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PBL PEDAGOGICAL TRAINING CURRICULA AND PROGRAMMES

Editors
Larisa Bugaian and Romeo V. Turcan

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Introducing Problem Based Learning in Moldova: Toward Enhancing Students' Competitiveness and Employability

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Benchmark Analysis of Pedagogical Training Programs at AAU, KTH, SIEGEN, UoG and Plymouth

Consolidated Report

Work Package 2

Developed by: Niculita Angela, USM; Dandara Otilia, USM; Cojuhari Irina, UTM; Gogoi Elena, UTM; Baciu Sergiu, ASEM; Dorogaia Irina, ASEM; Solcan Angela, ASEM; Pritcan Valentina, USARB; Pojar Daniela, USARB; Todos Irina, USC; Vulpe Olesea, USC; Noni Ludmila, USC

Reviewed by:

External experts: John REILLY

Internal experts: Olav JULL SØRENSEN, AAU

Colin SIMPSON, UoG

Olga KORDAS, KTH

Ralph DREHER, SIEGEN

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Content

1. INTRODUCTION

At present, universities have to face challenges such as changing and continuously improving courses and developing better educational offers for young students. The skills of the 21st century require the implementation of training models, PBL being one of them, and didactic activities that enable students to apply the content of courses, actively participate in their learning, significantly use technology, and collaborate.

The student has a central place in the learning process, and the expected learning outcomes relate to knowledge, as well as skills and competencies, both specific to the field of study and generic. In this context, didactic activity is an important component that can significantly affect the achievements of a university; therefore, supporting teachers in developing their teaching skills is an important aspect which the most prestigious universities in the world invest in and create new opportunities.

Over the last decade, there has been an increase in the professional and didactic development of academic staff in higher education in the EU, in response to the need for universities to develop teachers' skills to ensure the training of a larger number of students admitted to higher education, having different levels of pre-university education.

In order to create a comprehensive picture of the (continuous) training of teachers' skills in higher education, the legislative regulation, if any, of this process and the structures responsible at national and institutional level, study visits were carried out at EU universities, partners in the project 561884-EPP-1-2015-1-DK-EPPKA2-CBHE-JP „Introducing Problem Based Learning in Moldova: Toward Enhancing Students' Competitiveness and Employability", co-financed via the Erasmus + project of the European Union.

2. METHODOLOGY

2.1 METHODOLOGICAL FRAMEWORK

The purpose of this report is to perform a comparative analysis of how to approach the pedagogical training of academic staff for universities in the EU countries, partners in this project. Obviously, the comparison of some research topics requires for the beginning to get familiar with the essence and the basics of these topics.

At the first stage, the criteria and, in some cases, the sub-criteria were identified used to determine the national and / or institutional specificity of the requirements for the qualification of the university staff in Sweden, Germany, Denmark and the United Kingdom. As a result of this stage, the following criteria were established:

1. The system level with the sub-criteria: legal framework, state policies, occupational standards, and responsible structures with reference to the subject researched.
2. The university management level.
3. Integration of people with disabilities.
4. Physical environment.

The second stage consisted of study visits at partner universities, where the members of the working teams had the opportunity to find answers to several questions related to the subject researched, discussing with the representatives of the academic staff, attending the theoretical and practical lessons, etc.

At the third stage, the data derived from laws and other normative acts that directly or indirectly regulate the subject researched, such as the statutes and other institutional acts of the universities in the EU partner countries, were collected and analyzed. At the end of this stage, based on the information collected, the initial list of criteria and sub-criteria was revised and completed.

2.2 DATA COLLECTION

In order to develop this Report, following the Methodology presented above, data from four universities were collected: Royal Institute of Technology, Sweden (KTH); University of Siegen, Germany (USiegen); University of Glochestershire, the United Kingdom (UoG); Aalborg University, Denmark (AAU). This was made possible by visiting universities, completing the Agenda, which included workshops, seminars, various meetings with decision makers from universities, with people competent for a certain level of approach to the problem. As a result, each participant in the study visit produced reports for each university visited. These materials, together with the respective reflections, have been of great use in preparing this Report.

2.3 DATA ANALYSIS

For data analysis, the working team used the methodology of multiple case studies, each partner country in the European Union being considered a separate case study. The analysis started

with an in-house case study on the qualifications required for the employment as an academic staff and the need for pedagogical training of university teaching staff based on established criteria performed by the teams from the universities of the Republic of Moldova who participated in working visits to the partner universities of the EU.

Subsequently, a cross-case analysis was perfomed, according to the same developed criteria, highlighting common moments but also the specificity for each EU country, partner in the project.

3. PEDAGOGICAL TRAINING PROGRAM AT THE ROYAL INSTITUTE OF TECHNOLOGY, SWEDEN

3.1 INTRODUCTION

The Royal Institute of Technology (KTH) is Sweden's largest and most prestigious technical university. The university has a rich history of pioneering and innovation ideas, dating back to 1827. The global reputation for excellence of KTH attracts students from all over the world. The university offers a wide range of innovative learning options for students across the world who want world-class science and technology education.

The university has a three-level education system: Bachelor's degree programs, Master's degree programs, and Doctoral studies (Phd). Every year, KTH invites students from over 220 universities - exchange partners around the world. Depending on their area of study, they can choose an individual course out of more than 1,000 Master's degree courses taught in English.

By using the modern means of communication, KTH has the possibility to teach courses for students around the world. MOOCs (Massive Open Online Courses) – are web-based courses open to all and aiming to increase the knowledge of students around the world and gain competencies in various areas of interest.

KTH promotes the implementation and development of a systemic approach in teaching, called CDIO (conceive, design, implement, operate) for the development of engineering studies. The CDIO approach involves student-orientation, teamwork, close links between industrial enterprises and university, the acquisition of practical skills of students, elaboration of interdisciplinary projects. CDIO and PBL have many similar points, first of all they are systemic approaches, student oriented, but at the same time PBL is widely implemented in various subjects, while CDIO is more in the field of engineering.

The analysis of university levels, study programs, CDIO methodology was made possible by consulting primary sources at the university, available on the university intranet and web sites of various organizations, as well as following the discussions with professors and university representatives.

3.2 SYSTEM LEVEL

Legal framework

In Sweden, the legislative responsibility for higher education and research rests with the Parliament (Riksdag) and the Government that set the regulatory policies, make decisions with respect to funds for financing education and research, approve the statutes of universities, and agencies involved in higher education sector.

The Swedish higher education system is regulated by the Higher Education Act, and the Higher Education Ordinance[1], according to which all young people have equal access to education regardless of gender, place of living, social and economic factors, and higher education institutions must ensure that they meet the highest standards of research and study programs they offer. It also specifies the assurance of an active role of students in the continuous development of courses and study programs. The didactic staff and educational institutions are entitled, according to the Code of Conduct (Lag om medbestämmande i arbetslivet - MBL, SFS 1976:580), to information about the participation and influence on imminent decisions.

The Higher Education Act stipulates that the tasks assigned to the teaching staff may include educational or research responsibilities and also administrative tasks. In order to ensure the teaching and research processes, higher education institutions shall hire professors and senior lecturers. Qualifications and employment criteria for professors and senior lecturers are stipulated in the Higher Education Ordinance.

At the same time, the Act establishes that, except for cases deferred by the government, each higher education institution decides on its own which categories of didactic (in addition to professors and senior lecturers) to use, as well as which qualifications and evaluation criteria to apply to employment.

State policies in the field

One of the objectives in the field of education and research declared by the Ministry of Education and Research is that Sweden is a prominent nation in research, that research and innovation is led to a high level, contributing to the development of society and the competitiveness of the industry.

In the higher education sector, the main stated goal is that education and research should maintain high international standards and be managed efficiently and effectively.

The Swedish system includes not only traditional university studies, but also teacher training, health training, engineering training, and so on.

Teacher training includes:

- Teacher training for pre-school and primary / basic institutions
- Teacher training for secondary education (gymnasiums and high schools).
- Training courses for teachers in higher education.

There is also non-traditional training, which includes:

- Distance learning
- Distance learning courses for IT support
- Lifelong learning.

Recently, Sweden has introduced some reforms to improve the attractiveness of the professorship. In 2011, Sweden initiated new training programs for didactic staff, structured in four main qualifications (Bäst i klassen - en ny lärarutbildning OBS Prop. 2009/10: 89):

[1] http://english.uka.se/higher-education-system/overall-responsibility-and-regulations.html

- for pre-school education,
- for primary education,
- for secondary education,
- for professional education.

Teaching practice in initial teacher education will take place at specialized training schools (övningsskolor, 2014). Stricter requirements for admission to teacher training, including aptitude tests, have been set up, and a teacher registration system has been introduced (2013).

Through the reform of career development (2013), the government has created competence advancement stages that provide for wage increases for qualified teachers. Through this reform, teachers can receive a salary increase of approximately 566 EUR to 1,132 EUR.

The Boost for Teachers program (Lärarlyftet) (2007-11) offered 30,000 teachers the opportunity to pursue advanced continuing professional education in higher education institutions and about 24,000 took part in this initiative.

On a general level, the current education and training policies in Sweden are:

- Reducing youth unemployment. Provides for a reform of upper secondary education, which involves raising the rate of graduate students from professional education and better prepared for industry.
- Supporting the training of employees at the workplace.
- Increasing the skills of teachers and trainers.
- Improving post-secondary vocational education.
- Developing a clearer validation system that contributes to social inclusion and recognition of personal skills.
- Supporting people affected by the economic crisis by increasing and diversifying the number of professional training courses.

Occupational standards

Occupational standards and professional qualifications are often administered by the Swedish social partners. In fact, most occupational posts are regulated not by the government but by special committees (e.g. business committees).

The International Standard Classification of Education (ISCED), developed by UNESCO, is at the basis of occupational standards. The detailed scopes of the ISCED search tool are mainly intended for use at higher education level, as well as for professional education and training programs, and for the qualifications of secondary and post-secondary non-tertiary education.

During 2005-2010, the national legislation provided for mandatory pedagogical training of the didactic staff in higher education. Starting in 2011, when the Higher Education Act was amended, the **Recommendations of the Swedish Higher Education Association** (Recommendations on general learning outcomes for teaching qualifications required for

employment as a university didactic staff)[2], revised in 2016, are the only national qualifications framework for teaching in higher education institutions and are recognized and applied by all universities in Sweden. The Association of Swedish Higher Education (Sveriges universitets- och högskoleförbund (SUHF), the *Swedish Rectors' Council*) is a volunteer institutional cooperation organization that brings together 37 universities and university colleges.

Based on SUHF recommendations, most Swedish higher education institutions require at least 5 weeks of mandatory formal education for didactic staff in higher education, and others, according to SUHF recommendations, 10 weeks (15 ECTS credits).

As far as the criteria for hiring academic staff in Swedish higher education institutions are concerned, they are partly regulated by legislation.

In accordance with the Higher Education Ordinance, the qualification for the position of professor refers to the experience in both research and teaching. The qualification for employment in senior lecturer position refers to teaching experience and possession of a doctorate or the availability of appropriate research skills.

The evaluation criterion for the appointment as a professor or senior lecturer is the degree of competence required for employment. Examination of pedagogical skills should be given the same attention as examination of scientific competencies. On the other hand, each university decides which evaluation criteria to apply to the employment of a professor / senior lecturer.

Demonstration in practice of teaching experience in higher education is determined by each university.

Responsible structures

In Sweden, the general responsibility for higher education and research lies with the Riksdag (Swedish Parliament) and the Government through the Ministry of Education and Research. These authorities decide on the regulations that apply in the area of higher education.[3]

The Swedish Government is responsible for:

- Granting university status.
- Approval of the legislation governing the higher education sector.
- Funding higher education courses and programs.
- Funding a high percentage of research.
- Appointment of rectors of higher education institutions.
- Regulating the agencies involved in the higher education sector.

Public higher education institutions in Sweden report directly to the Government and the Ministry of Education and Research. The only exception is the Sveriges Lantbruksuniversitet (Swedish University of Agricultural Sciences), which is in charge of the Ministry of Rural Affairs.

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[2] REK 2016-1_eng General learning outcomes for the teaching qualifications required for employment as academic teacher and on mutual recognition, http://www.suhf.se/publicerat/rekommendationer-standpunktspapper

[3] http://english.uka.se/facts-about-higher-education/overall-responsibilty-and-regulations.html

Starting January 1, 2013, the Swedish Higher Education Authority (Universitetskanslers-ämbetet) and the Swedish Higher Education Council (Universitets- och högskolerådet) are the central governmental agencies responsible for higher education issues.

The Swedish higher education authority has mainly a review function and is responsible for both the evaluation of quality in higher education and the award of diplomas. It is also responsible for the supervision of universities and university colleges and for keeping official statistics. The Swedish Higher Education Council is responsible, inter alia, for admission issues, information on university studies, foreign qualifications assessments and international cooperation.

Professional higher education in Sweden is adapted to the current labor market, and training courses are offered in specific areas where there is an explicit need for competence. The National Agency for Higher Professional Training analyzes the requirements of the labor market and decides which educational programs will be provided.

However, universities and university colleges remain autonomous state entities and make their own decisions on the governance, admission, course contents and research directions, quality assurance procedures and the management of the funds allocated within the institutions.

3.3 UNIVERSITY MANAGEMENT LEVEL

University strategy

The Royal Institute of Technology / Kungliga tekniska högskolan (KTH) in Stockholm, founded in 1827, is the largest and most prestigious technical university in Sweden. KTH's global reputation attracts students from all over the world.

In 2011, the 2027 University Vision was developed, a document that involved the participation of several internal and external actors. The document (http://www.kth.se/vision2027) contains a number of target objectives for the next 15 years. Based on this document, the KTH Development Plan for the period 2013-2017 was developed, which aims to achieve the set objectives.

The KTH Development Plan implies that all employees of KTH should have the opportunity to develop and advance in the area of professional interest, giving the academic staff the opportunity to benefit from a mobility period for teaching at other universities, working in the industry or within governmental agencies. It also provides for the possibility of granting a period exclusively for research. The Development Plan includes the pedagogical training program for academic staff, the development of teaching skills, which must become an integral part of the career development of the university staff.

KTH proposes to develop the academic career of university staff, seeks to recruit people to academic posts, and to enable them to develop their competences in research and education for a long time. Academic career at KTH usually starts from the position of assistant professor. Assistant professors can be promoted up to the level of a professor, and the qualifications and criteria that are considered when appointing professors are specified in the Human Resources Policy at KTH (V-2015-0753) and in the KTH Development Plan 2013-2016 (V-2016-0312).

The following categories of didactic staff are at KTH: professors (including invited professors and deputy professors), senior lecturers, and assistant lecturers.

KTH offers a series of unique courses for both freemovers and continuing training courses, as well as complementary courses for different areas.

Structures responsible for pedagogical training of academic staff

In the Royal Institute of Technology, KTH, operate the School of Education and Communication in Engineering, the Learning Department, and the Unit of Higher Education Research and Development (HERD), responsible for the development and implementation of courses for the professional training of didactic staff in higher education.

In turn, the School of Information Technology and Communications proposes specialized courses for students, continuous teacher training courses and complementary courses for different fields.

Ways of professional training of teachers

KTH's Development Plan provides that all academic staff who teach at KTH must have a good qualification in teaching and learning in higher education, this includes mandatory participation for all teachers in continuous training courses organized by KTH.

Continuous training programs are tailored for KTH's academic staff and include course offers of 15 credits required to take up an academic post or promote to another position within university education. The duration of the courses offered at KTH is 10 weeks.

Courses offered by the Center for Development and Research in Higher Education and the School of Information Technology are placed alongside the subject file on the university's website. Anyone can enroll in online courses.

The Center for Development and Research in Higher Education offers three categories of continuous training courses:

1. Basic courses in teaching and learning in higher education.
2. Additional courses in teaching and learning in higher education.
3. Training course for supervisors in research.

Course information (duration, start date, number of credits, teacher, subject sheet) can be accessed from the address https://www.kth.se/en/ece/avdelningen-for-larande/hogskolepedagogik/utbildning.

The School of Information Technology offers evening courses, distance courses, IT distance training courses, summer courses and continuous teacher training courses. Course information (duration, start date, number of credits, teacher, subject sheet) can be accessed from the address https://www.kth.se/utbildning/kurser/fovkurser?l=en .

