyrgyz National University (Kyrgyzstan)
- Osh Technology University (Kyrgyzstan)
- Talass State University (Kyrgyzstan)
- Consultancy Group for Increasing Potential (Kyrgyzstan)
- Tashkent State Economic University (Uzbekistan)
- Bukhara State University (Uzbekistan)
- Technology University of Tajikistan (Tajikistan)
- Russian-Tajik Slavic University (Tajikistan)
- Nazarshoyev Khorgoss State University (Tajikistan)

Description of the project:

Central Asian universities could become a platform for joining the interests of different parties – the government, potential employers and youth. Innovation and research is what modern society needs. The creation of the Youth Center will allow young people who do not have the necessary knowledge, experience and means to start their own business or develop a project. Within these centers, they will be able to develop business models and start a micro or small business or create a non-profit organization. This should not be just a business idea. The focus could be on addressing issues of social development, urban communities or the environment.

Project **objectives**:

- To contribute to education reforms by creating youth centres for increasing innovation and technology usage in social and economic development in Central Asia.
- To strengthen the stability of Central Asian universities improving, at the same time, the attractiveness of the educational programs.
- To keep improving and developing the education process in Central Asian countries by sharing best practices with teachers and students.

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(from http://dbase.caep-project.org/project/management-innovation-development-mind/,
Retrieved 01-11-2019)

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Innovative aspects of the project concerning the teaching and learning process in the PC HEIs:

➢ **Establishment of MOOC courses on the training of students**

The project focuses on improving the attractiveness of educational programmes in the Central Asian countries – Kyrgyzstan, Tajikistan and Uzbekistan by introducing MOOC courses that develop students' skills for creative thinking and their entrepreneurial mindset.

Description of the knowledge exchange

The possible areas of knowledge exchange include the sharing of good practices in the development of MOOC courses – structure, content and teaching and learning methods implemented in the training process.

Type of knowledge to be transferred

The knowledge transfer will be linked to the exchange of good practices in MOOCs course design and the teaching and learning methods implemented in them.

Expected benefits of the future knowledge exchange

The positive effect of the knowledge exchange could be found in the general enrichment of the HiEdTec project team about the underlying principles of online course design used by the MIND project. This would help the HiEdTec team to gain feedback on the digital skills and innovative teaching and learning methods needed by the academic staff in the three Central Asian countries - Kyrgyzstan, Tajikistan and Uzbekistan and will facilitate the process of the course creation for trainers and lecturers.

3. **Relevant projects to HiEdTec with partner HEIs from Tajikistan**

1) **Project Name:** Excellence on Engineering Education through Teacher Training and New Pedagogic Approaches in Russia and Tajikistan (EXTEND)

Project Number: 586060-EPP-1-2016-RO-EPPKA2-CBHE-JP

Project coordinator: Polytechnic University of Bucharest (Romania)

Participating institutions:
- University of Minho (Portugal)
- Technical University of Riga (Latvia)
- Warwick University (UK)
- Technological University of Tajikistan (Tajikistan)
- Khujand State University named after the Academician B. Gafurov (Tajikistan)
- Kulob State University named after Abuabdullo Rudaki (Tajikistan)
- Tajik National University (Tajikistan)
- Moscow State University of Civil Engineering (Russia)
- Moscow State Technical University named after M.E. Bauman (Russia)
- Magnitogorsk State Technical University named after G. I. Nosova (Russia)
- Mordovia State University (Russia)

Description of the project:

The Bologna process and European Higher Education Area (EHEA) brought necessary reforms to improve engineering education in Russia and Tajikistan. But despite obvious increase in attractiveness for young people engineering education is still facing many challenges, such as significant drop-out rate among students, decreased employment rates for bachelor graduates, ageing of teaching staff. One of the major unsolved problems behind these challenges is the deterioration of teacher training system in partner countries' universities and irrelevance of teaching methods employed for engineering disciplines in Russia and Tajikistan. The answer to this problem is two-fold – modernization of pedagogic training of PhD students and development of sustainable system of lifelong education for university teachers of engineering disciplines.