In the context of the institution's implementation of the teaching-learning CDIO (conceive, design, implement, operate) method, one of the core courses of the academic staff training system at KTH is „Teaching and Learning in Higher Education", which includes the following basic elements:

- The teaching process and the teaching environment,
- Students

- The role of the teacher,
- Designing courses to facilitate meaningful learning,
- Professional and pedagogical development.

3.4 INTEGRATION OF STUDENTS WITH DISABILITIES

At university level there is no special structure dealing with people with disabilities.

In the University Policy, the Equality Principles (Equality ombudsman), which provide for the equality of people with disabilities and the prevention of negative attitudes towards them, are developed.[4]

”A disability is a permanent physical, mental or intellectual impairment of a person’s functional capacity. Such impairments may be a consequence of injury or illness that existed at birth, arose since or may be expected to arise. Disabilities may be evident to a lesser degree in certain situations and forms, such as allergies, dyslexia, deafness and impaired vision etc, while others may be expected to become an obstacle in the future, e.g. HIV, cancer and multiple sclerosis. The degree of disability is irrelevant in the context of discrimination. You are protected by the law even if your disability is of a minor nature.”

The university has created favorable conditions for people with disabilities - there is a lift in each block that allows to move, sanitary groups, specially arranged for these students, the entrances to the buildings. At the same time, the development of the distance learning system also offers additional educational opportunities.

3.5 PHYSICAL ENVIRONMENT

KTH has created all the conditions for comfortable learning and performing studies based on CDIO principles - all classes are equipped with modern technical facilities, all campuses have WI-FI, libraries, group study rooms, large lecture halls, small group study rooms - up to 5 people, the opportunity to organize distance video conferences and lectures, there are several libraries:

- Main library (working hours – Monday-Thursday 8.00-21.00, Friday – 08.00-8.00, Saturday – 10,00-16,00),
- Electrum library (Monday-Thursday 09.00-16,30, Friday 09.00-15.00),
- Telge library (Monday-Thursday 10.00-15.00),
- Fleming library (Monday, Wednesday, Friday 08.00-09.00, 12.00-14.00),
- Haninge library.

All campuses are built in the spirit of creativity and innovation, which provides for the achievement of CDIO methodology. The on-line library has enough sources to provide the needs of students and teachers. Extensive use of the MOOC platform, IT support for students.

[4] https://intra.kth.se/en/anstallning/diskriminering-och-k/diskriminering-och-diskrimineringsgrunderna-1.471630

In the document **KTH's sustainable development objectives** for 2016-2020, in the section „campuses", the following are stipulated:[5]

- KTH´s campuses shall be sustainably developed and managed. Ecological and social values shall be preserved and strengthened.
- The highest environmental performance must be sought when constructing or renovating facilities and buildings.
- KTH´s energy consumption shall be reduced by 10 % (electricity, district heating and cooling).
- The use of sustainable means of travel and transport to, from and between campuses.
- KTH shall increase the knowledge of and have a safe and effective management of hazardous waste.
- KTH's campuses shall be used in education, research and collaboration for sustainable development.

[5] https://www.kth.se/polopoly_fs/1.670546!/KTH%27s%20sustainable%20development%20objectives%202016-2020.pdf

4. PEDAGOGICAL TRAINING PROGRAM AT THE UNIVERSITY OF SIEGEN, GERMANY

4.1 INTRODUCTION

The University of Siegen is a public research university located in the city of Siegen, North Rhine-Westphalia. Founded in 1972 as a small regional technical university, the University of Siegen has expanded its domains and specializations, becoming now an interdisciplinary university with 4 schools/faculties:

- Faculty I: School of Arts and Humanities
- Faculty II: School of Education, Architecture and the Arts
- Faculty III: School of Economic Disciplines
- Faculty IV: School of Science and Technology

The vision of the University of Siegen is to establish a link between regional responsibility for education, training and general social issues with internationally accepted standards of teaching, study, research and knowledge transfer.

The overall objective of the University of Siegen is to contribute to the creation of a human future and to take responsibility for people and society through:

- the targeted promotion of students and young academics
- the independence and freedom of scientific research and teaching
- the promotion of the idea of the European Higher Education Area, internationality and mobility
- the interdisciplinary research and teaching
- the professionalisation of teacher training
- the establishment of a quality culture
- the commitment to diversity and equal opportunities
- as well as the principle of participation and co-responsibility.

4.2 SYSTEM LEVEL

Legal framework

Higher education in the Federal Republic of Germany is governed by the German Framework Law on Higher Education (Hochschulrahmengesetz - HRG)[6]. However, thanks to the federal system of Germany, responsibility for education, including for higher education, lies entirely with the federal states (Länder). States are responsible for the basic funding and organization of higher education institutions. Each of the 16 states has its own laws governing Higher Education

[6] Hochschulrahmengesetz. https://www.gesetze-im-internet.de/hrg/

(Hochschulgesetze). Therefore, the actual structure and organization of different higher education systems may differ from state to state.

Higher Education Laws of the states describe the general objectives of higher education institutions as well as the general principles underpinning the higher education system, learning, teaching and research processes, admission, membership and participation, as well as the staffing of the higher education institutions. As a rule, regulations apply to all higher education institutions, including private institutions.

Training in professional academies (Berufsakademien), a specific type of higher education institution, is governed by the Berufsakademie laws in force in the Länder and the Training (Ausbildungsordnungen) and Examination (Prüfungsordnungen) Regulations of the relevant Ministry of Science or the professional academies themselves.

State policies in the field

At national level, the legal framework only exists for the training of pre-university teachers. Teacher training for all types of schools is governed by the laws of each state. The responsibility for teacher training rests with the ministries of education and culture of the states, which coordinate the training of teachers through regulations on studies and examinations. Examinations (first and second state examinations / Staatsprüfung) are carried out by the State Examining Authorities or the Governing Boards of the States.

Teacher training is divided into two stages: the actual higher education program and practical pedagogical training. Teacher training programs are offered at universities and pedagogical colleges (Pädagogische Hochschulen). Practical pedagogical training, in the form of a preparatory service, takes place in training schools.

Admission to the initial training of didactic staff is based on the Hochschulreife admission qualification, which is usually obtained after 13 years of school and the Abitur final exam.

As far as the pedagogical training of university staff is concerned, regulations at state / federal level do not exist.

It is worth mentioning that there are clear and concrete policies in Germany in the field of higher education. In response to growing demand for university study programs, the Federal Government and state governments have been providing additional funding to expand the range of study options since 2007 under the Pact for Higher Education (Hochschulpakt 2020).

Based on a forecast, developed in 2014 by the Standing Conference of the Ministers of Education and Cultural Affairs (KMK)[7], on the number of students to be enrolled in the first year of study, the federal government and the Länder until 2023 decided to fund together up to 760,033 additional study places. For this purpose, only the Federal Government will provide 9.9 billion euros. Länder are willing to provide comparable financial contributions. Throughout the duration of the

[7] The Standing Conference of the Ministers of Education and Cultural Affairs (KMK) https://www.kmk.org/kmk/information-in-english.html

measure, from 2007 to 2023, the federal government will provide a total of € 20.2 billion and the Länder € 18.3 billion.

Occupational standards

According to the Higher Education Law in Germany, in HEIs can activate university professors (professor and junior professor), researchers and didactic staff for special activities. Doctoral students are usually employed as inferior scientists (scientific assistant / Wissenschaftlicher Mitarbeiter).

Within universities, core tasks related to research, teaching and continuing education are carried out by university professors. Where it is necessary to train mainly practical skills and to provide knowledge that does not require qualification for university scientific staff, these activities may be attributed to the didactic staff for special tasks.

Requirements to occupy a post in higher education are stipulated in the Higher Education Law.

To claim to the junior professor or professor position, the candidate must hold:

1. a university degree,
2. teaching skills,
3. special skill for academic activity, which is usually demonstrated by the outstanding quality of the doctoral thesis (PhD) defended.

For the position of professor, employment requirements may also include:

- additional academic achievements;
- outstanding achievements over several years of professional practice in the application or development of knowledge and scientific methods.

The Framework Law on Higher Education stipulates that the pedagogical skills of candidates must be evaluated in the process of appointment as a professor. Since each state is entitled to interpret the Framework Law, implementation of this provision in states is different.

In order to become a junior professor, it is not necessary to write the thesis. Instead, holders of this position have to carry out a wider range of tasks, including research, teaching, administration and management. That position may be held for a maximum of six years. In most states, the laws of higher education governing the requirements for appointment to a professor position recognize the holding of a junior professor position as an academic achievement equal to defending of the thesis. Admission to the position of a professor is possible in two ways: by defending the habilitation thesis or positive evaluation of the activity as a junior professor.

Responsible structures

The Federal Ministry of Education and Research grants funding to research projects and institutions, regulates access to higher education and academic qualifications, establishes general education policy. It also provides loans for German students. However, much of the German education policy is decided at federal state level (Land), severely limiting the Ministry's influence on educational issues.

The Standing Conference of the Ministers of Education and Cultural Affairs (*Kultusministerkonferenz*, KMK) plays a significant role as a tool for coordinating and developing

education in the country. This is a consortium of ministers responsible for education, schools, higher education and research and cultural institutes, and as such formulates the common interests and objectives of all 16 federal states.

These regulations and laws are consistent in many areas, but there may still be considerable differences in key areas.

4.3 UNIVERSITY MANAGEMENT LEVEL

University strategy

From the two components of the university's activity - teaching and research, the German universities' administration focuses on research. On the one hand, this is determined by the tradition of the evolution of German universities (according to Humboldt's conception), on the other hand, it is only the result of the involvement in the research process that makes it possible to develop a university environment, to develop study programs, to ensure a good professional training through higher education. However, in recent years, at the recruitment of young academic staff, most German universities have begun to require the confirmation of teaching skills by participating in the trainings of didactic skills training.

Structures responsible for pedagogical training of academic staff

In Germany, there is the *German Society for Higher Education* (DGHD)[8], structure in charge at the country level of didactic skills training for academics. The DGHD society is a scientific association of academics, as well as those interested in university teaching and higher education reform. The society provides a forum for research and development of higher education didactics, promotes debates in the field of didactics in higher education and expands its position on the important aspects of the teaching-learning process in universities. Structurally, DGHD is a network of similar associations at state level (land) with the same goals and activities. Thus, in the state of Nordrhein-Westfalen, where the University of Siegen is located, since 1999 the network ***hdw nrw, continuous education in university teaching***, which currently includes 20 universities in this state, operates. Universities are represented on networks by Teacher Competence Centers for university staff. The mentioned structures, at that level, organize workshops / seminars / trainings that cover both the general approaches of didactics and the specific training area. Each competence center is accredited, and experts in academic didactics are evaluated and in some cases quoted.

Ways of professional training of teachers

The Center for Teacher Training and Pedagogical Research (Zentrum für Lehrerbildung und Bildungsforschung (ZLB))[9], which is a central scientific entity of the institution responsible for the training of academic staff at the University of Siegen, is active at the University of Siegen.

ZLB has two areas of activity - teacher training and research in the field of education. The main objective of the center in the field of teacher training is the coordination of teaching,

[8] Die Deutsche Gesellschaft für Hochschuldidaktik (dghd) http://www.dghd.de/die-dghd/

[9] Zentrum für Lehrerbildung und Bildungsforschung https://www.uni-siegen.de/zlb/start/

information and counseling in the aspects of study, evaluation and coordination of the practical elements. The Central Examination Office for Teachers is responsible for coordinating and organizing the exams in the proposed training programs. The programs are done through 5 modules, which academic staff choose depending on the necessity. Both full-time staff and the young employees of the university benefit from these trainings. Modules are provided either by employees of the center or by external experts who the university pays for. At the end of the training, the center provides academic staff with certificates for attending the courses.

4.4 INTEGRATION OF PEOPLE WITH DISABILITIES

According to the survey (Social Survey) conducted by the Students Union of Germany, about 19% of university students in Germany have a disability or chronic illness[10]. The high number of people with health problems has led the management of the University of Siegen to make substantial efforts to adapt the physical environment and adapt to their needs, and to create appropriate conditions for full and equal participation in the educational process.

In order to support this category of students, the Office for Disabled People or Chronic Diseases was created at the University of Siegen within the Student Counseling Center, and the detailed information on its activity and the services offered is presented on the University's website[11].

The Office offers support to both students during their studies and in the examination process, as well as the candidates for study. Thus, depending on the nature and extent of the health problems, the employees of the Office offer individual support to students with:

- mobility disabilities;
- visual impairment;
- hearing impairment;
- chronic diseases;
- dyslexia / discalculia.

Students or prospective students with health or disability problems provide justification papers (medical certificates) to the Commissioner for Disabled People at the Student Counseling Center. Subsequently, based on the student's special needs, the individual support and assistance measures that can be offered are determined:

- separate learning space;
- rooms which are specially equipped for wheelchairs;
- ensuring access to study rooms;
- reader with DIN A3 scanner, Braille speech and printer in the University Library for the blind and visually impaired;

[10] The Economic and Social Conditions of Student Life in the Federal Republic of Germany in 2009 19th Social Survey of the Deutsches Studentenwerk
http://www.studentenwerke.de/sites/default/files/05_Soz19_Kurzfassung_englisch_barrierefrei.pdf

[11] Oficiul pentru personale cu dizabilităţi sau cu boli cronice, site-ul Universităţii Seigen https://www.uni-siegen.de/zsb/hfb/?lang=de

- free WiFi on campus;
- parking space for disabled people on campus,
- books, scripts, journals or texts from courses and seminars for students with hearing or visual impairments;
- live assistance and intermediation, including attendants, to facilitate access to the halls, library, cafeteria, etc.

Health problems are not always visible, so the commissioner at the Office for People with Disabilities informs teachers of the limitations and difficulties associated with people with disabilities or illnesses and discusses ways to support them, while respecting privacy of the students.

Also, at the University of Siegen, students with health and disability problems have the right to „compensation", based on existing problems. For example, extending the time for examination, changing the form of examination from writing to oral or vice versa, offering breaks, breaks during lessons or exams, etc. In order to benefit from this „compensation", students submit a request to the examining office and attach supporting documents (the corresponding medical report and a notice of the person in charge of the disability). „Compensations" do not involve the provision of facilities for exams, essays or oral examinations for students with disabilities or chronic diseases.

4.5 PHYSICAL ENVIRONMENT

An advantage of the University of Siegen is providing a favorable physical environment. The university campus has an area of 92,000 m², providing free WiFi connection throughout the territory.

The modern facilities of the university allow the organization of the learning process in small groups.

The university modernizes computer laboratories / halls constantly at regular intervals.

The library of the University of Siegen is a network of libraries that include the Central Library and 4 specialized libraries within the faculties. The central library operates 7 days a week, Monday to Friday, with an extended work schedule from 8.00 to 24.00.

The university library offers students and teachers access to over 1.2 million specialist sources. 6,000 journals are available with the latest editions, of which about 4000 in electronic form. Likewise, students have access to electronic databases: EBSCO, ScienceDirect, OPUS Siegen (OPUS - on-line publishing server), etc.

The library provides free of charge, based on the reader's card, home loan and paid copy / scan services, etc.

5. PEDAGOGICAL TRAINING PROGRAM AT THE UNIVERSITY OF GLOCHESTERSHIRE AND PLYMOUTH UNIVERSITY, GREAT BRITAIN

5.1 INTRODUCTION

The University of Gloucestershire is a public university based in Gloucestershire, England. It is located on three campuses, two in Cheltenham and one in Gloucester, namely Francis Close Hall, The Park and Oxstalls.

The university is the recent successor of a large number of continuous and higher education institutions that merged, reformed and changed their name. Its history lasts for almost two centuries. It comes from the merger of two distinct educational services structures in Gloucestershire, one supported by the local government and the other founded by the Anglican Church. The earliest civilian period of the university began in 1834 with the Cheltenham Institute of Mechanics and the Cheltenham Church Training School in Cheltenham, founded in 1847. The College of Higher Education in Cheltenham and Gloucester was created in 1990 from the two distinct institutions. In October 2001, the college was awarded university status.

Currently, the University of Gloucestershire offers nearly 100 Bachelor's degree programs and around 57 Master's degree programs in two faculties: the Faculty of Applied Sciences and Business and the Faculty of Arts and Technology. In addition to offering a wide range of bachelor, master and doctoral programs, professional and short courses in the three campuses, the university has an excellent student support framework.

Support areas, located in each campus, provide assistance with regard to accommodation, charity, study funding, and healthcare. University libraries are located in each campus and contain a wide range of academic resources in both print and electronic editions. Students also have open access to IT facilities, integrated learning support, and comfortable study spaces.

5.2 SYSTEM LEVEL

Legal framework

The higher education system in the United Kingdom of Great Britain and Northern Ireland is primarily governed by the Further and Higher Education Act 1992[12], which establishes relations between higher education institutions with the Privy Council, the Higher Education Financing Council and the Secretary of the State. In addition, there are a number of very complex normative acts, in principle composed of papal decrees, statutes, royal charters and other acts. Regardless of the type of normative act that contains the regulating principles of the higher education system, the universities are autonomous and independent, non-profit institutions, and with a collective

[12] Further and Higher Education Act 1992 http://www.educationengland.org.uk/documents/acts/1992-further-higher-education-act.pdf

management body that together with the rector (the head of the higher education institution) is responsible for the activity and strategy of the institution, the correct and consistent use of financial resources. State interference in the field of higher education is very low, enjoying full autonomy in terms of human resources, including with reference to employment and professional training criteria.

State policies in the field

In the United Kingdom of Great Britain and Northern Ireland, at the state level, there is the UK Professional Standards Framework (UKPSF) for teaching and supporting learning in higher education. [13]. This framework was developed by the Academy of Higher Education together with the Professional Associations. The purpose of this framework of standards is:

- Supports the initial and continuing professional development of staff engaged in teaching and supporting learning;
- Fosters dynamic approaches to teaching and learning through creativity, innovation and continuous development in diverse academic and/or professional settings;
- Demonstrates to students and other stakeholders the professionalism that staff and institutions bring to teaching and support for student learning;
- Acknowledges the variety and quality of teaching, learning and assessment practices that support and underpin student learning;
- Facilitates individuals and institutions in gaining formal recognition for qualityenhanced approaches to teaching and supporting learning, often as part of wider responsibilities that may include research and/or management activities.

Occupational standards

In order to make a career in higher education institutions in the UK, in addition to the scientific title, the academic staff need to prove excellence in teaching. In principle, higher education institutions are free to set their own criteria for employment on an academic post. The only interference of the state in this area is the establishment of the JOB FAMILIES system within the higher education institutions, following a framework agreement signed with the National Confederation of Trade Unions. In order to equalize the multitude of positions in the higher education system and to promote excellence in teaching, an analysis of job positions in the sector based on 14 criteria, called the Higher Education Role Analysis (HERA), was carried out.

HERA is a job evaluation system that was designed and developed in collaboration with higher education institutions (more than 100 have set up a consortium, together with representatives of the National Confederation of Trade Unions) specifically for use by higher educational institutions. HERA has been recognized by the Equal Opportunities Commission as a non-discriminatory job evaluation system. Most UK higher education institutions have adopted HERA as their job evaluation system.

This system of job evaluation can ensure:

[13] The UK Professional Standards Framework for teaching and supporting learning in higher education, 2011 https://www.heacademy.ac.uk/system/files/downloads/uk_professional_standards_framework.pdf

- A fair, equitable and transparent process to compare the relative size of the job.
- Consistency and parity within the university.
- Applying the principle of equal pay for work of equal value.
- Promoting equity and equality in general.

The concrete description of the job attributions of a specific post and the employment criteria are left to the discretion of the institutions. Each institution has developed its own job descriptions, setting out the criteria for joining a particular position in a certain group of posts (JOB FAMILIES).

Responsible structures

The Ministry of Higher Education and Research is responsible for developing education policies in general and is not involved in the governance, management and activities of universities. Excellence in teaching-learning is one of the priorities of British higher education policies. At national level, this goal is supported and promoted by the Higher Education Academy (HEA)[14], an independent, non-profit organization that collaborates with governments, ministries, universities and individual academics in the UK and around the world.

HEA promotes higher education for public benefit by:

- providing strategic advice and coordination to the higher education sector, government, funding bodies, and other policy and practice structures that will impact on students' training and experience and enhance them substantially;
- supporting and promoting the development of university curriculum and pedagogical skills throughout the spectrum of higher education activity; and
- facilitating professional development and increasing the professionalism of all staff in higher education.

In this respect, the Higher Education Academy has developed the UK Professional Standards Framework (UKPSF) for teaching and supporting learning in higher education, which, while not having a mandatory applicability, nevertheless provides support for developing the necessary criteria to develop a career in higher education.

5.3 UNIVERSITY MANAGEMENT LEVEL

University strategy

Placement of the student at the heart of the learning process creates new rigors for academic staff. In the context of the above, academic staff can not be expected to perform their activities effectively without benefiting from the support and training of teachers in the field of pedagogy. At national level, this support is provided by HEA through a range of trainings and programs designed to train and develop teaching and learning skills. The University of Gloucestershire also facilitates meeting these needs by implementing various pedagogical training and pedagogical skills development programs for academic staff.

[14] Higher Education Academy. https://www.heacademy.ac.uk

Structures responsible for pedagogical training of academic staff

Within the university there is the specialized subdivision Teacher Training Center, which is concerned with pedagogical training through the following activities:

- Teaching courses and organizing informative seminars for teachers (not only for young specialists but also for more experienced teachers);
- Assessment and attestation of pedagogical competences in employment and promotion;
- Motivating the academic staff to participate in various mobilities, informative seminars, etc.

The purpose of training academic staff as teachers is to strengthen students' learning abilities. Therefore, pedagogical training facilitates student-centered approach of the teaching principles.

Ways of professional training of teachers

Within the specialized subdivision of the University of Gloucestershire, responsible for academic staff training, there was developed the so-called course Postgraduate Certificate in Academic Practice (PGCAP)[15], which provides certification for teaching skills within the academic career. This course offers the opportunity for each academic staff to reflect on the mission he / she has in the institution. This course - PGCAP has the following objectives:

- Develop the understanding of key aspects of academic practice in higher education, including the principles and processes of learning and teaching, and the various external and institutional factors impacting upon academic practice;
- Provide opportunities to undertake research and scholarship in academic practice, with a view to developing research-informed academic practice;
- Develop the ability to undertake curriculum design and development, teaching, learning support, assessment and evaluation in higher education in order to enhance the student learning experience;
- Enable to reflect critically upon academic practice and to plan own continuing professional development.

The purpose of this course is to make it possible for academic staff to comply with the rigors of the Professional Standards Framework for teaching and to support learning in higher education. The concept of the PGCAP course is based on the philosophy of social constructivism: knowledge is a social process through which individual experience and knowledge is rallied to a system of narratives and socio-cultural understandings. The guideline of the course is the concept of learning focused on learning.

The objectives of the PGCAP course are rallied to the university strategy, with reference to the following aspects:

- Independent and collaborative learning;

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[15] Postgraduate Certificate in Academic Practice (PGCAP)
http://www.glos.ac.uk/courses/postgraduate/acp/pages/academic-practice-postgraduate-certificate.aspx

- Learning for life and employment;
- Learning for the future;
- Teaching-learning based on experience and research.

5.4 INTEGRATION OF PEOPLE WITH DISABILITIES

Young people with disabilities are doing their studies with the other students of the institution. The University of Gloucesertshire is equipped with special ramps for students traveling with wheelchairs on the campus and within the blocks of study. In the library, materials can be provided, printed with the prints of Brailes and / or lectures recorded on electronic carriers.

In the University there is a support service for students with disabilities, medical conditions, dyslexia and learning difficulties, as well as a learning support service that provides individual counseling and guarantees confidentiality. Financial facilities are provided by applying to the Scholarship for Disabled Students.

5.5 PHYSICAL ENVIRONMENT

Spaces for academic, technical and administrative staff are well equipped with work equipment. Study and recreation areas, as well as the University canteen are tastefully decorated.

The technical endowment of the institution facilitates the active learning process, Moodle platforms, social networks and Skype are widely used, and teachers are encouraged to make more use of information technologies in their teaching-learning process.

The University offers group study rooms at the students' choice, free WiFi connection within the campus, access to the University Library until 10 pm, IT support for students.

5.6 THE MANAGEMENT LEVEL OF THE PLYMOUTH UNIVERSITY

University strategy

In the Higher Education sector, increasingly competitive, teaching capacities and qualifications become as important as the profiles and results of scientific research. For Plymouth University, the quality and strength of the teaching and learning process are of major importance. The academic staff of the university is encouraged to develop professionalism and achieve nationally recognized qualifications and / or an appropriate recognition of their level of experience and expertise.

The university tends to ensure that all staff engaged in learning and teaching activities have the necessary professional qualifications. As a result, the university staff corresponds to the expected professional standards, contributing fully to the university's entrepreneurial mission. The Plymouth University has a Teaching Qualifications and Recognition Policy[16].

[16] Teaching Qualifications andRecognition Policy

Structures responsible for the pedagogical training of the academic staff

Within the Plymouth University, a specialized subdivision - Teaching and Learning Support - TLS[17] - operates which provides support to academic staff and provides the necessary resources to develop teaching capacities. This support is achieved by:

- Counseling and guidance to support the development of best practices in teaching, learning and evaluation;
- Teaching and learning manual (information on teaching and learning from A to Z);
- A comprehensive set of resources;
- Accredited programmes (Postgraduate Certificate in Academic Practice (PGCAP), Introduction to Teaching and Learning (ITL) and Teaching Development Framework (TDF));
- Grants for pedagogical research (PedRIO);
- Conferences, events, workshops, and personalized sessions;
- Knowledge sharing, networking and forums.

Ways of professional training of teachers

According to the Teaching Qualifications and Competence Recognition Policy of the Plymouth University accredited programmes are offered such as Introduction to Teaching and Learning (ITL), Postgraduate Certificate in Academic Practice (PGCAP) and Teaching Development Framework (TDF). All these programmes are accredited by the Higher Education Academy (HEA) and correlated with the Professional Standards Framework (UKPSF), making them transferable to any other institution in the United Kingdom.

Introduction to Teaching and Learning (ITL) module aims to critically engage participants in the Professional Standards Framework in the United Kingdom (UKPSF) and a series of teaching and learning approaches as a result of pedagogical fundamental research. Within this module, participants analyze critically their own pedagogical experience in relation to the literature int the field and develop an effective „toolkit" to help them with teaching activities.

The Teaching Development Framework (TDF) of the Plymouth University has been accredited by the Higher Education Academy (HEA) in 2012 and is in line with the United Kingdom Professional Standards Framework (UKPSF).

It is designed to help experienced staff develop their practice on teaching and support for students. TDF is part of continuous professional development and builds a case to gain professional recognition with HEA. Staff can gain membership of the HEA (Fellowship of HEA) in one of four categories: Associate Fellow, Fellow, Senior Fellow or Principal Fellow.

[17] TLS

5.7 INTEGRATION OF STUDENTS WITH DISABILITIES

Within the university, there is a Service for People with Disabilities that supports students with various disabilities, providing the following services:

- Individual meetings with the consultant for the disabled.
- Guide to discovering a disability.
- Recommendations on diagnosis if the student thinks he / she may have dyslexia or other specific learning difficulty (e.g. DCD (dyspraxia), ADHD (attention deficit hyperactivity disorder), autism).
- Student Support Document (SSD) that reflects your learning requirements.
- Changing the assessment provision (e.g. extra time for exams).
- Help in obtaining financial support of Disabled Students Allowance.
- Accommodation with specific requirements for students with disabilities.
- Support in creating an inclusive learning environment.
- Collaboration with tutors and other employees of the university, and external services as appropriate.
- Personal development workshops.
- Support groups for ADHD and autism.
- Information resources.
- Equipment rental.

5.8 PHYSICAL ENVIRONMENT

Plymouth University has a modern campus where it invested over 150 million pounds in the last seven years. The university campus includes well-equipped study blocks with access for disabled students and IT facilities, a Marine Building with the best Advanced Wave Tanks in the country, a spectacular building of the faculty of Arts and a theater center as well as a maritime training station and a diving center.

The Charles Seale-Hayne University Library is open 24/7 and provides access to approximately 350,000 books and multimedia articles, 14,000 subscriptions to magazines and a variety of studio fields, providing resources for research (books, magazines, electronic resources) and support equipment (computers, printers, photocopiers, equipment rental).

The university also supervises a regional business support facility worth £100m, including incubation, innovation and science park infrastructure.

6. PEDAGOGICAL TRAINING PROGRAM AT AALBORG UNIVERSITY, DENMARK

6.1 INTRODUCTION

Aalborg University in the North Jutland region of Denmark was founded in 1974 and is an innovative educational experiment with problem-based teaching concepts. The university started with about 900 students. Twenty years later, in 1995, Aalborg University already has about 10,000 students, and by 2015 the number of enrolled students is 20,000.

Today, Aalborg University, based on the number of enrolled students, is the fifth largest university in Denmark.

In recent years, Aalborg University has grown in international university rankings. From around 17,000 universities in the world, Aalborg University is ranked in the top 340 and is therefore in the top 2% of the world's best universities.

Aalborg University has four faculties: Humanities; Social Sciences; Engineering and Science; Medicine. Academic environment at faculties is organized in departments, schools and centers. As a result of interdisciplinarity, many of them are part of two or more faculties. Thus AAU has 19 departments and 11 schools.

6.2 SYSTEM LEVEL

Legal framework

Denmark is one of the countries where most people are involved in the continuous education process: adult education and lifelong learning, job skills development and leisure time education.

Education in Denmark is compulsory (Danish: undervisningspligt) for children under the age of 15 or 16, about 82% of young people take up an additional education, and education is state-funded and is usually free of charge and open to all, and continuous training is paid.

The Ministry of Education and the Ministry of Higher Education and Research in Denmark is largely responsible for education.

The Danish educational system is governed by national law - Laws on Primary Education[18], Secundary Education[19], Vocational Education[20], The Danish (Consolidated) Act on Universities[21],

[18] Folkeskolen, Folkeskolens mål, love og regler https://www.uvm.dk/folkeskolen/folkeskolens-maal-love-og-regler

[19] Gymnasiale uddannelser, Love og regler https://www.uvm.dk/gymnasiale-uddannelser/love-og-regler/love-og-bekendtgoerelser

[20] Erhvervsuddannelser, Lovgivning og reform https://www.uvm.dk/erhvervsuddannelser/lovgivning-og-reform/love-og-bekendtgorelser

[21] The Danish (Consolidated) Act on Universities (University Act), published on 28 June, 2011 http://ufm.dk/en/legislation/prevailing-laws-and-regulations/education/files/the-danish-university-act.pdf

etc. - which cover the objectives and the framework of education, funding and, in some cases, programs, exams and teaching staff.

The Ministry of Education is responsible for primary and lower secondary education, upper secondary education, including vocational education programs, and various vocational education and training programs for adults, and generally determines educational plans and qualifications. In the field of professional education and training, sectoral committees play an important role in defining and developing professional qualifications and in establishing training conditions.

The Danish Ministry of Higher Education and Research is the governmental body that coordinates all study programs and research projects in Denmark's higher education.

State policies in the field

The Danish National Strategy for Lifelong Learning (LLL) is largely based on the globalization strategy published by the former Danish government in 2006. Education, lifelong learning, research and innovation are key elements of the objective to develop Denmark as a knowledge-based society within the globalization strategy.

In April 2013, the government published a strategy on economic growth: Agreement on the Development Plan. It is a political agreement that sets the overall strategy, objectives and financial framework. The strategy consists of five sub-sections on various aspects aimed at increasing the Danish economy. The subject of adult education is addressed as „More and better continuing education for adults". A billion DKK for the 2014-2020 period has been allocated for adult education and training to increase the level of competence of the workforce and support job creation in Denmark. This included 355 million DKK for the creation of new adult education and lifelong learning opportunities in order to provide qualified workers with an opportunity to benefit from higher education.