Main objective: to enhance the quality and the effectiveness of teaching by promoting a change in a system of pedagogic training of university teachers in engineering in Russian Federation and Tajikistan through modernization of PhD programs curriculum and development of sustainable system of teacher re-training and consultation support by Network of Centres of Excellence in Engineering Education.

Project Objectives:

- To develop a comprehensive model and descriptor of the competences of the university teacher of engineering disciplines.
- To establish a Network of centres of Excellence in Engineering Education (EXTEND) centres offering training courses, research and consultations in teaching engineering disciplines in partner countries' HEIs.
- To develop a training program for PhD students and teachers in teaching engineering disciplines.

(from http://dbase.caep-project.org/project/excellence-in-engineering-education-through-teacher-training-and-new-pedagogic-approaches-in-russia-and-tajikistan-extend/, Retrieved 19-12-2019)

Innovative aspects of the project concerning the teaching and learning process in the PC HEIs:

➢ **Development of descriptors of the competences of university teaching staff involved in the training of engineering students**

One of the expected outcomes of the project is the development of a comprehensive model and descriptors of competences of the university academic staff of engineering disciplines. The set of competences that are developed could be compared with the set of competences that trainers and university lecturers are expected to obtain as a result of the courses to be developed by the HiEdTec project consortium.

Description of the knowledge exchange
The exchanged knowledge could cover the information about the set of competences and the descriptors that are linked to them.

Type of knowledge to be transferred
The knowledge transfer will be related to the exchange of information about the intended competences to be acquired by trainers and university academic staff on the training of the digital generation of university students, on the one hand, and the set of competences of university academic staff involved in the training of engineering students.

Expected benefits of the future knowledge exchange
The knowledge exchange would allow the HiEdTec team to compare the set of competences to be developed in university academic staff as a result of the trainings for using innovative educational methods and technologies and the competences designed by the EXTEND team. This comparison will help the HiEdTec team to check whether they are moving in the right direction.

4. Relevant projects to HiEdTec with partner HEIs from Turkmenistan

1) **Project Name:** Introduction of Quality Management in e-learning at Central Asian Universities (QAMEL)

Project Number: 544601-TEMPUS-1-2013-1-DE-TEMPUS-SMGR
Project coordinator: Fachhochschule des Mittelstands (Germany)

Participating institutions:
- University of Nice Sophia Antipolis (France)
- Kaunas University of Technology (Lithuania)
- Trainings-Online Gesellschaft für E-Portale (Germany)

- University of Minho (Portugal)
- Ministry of Education and Science of Kazakhstan (Kazakhstan)
- Engineering-Economical University after M. Dulatov (Kazakhstan)
- Kazakh Agritechnical University after S. Seifullin (Kazakhstan)
- Humanity and Technical Academy (Kazakhstan)
- Ministry of Education and Science of the Kyrgyz Republic (Kyrgyzstan)
- Kyrgyz State Academy of Law (Kyrgyzstan)
- Bishkek Academy of Finance and Economics (Kyrgyzstan)
- Issyk-Kul State University after K. Tynystanov (Kyrgyzstan)
- Ministry of Education of Turkmenistan (Turkmenistan)
- Turkmen State Institute of Architecture and Construction (Turkmenistan)
- International Oil and Gas University (Turkmenistan)
- State Energy Institute of Turkmenistan (Turkmenistan)

Description of the project:

QAMEL project aimed globally at developing and implementing quality assurance mechanisms and instruments for e-learning at Central Asian countries Kazakhstan, Kyrgyzstan, and Turkmenistan. Introduction of new ICT into higher education has been claimed in national educational policies of countries concerned. However, the holistic approach to eLearning was missing and therefore should be brought near to all relevant educational actors, if Ministries of Education, university management, IT, staff, teachers, and last but not least, students.

Project **Objectives:**

- To establish eLearning Centers at the partner universities.
- To develop and introduce national quality norms and regulations for eLearning.
- To develop and pilot implementation of ICT-based learning and teaching concepts.
- To disseminate lessons learned and best practices in eLearning at each national level.

(from http://dbase.caep-project.org/project/excellence-in-engineering-education-through-teacher-training-and-new-pedagogic-approaches-in-russia-and-tajikistan-extend/, Retrieved 19-12-2019)

Innovative aspects of the project concerning the teaching and learning process in the PC HEIs:

➢ **Establishment of e-learning centres at the Central Asian partner universities and training of academic staff for successful management of didactical, technical and organizational challenges.**

The main task of the e-learning centres (ELS) is to provide pedagogical support, consultation and training to those university lecturers involved into the creation and delivery of e-learning sessions. The practical demonstrations of selected e-learning applications raise the awareness of academic staff about the potential of innovative teaching and learning methodologies and their implementation in the classroom.

➢ **Modernizing the national e-learning agendas in HEIs in Central Asia**

An e-Learning Guide is created as part of the activities of the QAMEL. This e-Learning Guide contains information about the different aspects of e-Learning and serves as a reference instrument for introducing e-Learning at Central Asian universities and for improving the quality of education and training. The e-Learning is approved by the Ministries of Education of the Central Asian partner countries – Kazakhstan, Kyrgyzstan and Turkmenistan.

Description of the knowledge exchange

The HiEdTec team could get additional information about the underlying principles of organization and functioning of the e-learning centres established in the QAMEL consortium universities from Kazakhstan, Kyrgyzstan and Turkmenistan in order to implement the identified good practices in the conceptual framework of the Centres for innovative educational technologies envisaged in the HiEdTec project.

The HiEdTec team could also get acquainted with the e-Learning Guide developed by the QAMEL consortium and compare it with the Handbook of Innovative Educational Technologies that is to be developed as part of the activities in WP3.

Type of knowledge to be transferred

The knowledge to be transferred refers to the underlying principles of planning the structure, operational management and functioning of the e-Learning

Centres (as part of the outputs of the QAMEL project) as well as to the content of the e-Learning Guide.

Expected benefits of the future knowledge exchange
The exchange of expertise with the QAMEL project will facilitate the process of development of the Centres for Innovative Educational Technologies in the PC HEIs and for the creation of the Handbook of Innovative Educational Technologies as the HiEdTec consortium will have a benchmark against which it will be able to compare and contrast ideas in the development of the two outputs.

2) Project Name: Accessibility and Harmonization of Higher Education In Central Asia through Curriculum Modernization and Development (ACADEMICA)

Project Number: 561553-EPP-1-2015-1-BG-EPPKA2-CBHE-JP

Project coordinator: Burgas Free University (Bulgaria)

Participating institutions:
- Università degli Study Guglielmo Marconi (Italy)
- Universitat Politecnica de Valencia (Spain)
- University of Applied Sciences FH Joanneum (Austria)
- Shokan Ualikhanov Kokshetau State University (Kazakhstan)
- International Information Technology University (Kazan)
- Abay Myrzakhmetov Kokshetau University (Kazakhstan)
- Kostanay State Pedagogical Institute (Kazakhstan)
- Kazakhstan Association of Engineering Education
- Ministry of Education and Science of the Republic of Kazakhstan
- Samarkand Agricultural Institute SAI (Uzbekistan)
- Tashkent University of Information Technologies (Uzbekistan)
- Ministry of Higher and Secondary Specialized Education of the Republic of Uzbekistan (Uzbekistan)
- Turkmen State Institute of Culture (Turkmenistan)
- Turkmen State Institute of Finances (Turkmenistan)

Description of the project:

ACADEMICA aims at modernization and improvement of the educational process at Higher Education Institutions in Central Asia, specifically Kazakhstan, Turkmenistan, and Uzbekistan, by developing a transnational co-operation system of universities and organizations from the participating countries with a purpose of curricula upgrade, scientific cooperation and knowledge transfer.

The Project is expected to foster the regional cooperation by providing European expertise, guidelines, examples of best practices and recommendations in order to harmonize the University curricula in EU and Central Asia.

ACADEMICA aims to contribute to the modernization and improvement of Higher Education in the field of Engineering Sciences in several countries from Central Asia (Region 7) specifically Kazakhstan, Turkmenistan and Uzbekistan through convergence with:
- The European educational standards;
- The achievements and expertise of EU in the development of modern learning environments.

The good EU practices as well as innovative methodologies for teaching and learning based on contemporary ICT and Open Educational Resources (OERs).