Denmark is one of the countries that develops and implements policies to improve teaching standards in higher education. Thus, based on the Memorandum on Job Structure for Academic Staff at Universities in 2007, updated in 2013[22], academic staff employed as a university assistant (the first basic position in the coherent development of the university career) are compulsorily following a pedagogical training program that ends with an exam to assess the acquired teaching skills.

Occupational standards

In 2009, the Ministry of Education, the Ministry of Science, Technology and Innovation, the Ministry of Culture, and the Ministry of Business and Economy approved the Qualifications Framework for Lifelong Learning (NQF). The Danish Qualifications Framework has an 8-level structure. Starting in 2011, each level in the Danish Qualifications Framework is linked to a level in the European Qualifications Framework for Lifelong Learning (EQF). In an international context, this framework supports, in particular, the international recognition of qualifications.

[22] Memorandum on Job Structure For Academic Staff at Universities http://ufm.dk/en/legislation/prevailing-laws-and-regulations/education/files/job-structure-for-academic-staff-at-universities-2013.pdf

As far as the standards and qualifications required for employment in higher education institutions are concerned, they are stipulated in the Memorandum on Job Structure for Academic Staff at Universities. This document contains a description of the different academic positions available at Danish universities (PhD, Postdoctoral, Assistant Professor, Associate Professor, Professor, etc.). According to the order of the Ministry of Higher Education and Research, the employment through competition in the positions of the university is based on these qualifications.

Responsible structures

In Denmark, central responsibility for education is shared between three ministries:

1. The Ministry of Education is responsible for developing education policies at ISCED 1, 2 and 3 levels, along with adult education and lifelong learning. The Ministry has overall responsibility for managing these levels of education and for ensuring the best realization of the educational policies of the government[23].
2. The Danish Ministry of Higher Education and Research [24], which is responsible for the field of higher education and adult education and training (VET). The Ministry is responsible for tasks related to policies, administration, operation, coordination and interaction in this field.
3. The Danish Ministry of Culture is responsible for higher education and training in arts, music and theater.

Continuing education and training takes place in several institutions in Denmark. General educational offers such as Adult General Education (AVU) and Preparatory Adult Education (FVU) take place at Vocational Orientation Program Centers, Adult Education Centers (VUC) and Higher Education Institutions.

There are about 100 schools offering adult vocational training programs across the country - the principle being to provide training programs in all regions. Most schools offer educational programs for both adults and young people. All adult education providers, including adult education centers (VUC), are associated with one of the 13 adult education and training centers (VEU centers).

General adult education programs (FVU, AVU) are provided by Adult Education Centers (VUC). Since 1 January 2007, adult education centers have become autonomous institutions. Programs and institutions are accredited by the National Accreditation Agencies, as well as by the Accreditation Council.

6.3 UNIVERSITY MANAGEMENT LEVEL

University strategy

The pedagogical model of problem-based learning (PBL) of Aalborg University (AAU) has become recognized at national and international level by universities, researchers and students as an

[23] The Ministry of Education. http://eng.uvm.dk/

[24] The Ministry of Higher Education and Science. https://ufm.dk/en

advanced and efficient learning model. Thus, UNESCO has located its only PBL Danish Chair in Aalborg University. AAU has furthermore proposed to develop and adapt the PBL model within all study programs offered to meet societal and educational needs and changes.

Structures responsible for pedagogical training of academic staff

In order to support and further develop the Aalborg model of the PBL, the PBL Academy operates within the university [25]. The Academy organizes activities dedicated to PBL, supports research networks and formulates and presents various issues related to PBL within and outside AAU for discussion.

The Academy regularly offers various courses in the field of PBL held both by experts from Aalborg University, experts invited from other Danish universities, as well as international experts.

Aalborg University's commitment to achieving excellence in teaching and learning in higher education is supported by the activities of the Learning Lab [26]. From a scientific point of view, the Laboratory conducts research on teaching in higher education in order to identify and evaluate current trends, apply best practices and address gaps in university's delivery of educational practices.

The Laboratory collaborates with the academic staff of the institution, providing resources and trainings for the continuous training and development of pedagogical skills and abilities to ensure a high-quality teaching-learning process.

Ways of professional training of teachers

The main activities of the Laboratory are aimed at the following target groups:

- University pedagogy for Assistant Professors: Certification in higher education pedagogy.
- Basic courses in higher education pedagogy, Problem based learning - PBL, ICT for teaching and more, for staff who recently joined this University.
- Extras for Experts - activities for experienced staff: workshop or seminar afternoons on a variety of topics targeting University teachers who have been teaching as well as networking activities targeting University teachers who have been teaching for some time.
- Learning Lab on demand: Specialized workshops or seminars for big enough groups offering activities at newcomer or experienced level, individualized training to brush up and/or equip with basic skills, including classroom observations(video recorded on demand) and peer supervision.

6.4 INTEGRATION OF PEOPLE WITH DISABILITIES

Aalborg University is well-known for its efforts to integrate all students by developing various student support services: study guidance, application to various scholarships and grants, counseling, career guidance within the AAU.

[25] AAU PBL Academy website http://www.pbl.aau.dk/

[26] AAU Leraning Laboratory website http://www.learninglab.aau.dk/about/

There are also structures to support students with disabilities. Thus, one of the main tasks of the SU Office is the administration of the SPS grant (Special Support for Students with Disabilities). The Office is responsible for:

- Guidance on the SPS scheme for students with physical or mental disabilities.
- Preparation of applications and recommendation for SPS support and submission to the SU Agency.
- Acquisition of physical support - tables, chairs, IT equipment, etc. or as overtime for studies, secretarial services, mentoring, etc.
- Payment for assistance and preparation of reimbursement requests to the SU Agency.

6.5 PHYSICAL ENVIRONMENT

Aalborg University has a well-developed infrastructure with good accessibility for students with physical disabilities, oriented to meet the specific needs of both the PBL teaching and learning process and research. It features lecture halls, laboratories endowed with interactive whiteboards / projectors, WiFi connected, and halls for group work.

7. DATA ANALYSIS AND INTERPRETATION

7.1 INTRODUCTION

The comparative analysis of how to approach pedagogical training of academic staff for universities in Sweden, Germany, Great Britain and Denmark has been conducted on the basis of the criteria identified and described in paragraph 1.

The table below gives an overview about the similarities / differences between the systems examined vis-a-vis the subject mentioned.

SWEDEN / KTH	GERMANY / University of Siegen	GREAT BRITAIN / University of Gloucestershire	DENMARK / Aalborg University
SYSTEM LEVEL			
1. Legal framework			
1. The Swedish Education System is regulated by the Education Act, while the institutions enjoy a large degree of freedom.	1. Higher education in the Federal Republic of Germany is governed by the German Framework Law on Higher Education (Hochschulrahmengesetz - HRG). Thanks to the federal system of Germany, responsibility for education, including for higher education, lies entirely with the federal states, which have their own laws (correlated with HRG).	1. The higher education system in the United Kingdom of Great Britain and Northern Ireland is primarily governed by the Further and Higher Education Act 1992, which establishes relations between higher education institutions with the Privy Council, the Higher Education Financing Council and the Secretary of the State. State interference in the field of higher education is very low, enjoying full autonomy in terms of human resources, including with reference to employment and professional training criteria.	1. The Danish educational system is governed by national law - Laws on Primary Education, Secundary Education, Vocational Education, The Danish (Consolidated) Act on Universities, etc. - which cover the objectives and the framework of education, funding and, in some cases, programs, exams and teaching staff.
2. State policies in the field			
2. The Swedish system includes not only traditional university studies, but also teacher training, health training,	2. At national level, the legal framework only exists for the training of pre-university teachers.	2. At the state level, there is the UK Professional Standards Framework (UKPSF) for teaching and	2. The Danish National Strategy for Lifelong Learning (LLL) is largely based on the globalization strategy published by the former

technical training, etc. In 2011, Sweden initiated new training programs for didactic staff, structured in four main qualifications: for pre-school education, for primary education, for secondary education, for professional education (Bäst i klassen - en ny lärarutbildning OBS Prop. 2009/10: 89). The Government supports through various programs the upgrading of pre-university (but not university) teaching staff by providing advanced continuing education in the field.	Teacher training for all types of schools is governed by the laws of each state. As far as the pedagogical training of university staff is concerned, regulations at state / federal level do not exist. It is worth mentioning that there are clear and concrete policies in Germany in the field of higher education. In response to growing demand for university study programs, the Federal Government and state governments have been providing additional funding to expand the range of study options since 2007 under the Pact for Higher Education (Hochschulpakt 2020).	supporting learning in higher education. This framework was developed by the Academy of Higher Education together with the Professional Associations.	Danish government in 2006. Education, lifelong learning, research and innovation are key elements of the objective to develop Denmark as a knowledge-based society within the globalization strategy. A billion DKK for the 2014-2020 period has been allocated for adult education and training to increase the level of competence of the workforce and support job creation in Denmark. This included 355 million DKK for the creation of new adult education and lifelong learning opportunities in order to provide qualified workers with an opportunity to benefit from higher education.
3. Occupational standards			
3. The International Standard Classification of Education (ISCED), developed by UNESCO, is at the basis of occupational standards. **Recommendations of the Swedish Higher Education Association** (Recommendations on general learning outcomes for teaching qualifications required for employment as a university didactic staff) are the only national qualifications	3. According to the Higher Education Law in Germany, in HEIs can activate university professors (professor and junior professor), researchers and didactic staff for special activities. Doctoral students are usually employed as inferior scientists (scientific assistant / Wissenschaftlicher Mitarbeiter). The Framework Law on Higher Education stipulates that the pedagogical skills of	3. In principle, higher education institutions are free to set their own criteria for employment on an academic post. The only interference of the state in this area is the establishment of the JOB FAMILIES system within the higher education institutions, following a framework agreement signed with the National Confederation of Trade Unions. In order to equalize the multitude of positions in the higher education system	3. In 2009, the Qualifications Framework for Lifelong Learning (NQF) was approved. The Danish Qualifications Framework has an 8-level structure. Starting in 2011, each level in the Danish Qualifications Framework is linked to a level in the European Qualifications Framework for Lifelong Learning (EQF). The standards and qualifications required for employment in higher education institutions are stipulated in the Memorandum on Job

framework for teaching in higher education institutions and are recognized and **applied by all universities** in Sweden.	candidates must be evaluated in the process of appointment as a professor. Since each state is entitled to interpret the Framework Law, implementation of this provision in states is different.	and to promote excellence in teaching, an analysis of job positions in the sector based on 14 criteria, called the Higher Education Role Analysis (HERA), was carried out. Most UK higher education institutions have adopted HERA.	Structure for Academic Staff at Universities. This document contains a description of the different academic positions available at Danish universities. According to the order of the Ministry of Higher Education and Research, the employment through competition in the positions of the university is based on these qualifications.
4. Responsible structures			
4. In Sweden, the general responsibility for higher education and research lies with the Riksdag (Swedish Parliament) and the Government through the Ministry of Education and Research is responsible for education and training at all levels - from pre-school education to adult education. The Government defines the national development objectives and strategy. Starting January 1, 2013, the Swedish Higher Education Authority and the Swedish Higher Education Council are the central governmental agencies responsible for higher education issues. The Swedish National Agency for Professional Higher	4. The Federal Ministry of Education and Research grants funding to research projects and institutions, regulates access to higher education and academic qualifications, establishes general education policy. It also provides loans for German students. However, much of the German education policy is decided at federal state level. The Standing Conference of the Ministers of Education and Cultural Affairs (*Kultusministerkonferenz*, KMK) – formulates and promotes the common interests and objectives of all 16 federal states.	4. The Ministry of Higher Education and Research is responsible for developing education policies in general and is not involved in the governance, management and activities of universities. Excellence in teaching and learning is supported and promoted by the Higher Education Academy (HEA), an independent, non-profit organization that collaborates with governments, ministries, universities and individual academics in the UK and around the world.	4. The Danish Ministry of Higher Education and Research is responsible for the field of higher education and adult education and training (VET). The Ministry is responsible for tasks related to policies, administration, operation, coordination and interaction in this field. The Ministry of Education is responsible for developing education policies at ISCED 1, 2 and 3 levels, along with adult education and lifelong learning.

Education is responsible for professional training.			
NIVEL MANAGEMENTULUI UNIVERSITĂŢII			
1. University strategy			
1. The KTH's Development Plan2013-2017, which includes the pedagogical training program for academic staff, teaching skills development activities, which must become an integral part of the career development of academic staff.	1. From the two components of the university's activity - teaching and research, the German universities' administration focuses on research. However, in recent years, at the recruitment of young academic staff, most German universities have begun to require the confirmation of teaching skills by participating in the trainings of didactic skills training.	1. Although the research component remains the top priority of UK universities, placement of the student at the heart of the learning process creates new rigors for academic staff. In order to meet them, universities tend to implement various pedagogical training programs and the development of pedagogical skills of academic staff.	1. The pedagogical model of problem-based learning (PBL) of Aalborg University (AAU) has become recognized at national and international level by universities, researchers and students as an advanced and efficient learning model. AAU has furthermore proposed to develop and adapt the PBL model within all study programs offered to meet societal and educational needs and changes.
2. Structures responsible for pedagogical training of academic staff			
2. Within the School of Education and Communication in Engineering, the Learning Department, operates the Higher Education Research and Development Center (HERD), responsible for developing and implementing courses for the continuing professional training of academic staff of the institution.	2. In Germany, there is the *German Society for Higher Education* (DGHD), structure in charge at the country level of didactic skills training for academics. Within the majority of universities this is the responsibility of the Teacher Competence Centers for the academic staff, e.g. Teacher Training Center and Pedagogical Research at the University of Siegen.	2. At national level, the Higher Education Academy (HEA) offers a range of trainings and programs designed to train and develop teaching and learning skills. Within universities, as a rule, there are structures responsible for training and improving teaching-learning activity in higher education. Thus, within the UoG, the Teacher Training Center is responsible for teaching courses and organizing informative seminars for teachers in	2. In order to support and further develop the Aalborg model of the PBL, the PBL Academy operates within the university which organizes activities dedicated to PBL, supports research networks and formulates and presents various issues related to PBL within and outside AAU for discussion. Aalborg University's commitment to achieving excellence in teaching and learning in higher education is supported by the activities of the Learning Lab.

		the institution (not only for young specialists but also for more experienced teachers).	
3. Ways of professional training of teachers			
3. The Center for Development and Research in Higher Education offers three categories of continuous training courses: 1. Basic courses in teaching and learning in higher education. 2. Additional courses in teaching and learning in higher education. 3. Training course for supervisors in research. The School of Information Technology offers evening courses, distance courses, IT distance training courses, summer courses and continuous teacher training courses. Continuous training programs are tailored for KTH's academic staff and include course offers of 15 credits.	3. The mentioned structures, at that level, organize workshops / seminars / trainings that cover both the general approaches of didactics and the specific training area. Each competence center is accredited, and experts in academic didactics are evaluated and in some cases quoted.	3. Within the Teacher Training Center of the University of Gloucestershire, there was developed the so-called course Postgraduate Certificate in Academic Practice (PGCAP), which provides certification for teaching skills within the academic career. The purpose of this course is to make it possible for academic staff to comply with the rigors of the Professional Standards Framework for teaching and to support learning in higher education.	3. The Academy regularly offers various courses in the field of PBL held both by experts from Aalborg University, experts invited from other Danish universities, as well as international experts. The Laboratory collaborates with the academic staff of the institution, providing resources and trainings for the continuous training and development of pedagogical skills and abilities to ensure a high-quality teaching-learning process. The courses offered by the Lab are intended for different target groups: university assistants (PhD students), etc.
INTEGRATION OF STUDENTS WITH DISABILITIES			
In the University Policy, the Equality Principles (Equality ombudsman), which provide for the equality of people with	The University of Siegen made substantial efforts to adapt the physical environment and adapt to their needs, and to create appropriate	Young people with disabilities are doing their studies with the other students of the institution. In the University there is a	Aalborg University is well-known for its efforts to integrate all students by developing various student support services. There is also

disabilities and the prevention of negative attitudes towards them, are developed.	conditions for full and equal participation in the educational process. In order to support this category of students, the Office for Disabled People or Chronic Diseases was created at the University of Siegen within the Student Counseling Center.	support service for students with disabilities, medical conditions, dyslexia and learning difficulties, as well as a learning support service that provides individual counseling and guarantees confidentiality. Financial facilities are provided by applying to the Scholarship for Disabled Students.	the SU Office for Supporting Disabled Students who manages the SPS grant - Special Support for Students with Disabilities.
PHYSICAL ENVIRONMENT			
KTH's physical environment is friendly, comfortable including for students with disabilities. The infrastructure is well developed and has the necessary elements to ensure a qualitative and innovative teaching-learning process.	The university campus provides free WiFi connection throughout the territory. The modern facilities of the university allow the organization of the learning process in small groups. The university modernizes computer laboratories / halls constantly at regular intervals.	Study spaces, as well as those for research and administration, are endowed with the necessary equipment. The University offers group study rooms at the students' choice, free WiFi connection within the campus, access to the university library until 10 pm, IT support for students.	Aalborg University has a well-developed infrastructure with good accessibility for students with physical disabilities, oriented to meet the specific needs of both the PBL teaching and learning process and research.