Project objectives:
- To modernize Higher Education in Engineering Studies in Kazakhstan, Turkmenistan, and Uzbekistan.
- To improve the capacity building of human capital through acquisition of transversal and key e-skills and competences for the digital HE era by contributing to the recognition of online learning efforts in business and the HE community through an involvement of business for a feedback about the relevance of the improved curricula.
- To foster international and cross-sectoral knowledge, expertise and best practice exchange.

(from http://www.academicaproject.eu/en/, Retrieved 19-12-2019)

Innovative aspects of the project concerning the teaching and learning process in the PC HEIs:

➢ **Implementation of a training path that integrates methodology and content that would equip lecturers with transversal and key competences and skills necessary for their active inclusion in the global digital teaching and learning space.**

The ICT-based educational opportunities for teaching staff at Central Asian HEIs provides the academic staff with the necessary competences and skills for the use of digital educational technologies in the educational process in the partner universities.

Description of the knowledge exchange

The knowledge and expertise to be gained involves the exchange of information and know-how on the implementation of ICT-based approaches in the professional development of university staff.

Innovative nature means the availability of innovative teaching methods developed as part of the ACADEMICA project, combining modern pedagogical approaches, updated content, providing teachers with transversal and key competencies and skills necessary for their active inclusion in the global digital space. It is expected that the project will provide more flexible access to training opportunities using ICT-based approaches and modernized training programs in the field of engineering and technical sciences, which will facilitate the integration of modern technological approaches and content. Another important achievement will be the creation of a transnational system of cooperation between universities and business structures designed to enhance the potential of higher education institutions in partner countries.

➢ **The teacher as an Instructor-participant**: guide discussions, encourage participation, extract and / or add information as needed, and identify key issues. Training participants are students who carry out educational activities on the basis of existing motivation. They learn better if there is a persistent reason and motive for learning activity.

The training exchanges described above were supported in all possible forms: face-to-face; one student, several students; many students with many students.

Any kind and any form of educational experience exchanges discussed in the methodology can be performed asynchronously, as well as synchronously using a wide range of communication tools and channels - messaging systems, forums, audio and video conferencing, social networks and channels, etc.

> **Through Trainings:** The purpose of the training was to provide additional knowledge, skills and attitude restoration to help teachers recognize and take measures for the effective use of modern ICT-based approaches, tools and open educational resources to develop and determine their best strategy for modernizing courses in the light of recent studies in the appropriate discipline / taking into account the specifics of the educational context, thereby ensuring that the courses meet the changing needs of the labor market and society.
> * Considering the above, the introduction of university teacher training was based on the application of modern adult education principles (i.e. andragogy). The application of the principles of adult learning theory to e-learning, addressed to lecturers and implemented within the framework of the ACADEMICA teaching methodology, consists of the following:
> * Learners are voluntary students based on their desire to learn. Students learn better if there is a certain motivation for learning.
> * E-learning participants have more effective training when they participate in the learning process itself - discussion forums and virtual classes in which students can actively participate, express their opinions, share information and knowledge, and discuss hot topics.
> * Adults learn better when new information is reinforced and repeated. They need time to master new knowledge, skills and acquire relationships. They need this skill to be enhanced.
> * As for testing modernized courses with student control groups, support for student-centered learning (SCL) approaches and strategies is key. Although the definition of the term is still evolving, proponents of student-centered learning tend to emphasize several fundamental characteristics:
> * Teaching and learning are aimed at meeting the various needs, interests, aspirations or cultural characteristics of individual students, that is, personalization;

- Learning is knowledge-based, i.e. students advance in their education when they demonstrate that they have learned the knowledge and skills that they need to learn;
- Student training can be carried out outside traditional classes in schools, for example, through training programs or online courses or in non-traditional forms, for example, at night and on weekends - students have the opportunity to study "anytime, anywhere";

Students are given the opportunity to create their own flexible learning paths, that is, they have a choice regarding their own learning and participation in developing learning experiences.