7.2 SYSTEM LEVEL

As a result of the analysis conducted, the following were found:

In all four countries there is a regulatory framework that regulates (either in general or in more detail) the education systems, including higher education, but higher education institutions in these countries enjoy a high degree of institutional autonomy. National policies with regard to pedagogical training of academic staff do not exist, but the governments of these states, less the UK, by financially supporting various programs to diversify the offer of studies in higher education or in Continuing Education, support the efforts of HEIs in the growth / maintenance at a high level the quality of higher education.

Employment as an academic staff in HEIs in the countries analysed, under the national law, is primarily conditioned by the holding of a doctorate degree (PhD). For the lecturer and professor positions, results and extensive experience in research and teaching (didactics) are required.

In the UK and Germany universities can also introduce special requirements for hiring academic staff. In the vast majority of Swedish universities for the employment of university staff the Recommendations of the Association for Higher Education in Sweden apply. Although this association is a non-governmental organization, these recommendations are the only ***qualifications framework*** for teaching in HEIs recognized by universities.

Denmark is the only state where there is an official act, the Memorandum on Job Structure for Academic Staff at Universities, which is in fact a national framework of qualifications for academic staff, based on which, according to the decision of the Ministry of Higher Education and Research, the employment on academic positions takes place. This document stipulates the need to support a written evaluation of the pedagogical / didactic competencies of the candidate for assistant professor position, the first step in the academic career.

7.3 UNIVERSITY MANAGEMENT LEVEL

As a result of the analysis of policies / strategies of partner universities in the project, there was found a common tendency to support the continuous development and consolidation / improvement of the teaching skills of academic staff.

Within these universities, special subdivisions (centers) that are responsible (either at university level or at faculty level) operate in the field of in training and improving the teaching skills of academic staff. The centers offer (free of charge) to the academic staff of the institution a series of training sessions, informative programs and seminars, and change of experience for both young specialists and experienced teachers. The activities of the centers are carried out by their own staff, but also by invited people with extensive experience in the field. Participation in the programs and trainings offered is certified, including a number of credits.

Note that at Aalborg University (Denmark) and KTH (Sweden) participation in such courses for young specialists is mandatory.

In addition, most universities are part of the regional / national network or collaborate with non-governmental national structures that support and promote the continuing training / development of teaching skills for staff in higher education.

7.4 INTEGRATION OF PEOPLE WITH DISABILITIES

All universities in the EU, partners in this project, are making considerable efforts to integrate people with disabilities into their acedemic environment. In this respect, universities have support services for students with disabilities in their daily lives as well as in the learning process and offer individual counseling.

7.5 PHYSICAL ENVIRONMENT

The campuses of the universities visited are well developed, comfortable, including for students with disabilities. The infrastructure meets the modern requirements and has the necessary elements to ensure a qualitative and innovative teaching-learning process.

FINAL CONCLUSIONS

In the European Higher Education Area, the concept of student-centered education is universally accepted, implemented through various teaching-learning methods. Placement of the student at the heart of the learning process creates new rigors for academic staff. First of all, more and more often the professor is urged, and in some countries even recquired, to address teaching through various active methods, which he/she did not use or even did not know before. Secondly, he/she has to design learning and evaluation goals, express his/her opinion and ask the same from the students, include a number of specific competences in the curriculum, focus on opportunities associated with real life situations and ethical norms. In the context of the above, it is clear that academic staff, who are primarily professional researchers in EU universities, can not effectively carry out teaching without benefiting from support and training in the pedagogical field.

Although in most of the countries analyzed in this report there are no clear policies and requirements with regard to pedagogical training for teachers in higher education, the universities in the respective states already undertake a range of activities to motivate and support their academic staff in the development of didactic competences and, respectively, strengthening the quality of studies offered to students. Within the universities visited, there are specialized subdivisions / training centers for continous training that offer individual counseling, consultations, organize skills' training needed in the process of teaching and interacting with students and partners, which the teacher chooses depending on the necessity. From these trainings benefit both the teaching staff and young employees of the university. Also, the mentioned universities are active members of national / regional networks specialized in the development of teaching competences of teachers in higher education.

It is worth mentioning that at Aalborg University, Denmark, the initial pedagogical training (30 credits) of the assistant professor, who must be a doctoral candidate, is compulsory. Similarly, given that AAU's teaching method is Problem Based Learning, any new employee of the university will necessarily pass the initial pedagogical training in that method.

In conclusion, in order to ensure quality professional training in higher education, the university environment must be receptive, active and give up the conservative character that is characteristic of it. It is necessary to change the attitude of academic staff and university managers in favor of a new way of relationship with students and another way of conceptualizing the courses taught.

We hope that the transfer of good practices from EU universities to higher education in the Republic of Moldova will contribute to the production of excellence and increase the competitiveness of universities.

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Introducing Problem Based Learning in Moldova: Toward Enhancing Students' Competitiveness and Employability (PBLMD)

www.pblmd.aau.dk

Study programme of Pedagogical training

Consolidated Report

Work Package 3

Elaborated: Otilia Dandara, USM
Daniela Pojar, UTM

Contribution: Ala Cotelnic, ASEM
Angela Niculita, USM
Larisa Bugaian, UTM
Romeo V. Turcan, AAU

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1 INTRODUCTION

The European expertise in training and development of teaching staff is oriented, in recent times, towards the analysis and design of an education system for teachers to adapt to the principles of *life-long learning*, improving the public image of the teaching profession and increasing mutual trust in the educational-pedagogical qualifications offered by the Member States.

One of the objectives of the continuing education and training systems, as outlined by the Lisbon European Council (2000), is to increase the quality and efficiency of education and professional training systems in the EU – improving education and training of staff and trainers, access to knowledge being an essential aspect in the knowledge society. Teachers and trainers are the key actors in any strategy that aims at stimulating and developing a society or economy.

In the current world socio-economic conditions, the internationalisation of higher education in the Republic of Moldova is increasingly pronounced, gaining even an imperative character. The increasing competitiveness in relation to the European higher education institutions, the dynamism and pragmatism of modern society, requires the imminent adjustment of the study programmes to the present rigors and realities. This report represents an analysis of the institutional reports on pedagogical competences of teachers in higher education in relation to the application of the problem-based learning strategy.

The purpose of the report resides in conducting a comprehensive analysis of the pedagogical competences of the teachers in the higher education system in the Republic of Moldova: conceptualization, training, development, based on the methodology developed under the project.

The methodology was also applied in the Work Package 2 to develop a similar report for the university system in Sweden and Germany, namely in two universities in these countries, respectively: the Royal Institute of Technology of Sweden (KTH) and the University of Siegen. Following the comparison of the elements of the methodology used in the European and Moldovan universities, a pedagogical programme plan was proposed for the development of teachers'' competences to apply the PBL didactic strategy.

Particular attention has been paid to practical aspects, studying the legislation and multiple normative acts regulating the didactic activity of universities, representing a consistent, appreciable part of the work volume.

Table 1. Working team on the report

Name, surname	Function, affiliation
Otilia Dandara	Dr. Hab., Univ.Prof., Vice-Rector, SUM
Daniela Pojar	Head of the Resource Management Division, TUM

2 METHODOLOGY

2.1 METHODOLOGICAL FRAMEWORK

When analysing the existing situation in the field of problem-based learning, the project teams of the partner universities in the Republic of Moldova were guided by the framework-methodology, developed within the project and presented in the report on Work Package 2. The methodology is aimed at examining the link between the internal structures of universities and pedagogical training programmes, including how the elaboration and support of the pedagogical training programme are integrated into universities. The connection of the elaboration of the study programme with its support was examined at different levels of the institutions, with possible overlapping of levels: the level of university management, the level of the Council of Studies. At the same time, the placement of pedagogical training programmes at system level was also examined.

The elements underlying the methodology were the benchmark for collecting the data needed for the elaboration of the reports for WP3 and subsequently for their analysis. The criteria highlighted in WP2 were also used to facilitate cross-analysis of European universities' pedagogical training programmes and similar programmes in the context of the implementation of problem-based learning.

Studying the experience of the universities mentioned in the field of the use of student-centred learning methods in general and those based on problem solving, in particular, but also of the entire education system, facilitated the development of several variants of programmes for pedagogical training, which would allow the implementation of this strategy.

When developing the pilot-programme it was taken into account the use of the PBL method in European universities, which we visited, and the experience that has been studied, even though it was found that each university has its peculiarities, related to the specific in that country.

Despite the existing discrepancies, an Action Plan (roadmap) was developed to implement the Pedagogical Pilot-Programme (PPP), aiming at implementing the PBL in the teaching-learning-assessment process, thus to become a philosophy of universities in Moldova.

2.2 DATA COLLECTION

In the collection of data, according to the methodology outlined, a number of normative acts were analysed, regulating the field of higher education in the Republic of Moldova, as well as those with internal applicability within the institutions. Obviously, a real use was the didactic and managerial experience of the members of the project teams, who participated in the collection of the data and the elaboration of the report. The information was collected according to the following template:

Table 2. Data reporting template

Question/Problem	Consulted source	Findings	Reflections
L1: Project consortium level			
L2: Level of higher education system in the Republic of Moldova			
L3: Institution and university management level			
L4: Study programme Level			

2.3 DATA ANALYSIS

For the purposes of data analysis, the working teams used the proposed methodology, identifying answers to the questions submitted and taking into account the mode of action in the local universities, the impact of various phenomena on the activity of the institutions.

Cross-analysis of the case as shown in Table 3 (cross-sectional analysis), has allowed the reformulation of criteria, properties and indicators for each level, however, based on those criteria that had been submitted when drafting the report for WP2. The highlighting and taking into account of these criteria facilitated the cross-analysis of the case, the identification of common elements, but, to a large extent, the existing differences. This analysis served as a foundation for the development of the pilot-programme.

Table 3. Algorithm for cross-analysis

University name	Regulatory framework for the pedagogical training	Professional standards	Responsible structures	Content	Achievement methods

3 CONTEXT AND CONDITIONS FOR THE PEDAGOGICAL TRAINING OF THE TEACHING STAFF IN HIGHER EDUCATION IN THE REPUBLIC OF MOLDOVA

3.1 SITUATION ANALYSIS AT THE SYSTEM LEVEL

In the context of global change and the stressed demographic decline, lifelong learning becomes an important concern of the educational system. One of the objectives of the Education Development Strategy for the Years 2014 – 2020 is the extension and diversification of the adult lifelong learning system throughout from the perspective of general training and continuous professional training, in correspondence with the needs of the person reported to socio-economic needs.

The continuous professional training programmes of teachers are provided by higher education institutions and other types of state or private institutions/organizations, which are subject to authorisation/accreditation and are empowered for this activity in accordance with the legislation in force.

The continuous professional training of teachers in higher education is carried out through accredited professional training programs, or authorised by the MECC, which comprise all theoretical and/or practical training activities in order to achieve the competence training objectives for a particular area.

According to the Education Code, art. 133, the professional development of didactic, scientific-didactic, scientific and managerial staff is compulsory throughout the entire professional activity and is regulated by the Government, and according to art. 132 to have teaching functions, graduates of non-pedagogical higher education programmes will necessarily attend the psycho-pedagogical module corresponding to a number of 60 ECTS.

The professional development of didactic, scientific-didactic, scientific and managerial staff is carried out in higher education institutions and/or in continuous professional training institutions, by other educational service providers, based on professional training programmes carried out through:

a) professional training internships in educational and research institutions or accredited organisations in the country and abroad;
b) participation, as partners, in national and international education and/or research projects;
c) participation with speeches and/or papers at international conferences, seminars, symposia, exhibitions.

The state policy in the field of education is determined by the Education Code of the Republic of Moldova No. 152 of 17.07.2014 (Official Gazette, 24.10.2014, No. 319-324, art. NR: 634, art. 624; art. 539), regulating the organisation and operation of the education system. The elaboration, promotion, monitoring of implementation and assessment of the impact of the national education policy is the competence of the Ministry of Education, Culture and Research of the

Republic of Moldova.

Continuous professional training as part of lifelong learning in the Republic of Moldova is regulated by the following normative acts:

- Constitution of the Republic of Moldova adopted on 29.07.1994, art. 35 – Right to learning;
- Education Code of the Republic of Moldova No. 152 of 17.07.2014, title VII – Lifelong learning;
- Labour Code of the Republic of Moldova No. 154-XV of 28.03.2003 title VIII - Professional training;
- Decision of the Government of the Republic of Moldova no. 123 of 24.03.2017 for the approval of the regulation on continuous adult training;
- Decision of the Government of the Republic of Moldova no. 191 of 22.04.2015 on the National Agency for Quality Assurance in Professional Education.
- Decision of the Government of the Republic of Moldova no. 616 of 18.05.2016 on the approval of the methodology of external quality assessment for the authorisation of provisional operation and accreditation of study programmes and education institutions of vocational education and training, higher education, and continuous training.

The methodology of external quality assessment for the authorisation of provisional operation and accreditation of study programmes and education institutions of vocational education and training, higher education, and continuous training in the Republic of Moldova is elaborated by the National Agency for Quality Assurance in Professional Education, in accordance with the following national and European normative framework (international recommendations) in the field:

- Education Code of the Republic of Moldova No. 152 of 17 July 2014;
- Regulation on the organisation and functioning of the National Quality Assurance Agency in Professional Education, approved by Government Decision No. 191 of 22 April 2015;
- Nomenclature of professional training fields, specialties and qualifications, trades/professions for the training of staff in higher education, vocational education and training, and continuous training institutions;
- Standards and guidelines for quality assurance in the European Higher Education Area (Standards and Guidelines for Quality Assurance in the European Higher Education Area, ESG 2015), developed by the European Association for Quality Assurance in Higher Education (ENQA);
- Recommendation of the European Parliament and of the Council of 18 June 2009 on the establishment of a European reference framework for quality assurance in vocational education and training (2009/C 155/01);
- European Framework for quality assurance in vocational education and training (EQAVET Framework), developed by the European Network for Quality Assurance in Vocational Education and Training (EQAVET-European Quality Assurance in Vocational Education and Training).

Continuous professional training programmes under the lifelong learning are subject to

evaluation for accreditation or authorisation of provisional operation, under the terms of the law.

By the year 2018, the decision on the authorisation for the provisional operation of a continuous professional training programme was adopted by the Ministry of Education, Culture and Research, on the basis of a programme and curriculum submitted. The programmes were developed and provided by the institutions and organizations with activity in the field, using interactive methods focusing on multimedia approaches. Curricular products in the continuous professional training of teachers in higher education are based on the principle of training of professional competences drawn up on the basis of occupational standards and the National Qualifications Framework. Continuous professional training programmes can be structured on modules or disciplines or adapted to individual needs, so as to ensure equal and non-discriminatory access to professional training according to quality assurance standards. Largely, the pedagogical competences of teachers in higher education were formed in the centres of continuous training of universities, based on traditional educational strategies. At the same time, it was found that the professionalization of teachers, i.e. the need to increase competences and move to a higher status, is an imperative of time. This provides the possibility of rehabilitation of the explicit and rational side of the educational actions, which the term of professionalization explicitly entails. The professionalization of teachers becomes a way for them to internalise the established performance objectives and make decisions that are consistent with the general policy of the area in which they integrate. Thus, in art. 132, para. (4) of the Education Code of the Republic of Moldova the regulates psycho-pedagogical training.

The compulsoriness of the psycho-pedagogical training was also foreseen before the entry into force of the Education Code, in the *Order no. 199* of 9 April 2011, and referred to the development of these competences for teachers from all levels of professional education, including higher education. This order also regulates the outcomes and content of the psycho-pedagogical module. All teachers were to perform a training process of 30 credits: 20 theoretical training and 10 practical training.

Table 4. Structure and content of the psycho-pedagogical module

No.	Composition of the module	Total hours	Assessment form	No. of credits
Theoretical component				
1.	Pedagogy module	210	Assessment portfolio	7
2.	Psychology module	180	Assessment portfolio	6
3.	Didactics of the discipline	210	Assessment portfolio	7
Practical component				
4.	Pedagogical internship (confirmation from the educational institution where they work)	Presentation of elaborated teaching materials (curriculum, methodical support)		10

Order No. 199 also regulated the formation of psycho-pedagogical competences in relation to professional experience and the status of scientific-didactic staff. Under the point 3 of this Order, it is stipulated: Persons practicing in professional education institutions and holding the

scientific-didactic title of university professor or university lecturer, will undergo the psycho-pedagogical module at request. This provision is applicable in professional education institutions of all levels, but of course it refers primarily to higher education institutions.

Thus, the authors of the report find that there is the legislature's concern to ensure quality education through the training and continuous development of the psycho-pedagogical competences of teachers.

3.2 UNIVERSITY MANAGEMENT LEVEL

The governing bodies of the universities, their structure and number are established by the Education Code of the Republic of Moldova. According to the legislation in force, the system of governing bodies of higher education institutions consists of the Senate, the Institutional Strategic Development Council, the Scientific Council, the Faculty Council, the Administration Council and the rector of the institution[1]. Institutional management is carried out by the management and administrative structures of the respective institutions. The Institutional Strategic Development Council may, *inter alia*, take decisions on the initiation and closure of the study programmes, as well as the coordination of the development of the Institutional Strategic Plan, comprising also the strategy on the development of human resources. The continuous training of didactic and scientific-didactic staff is an activity with pedagogical and social content designed, performed and developed within the universities, with managerial function of continuous regulation and self-regulation of the education process at all its reference (functional – structural-operational) levels.

The periodicity of the continuous training of academic staff is determined by the strategic provisions of the university's evolution, taking into account the specificities of the teacher's field of activity and the possibilities of conducting the continuous training programmes. The training of university teachers includes initial training in the field and psycho-pedagogical training, if the person has graduated from a field with pedagogical profile and continuous training of pedagogical competences. The modalities for the continuous training of teachers include: studies of courses for the development of pedagogical and scientific-didactic mastery, training internships in educational and research institutions in the country and abroad. The participation of teachers with various reports at national and international conferences, seminars, symposia is considered as a means of continuous training. Self-training has a great influence in the development of pedagogical competences. The results of the professional training influence the career promotion and the occupation via competition of the teaching posts.

The analysis of the reports made by the members of the project teams revealed that in all universities there are subdivisions responsible for continuous professional training. The record of continuous professional training of academic staff is carried out by the subdivision responsible for the management of human resources and/or university subdivisions responsible for continuous training.

At the same time, the quality of the studies and the training of graduates for future employment is a priority objective for universities in Moldova. In this respect, institutions encourage the use of student-centred teaching methods. Responsible, in the universities of the Republic of Moldova, for student-centred teaching and learning are the subdivisions that

[1]Codul educaţiei al Republicii Moldova, nr.152 din 17.07.2014, art. 102

coordinate the didactic and quality assurance activity. These subdivisions have the mission to develop internal policies and regulations in the area of teaching-learning-assessment, as well as quality management procedures. The Quality Management Systems (QMS) of the partner universities in Moldova are applied in the field of educational services, higher and continuous education, scientific research and administrative university services. Partner universities advocate for the institutionalization of the quality culture. The Quality Management Systems (QMS) of the partner universities in Moldova are implemented and led by the ISO 9000 standards family. At the same time, the subdivisions responsible for the academic management work in close contact with the departments/chairs, guiding their activity in the elaboration and improvement of curricula, elaboration and development of study programmes.

Continuous formation and training of academic staff from partner universities are aimed at developing professional competences, are organized in accordance with the provisions of internal procedures and are systematically carried out. The synthesis of the continuing training of academic staff in universities is presented in the following table:

Table 5. Continuous training of academic staff

No.	Training methods	Responsible for organizing the training	Reference documents
1.	Training of employees in the field of psycho-pedagogy	Subdivisions responsible for academic management	Education Code Regulations on the organization of adult education
2.	Internships at educational institutions abroad	Subdivisions responsible for international relations	Regulations on the organization of adult education Regulations on the organization and conduct of mobility
3.	Participation in research activities	Subdivisions responsible for research activity	Education Code Code on science and innovation of the Republic of Moldova
4.	Doctoral studies, postdoctoral studies	Doctoral School	Regulations on the organization and conduct of doctoral and post-doctoral studies
5.	Participating in training and professional development activities organized within faculties or departments / chairs	Deans, heads of departments / chairs	Regulations on the organization of adult education
6.	Internships for professional development within organizations, enterprises	Deans, heads of departments / chairs	Regulations on the organization of adult education
7.	Participation in conferences, seminars, trainings, workshops	Heads of departments / chairs	Regulations on the organization of adult education
8.	Self-training	Heads of departments / chairs	Regulations on the organization of adult education

The design and registration of the training activities at the departments/chairs and faculties level shall be carried out by completing the activity plan of the subdivision concerned. Employees, who have benefited from various trainings, will present reports at the department/chair meeting. The academic staff is obliged to record the training activities carried out in the Individual Plan. The key performance indicators at the university level are usually determined in the academic accreditation process and refer to different components of the educational process.[2] For the professional development of academic staff at the partner universities, the following methods of support and stimulation of performance are applied: awarding prizes, awarding merit diplomas, expressing thanks from the management of universities, financial support for the continuous training of staff through mobility, internships, training courses based on national and international projects. Depending on the didactic and scientific performances, the employees of the universities benefit from various forms of work stimulation.

3.3 PROCEDURE FOR DRAFTING AND AUTHORISATION / ACCREDITATION OF CONTINUOUS TRAINING PROGRAMMES

The continuous training of teachers in higher education, in the context of lifelong learning, constitutes the totality of the development processes of formal, non-formal and informal learning, with the help of which they develop their capacities, enrich their knowledge and improve their professional qualification, or otherwise apply them to personal and social usefulness. Access to the professional training of teachers in higher education is guaranteed by equal rights, without discrimination on grounds of age, gender, race, ethnic origin, political or religious affiliation.

Continuous training providers from the Republic of Moldova, to be subject to authorisation, according to Government Decision No. 616 of 18 May 2016 "on the approval of the methodology of external quality assessment for the authorisation of provisional operation and accreditation of study programmes and education institutions of vocational education and training, higher education, and continuous training" (Official Gazette of the Republic of Moldova, 2016, No. 134-139, art. 671), must meet the following eligibility conditions:

- be legally established and comply with the conditions of honourability;
- have provided for in the Statute/operating regulation or, where appropriate, in the Establishment Act, professional training activities;
- fulfil their obligations to pay taxes, duties and contributions due under the legislation in force;
- provide proof that they have employed a teacher who holds a higher education degree in the training field, with individual employment contracts;
- hold continuous training programmes coordinated with the Ministry of Education, Culture and Research and be adequately equipped from a technical-material point of view.

[2]http://anacip.md/index.php/ro/legislatie/anacip/ghiduri/send/22-ghiduri/412-ghid-de-evaluare-externa-a-programelor-de-studii-de-licenta-invatamantul-superior

3.4 LEVEL OF PEDAGOGICAL TRAINING PROGRAMME

The processes of initiation, approval, monitoring and periodic evaluation of continuous professional training programmes are an integral part of the quality management system of the partner universities in the project and are a basic component of academic activities within them.

Continuous professional training programmes shall be drawn up in accordance with the methodological rules for the elaboration and application of the standards of continuous professional training programmes approved by the Ministry of Education, Culture and Research, taking into account the training level, professional training of students and training objectives: improvement, specialization, retraining, obtaining a new professional qualification based on higher education degree, etc.

The standard of the continuous professional training programme establishes the professional competences, the training conditions of the specialist, the rules of conduct and the outcome of the training process related to the qualification standards of specialties and specialisations included in the Occupations classification and the Nomenclature of professional training fields.

The standard of the continuous professional training programme on the basis of higher education degrees includes the following compartments:

- The general characteristic of the continuous professional training programme on the basis of higher education degrees;
- Specification of the level of preparation required for admission to the continuous professional training programme;
- The structure of the continuous professional training programme:
- Minimum requirements for the content of the continuous professional training programme;
- The educational plan: *the general educational plan, the list of course units/modules, the calendar of the study process, the internship, the assignment of the hours by groups of course units/modules.*
- The conditions for the conduct of the continuous professional training programme *(didactic basis, duration, form and language of instruction, conditions under which the training process is carried out);*
- The level of preparation at the completion of the continuous professional training programme evaluated on the basis of knowledge, competences and skills;
- Final assessment *(exam/graduation test, project/diploma test).*

The continuous professional training programmes shall be drawn up, taking into account the level of training, professional training of specialists who candidate for training.

The educational plan reflects:

- The purpose of the training;
- Profile, specialty, qualification;
- The basis of admission;
- Programme duration (hours, ECTS credits);
- The form of organisation of education (full-time, part-time, modules, distance learning);

- The study regime (number of hours per day);
- List of course units/modules;
- The number of hours according to the course units/modules;
- Types of training hours (lectures, seminars, practical/laboratory works, etc.);
- The allocation on training stages;
- Forms of assessment.

The curriculum of the course unit/module contains:

- The objectives of the course unit/module;
- Introduction
- The totality and list of themes;
- The basic subjects of each theme exposed in the specified sequence;
- Name of the types of activities foreseen for teaching-learning the theme;
- Methodical recommendations for the achievement of the curriculum;
- Forms of assessment;
- List of literature and other types of instructional-methodical materials required for training.

3.5 STRATEGIES FOR TRAINING PEDAGOGICAL COMPETENCES

a) Training directions for teachers in universities

The content of the professional training of teachers in universities is determined by the competences they must possess in order to achieve higher quality education. The competences system of a university professor can be conventionally divided into three categories:

- General competences;
- Specialized competences;
- Psycho-pedagogical competences.

General competences, the key ones, which provide personality development in a personal and professional sense, are dictated by the requirements of time and at the moment we can mention the communication competences in a foreign language (primarily in English); digital competences; communication and inter-relationship competences. The level of these competences directly influences the quality of the functioning of a university environment. Under the current conditions, it contributes to the organization of the teaching process in a foreign language, which raises the level of attractiveness of studies in the university and gives graduates increased opportunities for employment. Knowledge of foreign languages creates favorable conditions for internationalisation, allowing the university to be internationally visible and fortifying its research possibilities. Digital competences facilitate the communication with beneficiaries, and make it possible to diversify training methods, including through the use of electronic platforms. Communication and interrelationship competences generate an environment favourable to professional training and maintaining a genuine academic climate. Universities encourage the formation and consolidation of these competences, through normative provisions, elaborated at institutional level, and through actions undertaken to motivate teachers for training activities.

Specialized competences are primarily formed within the speciality faculties and departments. For this purpose, scientific activities are used, such as: scientific conferences of teachers and students; supporting the profile scientific journals, in which the best practices in the field and the achievements of the teaching staff are presented; profile scientific seminars; sessions to defend the Doctoral, Doctor Habilitat theses; round tables with specialists invited from abroad; activities undertaken in national and international projects, summer/winter schools for young specialists. This diversity of activities contributes to informing about the news in the field, the taking over of good practices; the learning of specialized technologies.

b) Methods and contents of psycho-pedagogical training

Psycho-pedagogical training is based on some strategic considerations: a) the formation of critical mass of employees to accept change and promote new ideas. For this purpose, the trainings were mainly focused on two categories of employees in the middle management segment: heads of department and deans of faculties; b) professionalisation of employees in the sense of training and development of pedagogical competences, by completing staff with persons having psycho-pedagogical competences. For this purpose, Master's degree students who want to make a university career in the future are trained; c) capitalizing on the degree of openness and receptivity of young teachers, by engaging in training placements of young specialists.

The heads of department (and the deans, as the case may be), are mainly trained by working meetings, which are usually organized at the beginning of the study year and at the end of the semester. During these meetings the issue of organizing the study process is addressed, the pedagogical landmarks are presented and the modalities of action at the level of the department are determined. Another way of pedagogical training is the methodical seminar, the theme of which is influenced by the priorities of the institution, but also the needs of staff training (formulation of outcomes; elaboration of tasks for tests in electronic form; monitoring of individual work, etc.). These activities are collective, conducted by interactive methods, training type. A specific way of training the heads of department, on the pedagogical aspect, are visits to monitor the chairs, at the beginning of the study year, when the employees of the Quality Management Section analyze and assess the quality of the curricular packages, study programmes, and each head of department is evaluated and implicitly consulted on the pedagogical aspect of its activity in the department.

Another category of employees involved in the formation of psycho-pedagogical competences, are the young specialists, who are involved in the psycho-pedagogic training through the psycho-pedagogical module, or thematic activities during the winter and spring holidays of students.

The strategies for training and development of pedagogical competences are multiple and tailored to the specifics of the functioning of higher education. The duration and forms are adapted to the training of pedagogical competences: through initial professional training (in the case of pedagogy specialties) and developed by short internships/trainings; through continuous training, based on the study of the psycho-pedagogical module, or the accumulation of required credits through various short-term activities.

4 CROSS-CASE ANALYSIS

4.1 COMPARATIVE ANALYSIS: CRITERIA, PROPERTIES AND INDICATORS (SYSTEM LEVEL)

In this chapter we will conduct a comparative study on the training of pedagogical competences in the higher education system in Moldova and the education systems in Sweden and Germany, Denmark and the UK, highlighting both the similarities between these and the essential distinctions, thus trying to identify the weak parts and strengths of the local system, but also ways that can improve and streamline the training of teachers in higher education in the Republic of Moldova. We have no intention of analyzing the entire system and highlighting the needs, problems and opportunities. We will focus only on the identification of the method of applying the PBLMD methodology, the student-centered teaching-learning-assessment methods and the compliance with the pre-established methodology within the PBLMD project.

The comparative analysis criteria were deducted taking into account the normative, conceptual and operational benchmarks that allow the implementation of the PBL in the higher education system in the Republic of Moldova. With this analysis will form an overview of how psycho-pedagogical training must be regulated and how it must be done to ensure the necessary preparation for the implementation of the PBL strategy.