Type of knowledge to be transferred

- The project applies ICT tools and simulations in learning and set of options of e-Learning approaches can be chosen by students to select best appropriate to their effective learning. Each of the content of the engineering course can be simulated by active learning classroom and 3D technologies. By this, students expected to acquire new knowledge and experience. Scientific completion of education is the main strangulation of innovative technologies.
- The innovations introduced in the project process, the participants shared on the pages of social networks.
- The ACADEMICA methodology, which serves to determine the requirements for curricula, curricula and study materials, points to policy-oriented problems at the university, with the determination of the vector of competitiveness of engineering education and the flexibility of measures to achieve the university's leading market position education

Expected benefits of the future knowledge exchange

From ACADEMICA project HiEdTec project may consider to benefit followings:

- Customization of teacher training considering their profile and field
- Developing digital competencies of teachers and an increase in their ability to provide quality online learning through systematic instructional design for online and blended online courses.
- Considering already existing module system providing update or creating new ICT based teaching methods for the faculty managing online teaching and courses

- Testing and assessment of knowledge using didactic tests using the functionality of Moodle
-

5. Relevant projects to HiEdTec with partner HEIs from Uzbekistan

1) Project Name: Innovative Teaching Education in Mathematics (ITEM)

Project Number: 598587-EPP-1-2018-EL-EPPKA2-CBHE-JP- ENV2

Project coordinator: Hellenic Mediterranean University (Greece)

Participating institutions:
- Private University for Health Sciences, Medical Informatics, and Technology (Austria)
- Aalborg University (Denmark)
- Czech Technical University in Prague (Czech Republic)
- Holon Institute of Technology (Israel)
- Hadassah Academic College (Israel)
- Weizmann Institute of Science (Israel)
- University of Pristina (Kosovo)
- University of Mitrovica 'Isa Boletini' (Kosovo)
- Universum College (Kosovo)
- St. Cyril and Methodius University (North Macedonia)
- The Universidad de La Laguna (Spain)
- Karlstad University (Sweden)
- The National University of Uzbekistan named after Mirzo Ulugbek (Uzbekistan)
- Tashkent University of Information Technologies named after Mukhammad al-Khwarizmi (Uzbekistan)
- Karshi Engineering – Economic Institute (KEEI) (Uzbekistan)

Description of the project:
The iTEM project envisions helping undergraduate students realise the impact of mathematics on their studies and professional carrier success independently of scientific discipline. The project main outcomes include:
- the integration real-life problems into Calculus I and Linear Algebra I to show the application of Mathematics in today's technology;

- the development of CAS, the incorporation of mobile tools and visualisations along teaching Mathematics;
- the development of software that allows teachers to early identify student's that face problem in learning Mathematics and so provide assistance to overcome these challenges;
- the development of teaching and learning manuals for more effective teaching and learning Mathematics;
- the training of teacher's in the most modern and efficient teaching techniques like the Problem Based Learning (PBL) and Project Oriented Based Learning (POPBL) along Mathematics teaching.

(from https://www.umib.net/en/item/, Retrieved 21-12-2019)

Innovative aspects of the project concerning the teaching and learning process in the PC HEIs:

➢ **Implementation of Problem Based Learning (PBL) and Project Oriented Based Learning (POPBL) techniques in the teaching and learning process at university level**

The two methods – PBL and POPBL are in line with the present-day learner-centred teaching methodologies which aim at developing learners that are actively engaged in the learning process.

Description of the knowledge exchange

Both consortia could exchange knowledge and expertise in the innovative educational methods that will be implemented in the training of academic staff.

Type of knowledge to be transferred

The knowledge to be transferred is related to the exchange of information about the selected set of innovative educational methods, their essential charactersitics, as well as on the training materials that will be developed for raising the awareness of the university academic staff on this issue.

Expected benefits of the future knowledge exchange

The HiEdTec team will get to know the perspective of the iTEM project on teacher training material design for the development of knowledge and skills of academic staff in the implementation of innovative educational methods and approaches.