Table 6. Training of pedagogical competences at system level: comparative analysis

	Normative framework for the regulation of Pedagogical training	Professional standards	State structures responsible for the training of university professors	Contents	Training methods
Republic of Moldova	– The order of the ME, (2012) on compulsory psycho-pedagogical training (30 ECTS) of teachers with no scientific and scientific-didactic title. – Education Code (2014) – On pedagogical training (60 ECTS) of university professors.	N/A	N/A	At the discretion of universities, but are derived from the theme of the psycho-pedagogical module	At the discretion of universities, but the continuous training traineeships, thematic seminars, scientific-didactic conferences prevail.
Sweden	– The Law on Higher Education (2005-2010) provided for compulsory	– Recommendations on the general learning outcomes for the teaching	– Swedish Higher Education Association	– At the discretion of universities	– At the discretion of universities

	training of pedagogical competences. – Higher Education Law (2011), compulsory training of pedagogical competences, 15 ECTS. – Training period 5-10 weeks.	qualifications required for employment as a university staff, revised in 2016.			
Germany	– Higher Education Framework Law	– Unique requirements that can be adapted to the federal land level. – Requirements to the function of junior teacher: university studies; teaching capacity; special aptitude for academic activity, which is usually demonstrated by the exceptional quality of the defended PhD thesis (PhD). – Requirements to teacher function: additional academic achievements; outstanding achievements during several years of professional practice in the application or development of knowledge and scientific methods.	– The Society for Didactics in German Higher education responsible at the country level for the training of teaching competences for academics. – In the state of Nordrhein-Westfalen, in which the University of Siegen is located, the *Continuous Education Network in University Didactics* has been operating since the year of 1999	– Five modules: compulsory and at free choice: problematic, curriculum, elaboration of learning outcomes, assessment, teaching methods	– Workshops/seminars/trainings on the general approaches of didactics, and with reference to the specific field of training.
Great Britain	– Act on continuous and higher education of 1992	– The UK Professional Standards Framework for teaching and	– Academy of Higher Education – Professional	– Enhancing the dynamic approaches of the teaching-learning process through the	– Teaching courses; – Organizing seminars (for all categories

		supporting learning in higher education: the scientific title, of teaching excellence.	Associations	perspective of creativity, innovation and continuous development in various professional situations; – Manifestation in front of students and various beneficiaries of professionalism in academic activity; – Learning the various student-centred learning, teaching and assessment practices – Obtaining quality in teaching and research;	of teachers) – Evaluation and attestation of pedagogical competences for employment and promotion in office; – Mobility – Mentoring.
Denmark	– Order of the Ministry of Higher Education and Research on employment in universities	– Standards and qualifications for employment at higher education institutions, stipulated in the Memorandum on university posts	– N/A	– University pedagogy for University assistants, – Basic pedagogy, problem-based learning, – ICT in Teaching, – Variety of topics derived from the problematic of teaching – learning – assessment,	– Specialised workshops or seminars for large groups that offer activities at the initiation or advanced level; – Individualised training activities for polishing and/or strengthening basic skills; – Assisting in the auditorium hours (recorded video on request); – Mutual assistance in class.

From the tabular presentation we find, in a synthesized form, a different situation from the country to the country, but in all cases there are mechanisms for training pedagogical competences. Broadly, the content of pedagogical training focuses on the same problems derived from the particularities of conceptualization, design, conduct/realization and evaluation of the teaching process. The algorithmic functioning of the pedagogical process highlights the formation of competences on the curriculum, monitoring the individual activity of students, assessment, application of interactive methods.

Both from the study of documents and from discussions with colleagues from universities in Denmark, Britain, Sweden, Germany, we found that university autonomy does not mean full freedom in the work of professional training of disciples, but responsible involvement. Responsibility for the quality of the studies has conditioned the creation of national normatives, in some countries being more stressed, in others less stressed.

4.2 COMPARATIVE ANALYSIS: CRITERIA AND INDICATORS (INSTITUTION LEVEL)

We will reflect the comparative situation among the 6 partner universities in the Republic of Moldova, the Royal Institute of Technology in Stockholm (KTH), Sweden, and the University of Siegen (USiegen), Germany, in the light of the indicators that allow us to determine whether pedagogical training is a priority of the institution, if the institution has specialised structures for the training of pedagogical competences, what is the content (or, generally, the problematic) of pedagogical training and what ways/methods are used by universities for the training of pedagogical competences.

Table 7. Training of pedagogical competences at institution level: comparative analysis

Universities of the Republic of Moldova, members of the consortium	Aalborg University	University of Siegen	KTH	University of Glochester-shire
STATE UNIVERSITY OF MOLDOVA ***Institutional policies*** *Strategic plan 2016-2020*, approved by decision of the Senate No. 4.22.12.2015; *Staff policy strategy at the State University of Moldova (2014, drafted 2018);* ***Specialised/involved structures*** Continuous Training Section; Quality Management Section Academic Departments ***Content of training*** Training of general (digital, communication, including in English), specialty (current domain problems), psycho-pedagogical competences: *Psychology module* (personal development of the university teacher, creation of	- ***Institutional policies*** AAU has proposed to develop and adapt the PBL model in all study programmes. PBL is a philosophy of the existence of the academic environment.	- ***Institutional policies*** The university focuses on research, but in recent years, when employing young academic staff, asks for confirmation of teaching capacities through participation in trainings for teaching competences	- ***Institutional policies*** KTH Development Plan, Human resources policy at KTH	- ***Institutional policies*** Training of academic staff from the perspective of strengthening students' learning capacities. Facilitating the approach-centering on the student.

favorable learning environment: motivation, communication, stress management, etc.) *Pedagogy module* (paradigms and conceptual-normative framework, university curriculum, didactic technology, communication, evaluation) *The didactics of discipline module* (design of learning outcomes, forms of teaching process, monitoring of individual work, assessment, use of electronic platforms) ***Methods*** Department meetings; Methodic seminars at the department level; Thematic methodic seminars at university level; Training under the Master's degree; Traineeships for continuous training.		formation.		
STATE UNIVERSITY "ALECU RUSSO", BALTI ***Institutional policies*** SUARB Charter (2015); SUARB Strategic Development Plan (2012-2017); The strategic plan of the chair and the annual activity plans of the profile chairs; ***Specialised/involved structures*** Continuous Professional Training Centre (CFPC) (2007); The resource centre for the continuous training of academic teachers in the field of information and communication technologies „WETEN-USB" (2009); Resource Center (2012); Department of Quality Management (DMC) ***Content of training*** The psycho-pedagogical module in the volume of 60 study credits. You must have a training in the pedagogic field over the last 5 years. ***Methods*** Seminars/traineeships for continuous training	***- Specialised structures*** PBL Academy; The Learning laboratory that provides training activities and performs research on teaching-assessment.	***- Specialised structures*** Quality Management Structures	***- Specialised structures*** School of Education and Communication in Engineering, Department of Learning, Centre for Development and Research in Higher Education School of Information Technology	***- Specialised structures*** Teacher Training Center

TECHNICAL UNIVERSITY OF MOLDOVA ***Institutional policies*** University charter (2015); ***Specialised/involved structures*** The University Centre for Continuous Training (CFC); Specialized centres of continuous professional training at faculties and departments; Institute of continuous training in the field of water supply and sanitation; Design School; Continuous training courses at departments and faculties. ***Content of training*** In accordance with the provisions of the Education Code and normative acts of the Ministry of Education; ***Methods*** Psycho-pedagogical master's and professional master's degree studies, training courses for pedagogic and scientific-didactic mastery, training traineeships.	***- Content of training:*** University pedagogy for university assistants: for whome certification is awarded in the pedagogy of higher education; Courses for the recently employed academic staff: fundamental pedagogy, problem-based learning, ICT in teaching, etc.;	***- Content of training:*** Five modules: compulsory and at free choice: *Problematics, curriculum, elaboration of learning outcomes, assessment, teaching methods*	***- Content of training:*** - Basic courses in teaching and learning in higher education: *teaching process and teaching environment, students, the role of the teacher,* *designing courses to facilitate meaningful learning,* *professional and pedagogical development.* Additional courses in teaching and learning in higher education. Training course for supervisors in research;	***- Content of training:*** - Postgraduate Certificate in Academic Practice, based on social constructivism: *The principles and processes of teaching-learning, institutional and external factors influencing the academic process;* *Research internships, which develop excellence in teaching, based on scientific substantiation; Curricular design, teaching and learning support,* *Evaluation methods, with a view to* *strengthening students' capacities to learn;* *Professional development planning*
STATE UNIVERSITY OF MEDICINE AND PHARMACY „NICOLAE TESTIMIŢEANU" ***Institutional policies*** Development strategy of the State University of Medicine and Pharmacy „Nicolae Testemitanu" (2011 – 2020); ***Specialised/involved structures*** Public Health Management School, Didactic and Academic Management Department, Section for the organization of curative work. ***Content of training*** Training/development of pedagogic mastery with emphasis on: specialty competence, psycho-pedagogical competence, psycho-social and managerial competence, new pedagogical techniques, teaching in English competence. ***Methods*** Continuous training traineeships, conferences, scientific-methodic winter				

readings, the study of modern languages, the practice of tutoring and training of newly employed teachers, the organisation of workshops with partners from abroad.				
ACADEMY OF ECONOMIC STUDIES OF MOLDOVA ***Institutional policies*** The Charter of AESM, chapter VII "Promoting student-centered education" (2015) ***Specialised/involved structures*** Department of Studies, Curricular Development and Quality Management. ***Content of training*** Training of psycho-pedagogical competences at functional level – learning outcomes; structural level - use of pedagogical resources, operational level - design, realization, development and completion of teaching activities. Innovative teaching–learning-assessment methods in professional education; Personal development of the teaching staff; Application of information communication technologies in training. Moodle system; The deontology and efficiency of didactic communication; ***Methods*** Participation in scientific research, participation in training and professional development activities organized within the faculty or chair, traineeships for professional development within organizations, enterprises, conferences, seminars, trainings, workshops on psycho-pedagogical topics.	***- Methods*** trainings; on-demand training laboratory: specialised workshops or seminars, individualised training for polishing and/or strengthening basic skills, assisting in auditorium hours (video recorded - on demand), mutual assistance in class.	***- Methods*** Workshops/seminars/trainings on the general approaches of didactics, and with reference to the specific training area.	***- Methods*** Evening courses, distance courses, distance training courses in IT, summer courses, courses for the continuous teacher training	***- Methods*** Teaching courses and organizing informative seminars for teachers (not only for young specialists but also for more experienced teachers); Evaluation and attestation of pedagogical competences for employment and promotion in office; Mobility; Informative seminars

STATE UNIVERSITY "BOGDAN PETRICEICU HAŞDEU", CAHUL ***Institutional policies*** University charter (2015); ***Specialised/involved structures*** Continuous Training Centre (2009); Service (section) of Quality Management of Education, Career Guidance and Consultation ***Content of training*** University curriculum design based on competences training - Competences: outcomes of higher education - Didactic design in higher education Using the interactive SMART Board, Adobe Connect; English courses. ***Methods*** Traineeships, methodic seminars				

We note that all partner universities, either in the Republic of Moldova or in the European Union, consider the training/development of pedagogical competences of teachers as a priority, which is demonstrated by the presence of those stipulations in Universities' strategic documents. The training of pedagogical competences is directly related to the concern for the quality assurance of the study programmes. However, we find a different concern for the implementation of the PBL strategy. If Aalborg University operates on the basis of a PBL philosophy, which has penetrated all university activities and the university itself is considered, at national level, a performance centre in applying this strategy and training teachers in the spirit of the PBL, the University of Siegen is concerned about the formation of pedagogical competences in general, the PBL strategy being prioritised through didactics of vocational education and training, and the preparation of teachers with technical profile for vocational schools.

The universities in the Republic of Moldova are at the stage of knowledge of the best practices of the partner universities. At the moment, the training of pedagogical competences is focused on the application of more traditional teaching and evaluation strategies, because the classic system of centering activities on the teacher, which we consider to be outdated, is more prevalent, at least starting from the fact that it was designed to integrate graduates into a labour market stable and inflexible to societal changes, especially in relation to international influences. However, taking into account the speed at which the changes are made today, the flexibility of the labour market, it is evident that a student-centered education gives society more benefits, offers the possibility to prepare specialists, who would have those competences that employers require. *The change from teacher-centered education to the student-centered one implies a cultural transformation, and therefore behavioural and attitude changes, both from students and teachers, but also of the institution in general*.

From this perspective, the process of training competences of monitoring the individual work of students is quite difficult. While attempting to focus the didactic process on the student, university professors from Moldova are expected to strengthen their competences to organise the teaching process in a more modern way and to renounce the traditional strategy where the teacher was the main source of information of the student.

We note that in all the universities presented, the formation of pedagogical competences falls within the strategic objectives developed at European level on lifelong learning. *Lifelong learning, permanent learning/education* concepts highlight the idea that the individual is at the heart of educational policy approaches. In such an approach, institutions providing permanent education programmes must meet the interests and needs of the individual. In universities, permanent education is seen as a continuous and articulated investment in the development of the individual, bringing together, in the European Commission's acceptance, "all learning activities that take place throughout life in order to improve knowledge, skills, competences, in a personal, civic, social or employment-related vision" (2001).

Following the study of the teaching methods focusing on PBL/centered on the student in several European universities, we aim to introduce these methods in the pedagogical training programme of teachers. We will focus on the gradual implementation of problem-based learning (PBL) based on the pilot study programme. The conceptualization, design and realization, at national level, of a coherent and comprehensive strategy of permanent training-development of the personality can be a concrete response to the challenges of the new millennium, giving up the idea of acquiring a culture and a knowledge that proves to be useful throughout life.

5 ROADMAP

The Roadmap is a consolidated list of measures, commitments and deadlines for implementation of actions to overcome the challenges found.

I. Activities related to the *elaboration* of the educational offer (PBL module/training) for teachers who will teach by applying PBL. In their elaboration the experience studied and analyzed in the partner universities of Western Europe, legislative and normative acts, regulating the activity in higher education in the Republic of Moldova will be taken into account.

II. Activities related to *the training of teachers* with a view to use the PBL method. In this respect, some of the teachers, who will have hours in those groups, participated in several trainings organised in the framework of the project during the years 2016-2019. Several professors also benefited from academic mobility in Western European universities, members of the PBLMD consortium, where they had the opportunity to familiarize themselves with the method in question.

III. *Elaboration of educational documents*: curriculum on disciplines (analytical programmes), guides, case studies, evaluation, etc. (for year I of study).

IV. *Preparation of the physical environment* for the organisation of studies. In this respect, universities benefited from the equipment procured under the project for the use of the ICT means in innovative teaching. Libraries of the partner universities have been sent the books procured under the PBLMD project with reference to the problem-based learning, which everyone can read. Some institutions (TUM) renovated the classrooms for interactive teaching, transforming them into true learning environments.

V. Activities related to the *dissemination of good practices*. In this regard, institutional web pages are used, where the PBLMD project activities are regularly promoted.

VI. *Expanding the project* to other specialties within universities.

All activities mentioned will require certain resources. The necessary financial resources will be covered from the project (mobility of teachers and students, procurement of equipment, etc.), with the support of the institutions involved in the project (organizing trainings with teachers, motivating them, repairs, purchase of furniture, etc.).

For a brief and explicit presentation of the activities designed by the universities of Moldova, in order to form pedagogical competences from the perspective of the implementation of the PBL strategy, we highlighted the content proposals for the trainings to be performed.