2) Project Name: Management – Innovation – Development (MIND)

Project Number: 561539-EPP-1-2015-1-ES-EPPKA2-CBHE-JP

Project coordinator: University of Las Palmas de Gran Canaria (Spain)

Participating institutions:
- Polytechnic University of Catalonia (Spain)
- Slovak University of Technology in Bratislava (Slovak Republic)
- Instituto Superior Tecnico de Lisboa (Portugal)
- University of Genova (Italy)
- Kyrgyz National University (Kyrgyzstan)
- Osh Technology University (Kyrgyzstan)
- Talass State University (Kyrgyzstan)
- Consultancy Group for Increasing Potential (Kyrgyzstan)
- Tashkent State Economic University (Uzbekistan)
- Bukhara State University (Uzbekistan)
- Technology University of Tajikistan (Tajikistan)
- Russian-Tajik Slavic University (Tajikistan)
- Nazarshoyev Khorgoss State University (Tajikistan)

Description of the project:
Central Asian universities could become a platform for joining the interests of different parties – the government, potential employers and youth. Innovation and research is what modern society needs. The creation of the Youth Center will allow young people who do not have the necessary knowledge, experience and means to start their own business or develop a project. Within these centers, they will be able to develop business models and start a micro or small business or create a non-profit organization. This should not be just a business idea. The focus could be on addressing issues of social development, urban communities or the environment.

Project **objectives**:
- To contribute to education reforms by creating youth centres for increasing innovation and technology usage in social and economic development in Central Asia.

- Creating customized mentor and business professional led courses
- Learning needs of companies and students to make them successful in business, start-ups and projects
- To strengthen the stability of Central Asian universities improving, at the same time, the attractiveness of the educational programs.
- To keep improving and developing the education process in Central Asian countries by sharing best practices with teachers and students.

Website: Mind.ulpgc.es

(from http://dbase.caep-project.org/project/management-innovation-development-mind/,
Retrieved Website: Mind.ulpgc.es 01-11-2019)

Innovative aspects of the project concerning the teaching and learning process in the PC HEIs:

➢ **Development of a competency framework for training on a set of topics.**

The project foresees to define a competency framework for the training in relevant topics. This map will provide the state of the art of the range of competencies (described under roles, technical, participative and social skills, and expertise) of the project target and allow a better analysis for the identification of the most suitable training.

➢ **Creating student and company managers defined customized courses based on surveys and interviews.**

This approach will help what exactly companies is expecting from graduates and what business skills and experience students want to gain. According to the data analyses course contents were created and were led by business and academic professionals co-jointly.

➢ **Establishment of MOOC courses on the training of students**

The project also focuses on improving the attractiveness of educational programmes in the Central Asian countries – Kyrgyzstan, Tajikistan and Uzbekistan by introducing MOOC courses that develop students' skills for creative thinking and their entrepreneurial mindset.

- Created series of Mentor led online courses
- Teachers trained to lead Entrepreneurship classes based on European Universities experiences, 5 trainers were trained in European universities and made fieldtrips to startup companies

- By organizing startup competition students were prepared and learned skills and best 3 students were able to get trained in startup companies and universities in Europe.

Description of the knowledge exchange

The possible areas of knowledge exchange include:

- considering practical experience and needs of managers, student creating courses and organizing teaching by business mentors and academicians
- the sharing of good practices in the development of MOOC courses – structure, content and teaching and learning methods implemented in the training process.

Type of knowledge to be transferred

The knowledge transfer will be linked to need based syllabus creating, approach and method application and the exchange of good practices in MOOCs course design and the teaching and learning methods implemented in them.

Expected benefits of the future knowledge exchange

The positive effect of the knowledge exchange could be found in following aspects 1) In analyses of the data on teaching methods should be considered needs of all the stakeholders of the educational process 2) considering mentor or business professional involvement, field trip experiences in some of courses that need it. 3) the generation and enrichment of the HiEdTec project team about the underlying principles of online course design used by the MIND project. This would help the HiEdTec team to gain feedback on the digital skills and innovative teaching and learning methods needed by the academic staff in the three Central Asian countries - Kyrgyzstan, Tajikistan and Uzbekistan and will facilitate the process of the course creation for trainers and lecturers.

CONCLUSION

The presented set of projects which are developed by HEIs from the Central Asia partner countries and which are related to the content and underlying ideas of the HiEdTec project is just the starting point of the Inter-project coaching activities. More detailed information about the direct exchanges of information, knowledge and expertise between the relevant project teams and the HiEdTec consortium will be presented in the final version of this report.