Table 8. Designing competence training activities for the implementation of the PBL strategy

Higher education institutions, consortium members	Training of pedagogical competences Expected content	Target group	Achievement methods
State University of Moldova	• Education policies in higher education; • Theories and paradigms in higher education; • Structure of the curriculum package. Practical implications of the university professor;	Employees of the Department of Studies; Employees of the	Methodic seminars; Traineeships/traini

	• Competence-centered university curriculum; • Teaching technologies and strategies in higher education: adaptation to the particularities of the study programme; • Student-centered teaching process: ways of accomplishment; • Didactic design in the university: course, seminar, laboratory; • The methodology of monitoring the individual work of students; • Using the MOODLE platform.	Quality Management Department; Heads of department; Teachers.	ngs; Academic mobilities.
Technical University of Moldova	• Reorientation from student training, to a process of *guiding them in creating the added academic value*; • From the way of thinking about academic value as produced and taught by teachers, to the thinking of the value as *co-created* together with the students and other partners of the training process; • From the treatment of students as isolated entities, to their understanding in the context of their own *social networks*; • From the development of tangible resources (such as material resources) of the educational institution, to the priority development of *intangible resources* (such as human capital); • From the approach to the clients of educational institutions as targets, to approaching them as *relevant partners and resource providers* for training programmes; • From the foregrounding of the effectiveness of the teaching activity, to *increasing efficiency through effectiveness* as a result of training in students of the *social and professional competences required by society and the labour market*;	Deans, Heads of department, Teachers	Involvement in the teaching process at the „Software Engineering" specialty. Academic mobility at partner universities in the European Union; Traineeships in the university
State University "Alecu Russo", Balti	Analytical reflections on the Buck Institute summary: *Module B.* Project-based learning, conducting projects and PBL approaches: How do we make a difference? PBL components: Centering on students, collaborating, adjusting to the real world, and the variety of audiences, solving creative problems, etc. *Module C.* New types of collaboration within the PBL. Strategies and activities to promote effective collaboration between students, students-teachers (classroom). Strategies and activities to promote effective collaboration outside the classroom. *Module D.* Analysis of PBL steps according to the Practical PBL Series model. *Module E. PBL Research.* Defining the problem and determining what is known about the problem (previous knowledge). The finding of what it takes to	Teachers	Trainings within the project; Academic mobilities in EU universities; Trainings for teachers

	learn more about the problem (research themes). How to find resources/problem solving data (database, interviews, etc.). Formulating good questions for research. Research assumptions. Deciding group roles. *Module F. We produce performance*. Creating products and presentations that synthesize research, solutions and learning. Finding resources to develop fundamental knowledge. Collaboratively presenting the discoveries, including one or two solutions, in the form of posters. *Teaching–learning methods*. The activities will be focused on effective teaching-learning-assessment strategies. They will be merged specifically, for the various situations, methods and processes such as: problematization, case study, role play, heuristic conversation, debates, brainstorming, investigation, project, multi-angle exploration, panel discussion, argumentation and counter argumentation, independent academic learning, etc. *Assessment methods*. In the training process, the *participatory assessment* will be used in particular. The *final assessment* will be made on the basis of development in a team and written/oral presentation of a means of application (case study, project) of the PBL in didactic activity.		
State University of Medicine and Pharmacy "Nicolae Testemițeanu"		Teachers	Trainings performed within the project; Academic mobilities of the project team,
State University "Bogdan Petriceicu Hașdeu", Cahul	• Rethinking the curriculum and the content of the disciplines taught in PBL; • Re-orientation of the teachers' approach from classical teaching (centered on taught discipline) to teaching through PBL (centered on the student and guiding them in the knowledge and practical application of the studied material); • Changes in the approach and positioning of students as central entities in the study process; • Positioning on important places in the study process of the human resource: teachers and students, with all their needs; • Establishing collaborative relations and partnerships with the business environment, which dictates demand in the labour market.	Teachers	Trainings performed within the project; Academic mobilities of the project team, Traineeships/trainings in the institution.
Academy of Economic Studies of Moldova	*Problem-Based Learning-PBL (40 hours)* 1. *Learning outcomes*. In this offer/continuous training course, emphasis is placed on the training of pedagogical competences for beneficiaries, through	Teachers	Trainings performed within the project; Academic

	the development of capacities and attitudes based on certain relevant psycho-pedagogical knowledge, with the purpose of establishing *performing pedagogical behaviour*. *Upon completion of the course the beneficiary will be able:* 1) To build PBL-based didactic sequences/ scenarios; 2) To apply teaching technologies relevant to PBL (case study, project); 3) To develop a PBL-based professional training curriculum. The outcomes will be achieved by harnessing the content of the course units, but also through the proper use of teaching – learning – assessment activities. 2. *Content*. The contents are organized trans-disciplinary, not to focus on scientific content in the educational process, but on solving problems in the professional field. Teachers will perform the following modules: • Module A. Problem-based learning. What is it and how can PBL be *applied* in professional education? • Module B. Design of professional training curriculum offer. How can we design and organize the content taught to ensure a *student-centered* education *based on research* and focused on *training* professional *competences*? • Module C. PBL specific teaching–learning-assessment methods. How we can use *active learning methods* to create an environment that encourages students to work together and be self-motivated to solve a problem. 3. *Teaching–learning methods.* Activities will be focused on learning through discovery. They will be merged specifically, for the various situations, methods and processes such as: problematization, case study, role play, heuristic conversation, debates, brainstorming, investigation, project, multi-angle exploration, panel discussion, argumentation and counter argumentation, independent academic learning, etc. 4. *Assessment methods*. In the training process, the *participatory assessment* will be used in particular. The *final assessment* will be made on the basis of development in a team and written/oral presentation of a means of application (case study, project) of the PBL in didactic activity.		mobilities of the project team, Traineeships/trainings in the institution.

From the comparative analysis we conclude that all universities consider it necessary to train pedagogical competences and have identified certain problems for this purpose. The University of Medicine only indicates who would be the potential beneficiaries of trainings and how these trainings would be performed, but did not formulate any specific topics/themes. The other universities have formulated their proposals in two ways: either by proposing more general themes or by formulating modules focusing on the formation of specific competences for the implementation of the PBL strategy.

CONCLUSIONS

Pedagogical training of university teachers is an integral part of professional training and development. The peculiarities of the career evolution of an academic require the need to acquire knowledge in the field of education sciences, psychology and didactics, by virtue of work and service functions: conceptualizing a discipline, curricular design, elaboration of methodical support for students, elaboration and application of assessment tools.

During the evolution of universities there was a certain correlation between the appearance of specialty training, which ensures the teaching of the content of a professional training area (*What content they convey to the disciples*) and the technological / psycho-pedagogical aspect (*How do I organize, conduct and assess the training process*). The appearance of the contents was also strengthened by the research component of the teacher. The pedagogical aspect, in a traditional acceptance of the development of the university career, was mainly developed, implicitly, by the acquisition of models and capitalizing on the experience of the academic environment.

The correlation between specialized and pedagogical competences has undergone a radical change in the context of changing the paradigm of education and as a result of changing the conception of higher education. The new curricular approach imposed the higher education system in the Republic of Moldova and the institutions, to develop a new vision on the quality of education, staff policy and psycho-pedagogical training.

Pedagogical training has shifted from the positions of informal education, carried out implicitly by the university environment (we do not deny the formal and non-formal presence, but in a lesser proportion), on the positions of formal education, context in which employees of the university, regardless of the level of scientific performance and teaching functions, were put in a position to learn pedagogical concepts in the light of the new approaches.

The current reality demonstrates that, at the moment, only the good knowledge of a domain is not sufficient to achieve an effective teaching process in the situation of massification of higher education, the diversity of student training, diversity of motivation, complex and often uncertain relationships between the university and the labour market.

For these reasons, the professional development of teachers in the higher education institutions of RM in recent years is predominantly centered on pedagogical training. The appearance of the specialized content is not neglected, but it has become a concern of the research segment.

In order to develop and maintain the positive attitude towards change, to ensure the presence of critical mass for the modernisation of higher education, the higher education institution offers a wide variety of ways of pedagogical training, comprising various categories of employees. The conceptualisation and logistical aspect is ensured by the specialized subdivisions of the university.

The analysis of the prospects for developing higher education and good practices of renowned universities demonstrates that living in a period of consumption, the consumption of education is produced according to the defining peculiarities of the era. Pragmatism of the

education consumer, the inability of the recipient of educational services to "expect" the completion of the training of the specialist, requires the optimal valorisation of the size of the teaching technology to achieve the outcomes of professional training. In this situation, the continuous training and development of the pedagogical competences of the university professor becomes an imperative.

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Introducing Problem Based Learning in Moldova: Toward Enhancing Students' Competitiveness and Employability (PBLMD)

www.pblmd.aau.dk

Pedagogical Training Program

Academy of Economic Studies of Moldova

Work Package 3

Prepared by: Baciu Sergiu, Assoc. Prof. Dr.Hab, Director of Department of Education, Curriculum Development and Quality Management, ASEM (Task Force leader)

Solcan Angela, Assoc.Prof. PhD, Dean, ASEM

Dorogaia Irina, Assoc. Prof. PhD, Vice-dean, ASEM

Cepraga Lucia, Assoc. Prof., PhD, ASEM

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1. INTRODUCTION

European expertise in training and development of teachers has been focused lately toward analysis and design of an education system for teachers, in order to adapt to the principles of *life-long learning,* by improving the public image of teaching profession and increasing mutual trust in the education– pedagogical qualifications provided by member states.

One of the objectives of education and continuous training systems, stipulated by the European Council in Lisbon (2000) is to increase the quality and efficiency of education and professional training in the EU, to improve education and train teaching staff and trainers, to accede to knowledge as an essential key in the present knowledge society. Teachers and trainers are the key actors in any strategy, which aims to stimulate and develope a society or economy.

In the current socio-economic crisis, the internationalization of higher education in the Republic of Moldova is becoming more pronounced, gaining even an imperative character. The presence of competitiveness in relation with the European higher education institutions, the dynamism and pragmatism of modern society requires an imminent adjustment of curricula to the requirements and realities of present. This report is an analysis of the pedagogical activity in problem-based learning at the Academy of Economic Studies of Moldova.

The objective of the Report is to achieve a comprehensive analysis of higher education system in Moldova and, particularly, the Academy of Economic Studies of Moldova, based on the methodology developed within the project.

The methodology was applied in Working Package 2 to develop a similar report for the university system in Sweden and Germany, namely in two universities from these countries: Royal Institute of Technology in Sweden (KTH) and the University of Siegen. When comparing the elements of methodology used in European universities and the ones in Moldova, it was proposed a plan of pedagogical program for developping teachers'competences in applying PBL teaching strategy.

We have considered practical aspects, studying the legislation and multiple normative acts that guide the didactic activity of universities, these representing a substantial, notable part of the work.

Table 1. Team Working on Report

Name Surname	Title/Position ASEM	Team Position
Baciu Sergiu	Assoc. Prof., Director of Department of Education,	Team leader
Angela Solcan	Assoc. Prof., Dean of the Faculty Business Management and Administartion	Team member
Irina Dorogaia	Assoc. Prof., Vice Dean of the Facultyţii Business etand Business Administration	Team member
Cepraga Lucia	Assoc. Professor	Team member

2 METHODOLOGY

2.1 METHODOLOGICAL FRAMEWORK

When analysing the existing situation in student-centered teaching area in the Academy of Economic Studies of Moldova, we were guided by standard methodology, developed in the project and presented in Report on the Working Package 2. This methodology aims to explore the relationships between internal structures of university and educational study programs, including the approach in which the development and support of study program are integrated within the university. The cohesion of development of program study with its support will be examined at different levels of the institution, with possible overlapping levels: Level of System, Level of University Management, Level of Study Council.

The topics underlying this methodology are the reference point in terms of data collection for Report and subsequently, for their analysis. Also, we were guided by the criteria outlined in WP2, which eased the cross- case analysis for the pedagogical study program at ASEM and similar programs from Royal University of Technology Sweden (KTH) and the University of Siegen (USiegen) in the context of implementation of problem-based learning.

Studying the experience of the mentioned universities in using student-centered teaching methods, in general, and those based on issues, particularly, and of the whole educational system has led to the development of several types of curricula for pedagogical training, that would allow the implementation of this method.

When developing the Pilot- program it was taken into account the use of PBL method in different universities, we visited, and the experience we studied. Each university has its own uniqueness, which are related to existing specificity in that country. We started from this principle.

Despite existing discrepancies, there was an Action Plan (Roadmap) in order to implement Pedagogical Program- Pilot (PPP), which aims at implementing PBL, so that it will become a philosophy of ASEM.

2.2 DATA COLLECTION

According to mentioned methodology, when collecting data, there were analyzed laws and regulations concerning the activity of higher educational institution in Moldova, in globo and ASEM, strictly the interest field. Obviously, it was useful the didactic and managerial experience of project members, who participated in data collection and prepared the report. The information was collected according to the following model:

Table 2. Model of data reporting

Question / Problem	Sources consulted	Findings	Reflections
L1: Level of System			
L2: Level of University Management			
L3: Level of Faculty / Department			
L4: Level of Board of Education			
L5: Integrating Disadvantaged Students			
L6: Infrastructure (physical environment)			
L7: Level of Study Program			

2.3 DATA ANALYSIS

To analyse data, the working team used the recommended methodology, seeking answers to submitted questions and considering the approach in local universities, the impact different events have on institution's activity.

Cross-case analysis, as shown in the Table. 3 (cross-sectional analysis), allowed the reframing of criteria, properties and indicators for each level, yet based on the criteria that have been submitted to the Report for WP2. Highlighting and taking into account these criteria allowed us to carry out cross-case analysis, to point up some common elements, but to a great extent existing differences. This analysis represented the basis for developping Pilot- program.

Table 3. Template for the cross- case analysis

Criteria properties, indicators	ASEM	KTH	US
L1 criterion etc.	Main elements by fields	Main elements by fields	Main elements by fields

2.4 LEVEL OF SYSTEM

The professionalization of teachers, which is the need to increase the skills and move to their higher status, is an imperative of present timee. This allows the possibility of restablishing the explicit and reasonable side of educational activities, the term ”professionalization” implies explicitly. The professionalization of teachers becomes a way, through which they are bound to

internalize the objectives of established performance and make decisions in accordance with the general policy of the field they integrate.

In the Education Code of the Republic of Moldova (Code 152 of 07.17.2014, published in the Official Gazette of 24/10/2014 no.319-324) it is stated:

132 "(4) To hold teaching positions, the graduates of non- pedagogical higher education programs shall attend compulsory a psycho-pedagogical module in the ammount of 60 transferable (ECTS) credits."

133 "(1) The professional development of teaching, scientific-teaching, scientific and management staff shall be compulsory during the entire professional activity and shall be regulated by the Government. (2) The professional development of teaching, scientific- teaching, scientific and management staff shall be carried out in the higher education institutions and /or continuing professional training institutions, other service providers, based on accredited training programs through: a) professional training internships in the educational and research institutions or accredited organizatons in the country and abroad; b) participating as partners in the national and international educational and/or research projects; c) participating with communications and/or works in the international conferences, seminars, symposiums and exhibitions. ".

Based on the above mentioned, we see the legislator's concern to ensure quality education through training and continuous development of teachers' psyco-pedagogical competences.

Ensuring the quality of the continuous training of teaching staff represents an issue of maximum complexity for the European educational systems. By 2000, at the level of Member States of the European Union, there were a number of concerns for improving the sistem of quality assurance, but thanks to the Lisbon European Council (March 2000) two major initiatives have outlined.

The first was the confirmation of the necessity to structure some strategies at the national level for ensuring the quality of education and training processes which shall include concrete mechanisms for maximizing the quality of the experiences and processes related to training and professional development, and the second major initiative was the corresponding stipulation of the Report on future objectives of education and training systems, through which it was identified "the increase the quality and efficiency of education and training systems", as one of the strategic objectives agreed by member States.

For the purpose of ensuring an integrated, reliable, objective and transparent external evaluation and the accreditation of institutions and study programs in vocational education, higher and continuing education, in 2015 in the Republic of Moldova, there was set up the National Agency for Quality Assurance in Professional Education (ANACIP).

In accordance with the national and European framework for quality assurance in education, ANACIP developed a methodology of external quality evaluation for the authorization of temporary functioning and accreditation, and established accreditation standards, criteria and performance indicators for external evaluation of the study program and of the educational institutions. According

to it, the accreditation may be held by ANACIP or other external quality assessment agency registered in the European Register for Quality Assurance in Higher Education (EQAR).[1]

Psyco-pedagogical training programs are subject to external quality assessment every five years or the expiry of temporary functioning authorization, after the first graduates.

Regarding normative and legal Framework of credit mobility domain, we should mention that in 2005 the universities from the Republic of Moldova started to implement various strategies to promote student and academic mobility, being elaborated internal/institutional regulation acts. However, national regulatory and promotional policies in academic mobility in higher education in Moldova have been developed only since 2014, when it was approved Government Decision no. 56 "Framework Regulation on academic mobility in higher education", published on 01.31.2014 in the Official Gazette no. 24-26. This regulation was developed based on the provisions of the Education Law no. 547-XIII of July 21, 1995 (Official Gazette of the Republic of Moldova, 1995, no. 62-63, art. 692), with all subsequent modifications and additions, considering the commitements assumed by the Republic of Moldova after adhering to the Bologna Process, including the provisions of the Leuven / Louvain-la-Neuve, of the mobility Strategy 2020 for the European Higher Education Area (EHEA), adopted in 2012, the Convention on the Recognition of Qualifications regarding education in the European Region, signed in Lisbon in 1997, and the Republic of Moldova to participate in building the Common European Area of Higher Education. The Regulation establishes the way of students' participation (cycle I, II and PhD), of research and teaching staff in academic mobility programs at the national and international level, as well as the participation of students in traineeships, educational and cultural exchange programs, containing a component of paid employment in the workplace. [http://ipp.md/wp-content/uploads/2016/05/Studiu-Mobilitatea-2016-01-29-Rom.pdf]

2.5 LEVEL OF UNIVERSITY MANAGEMENT

The governing bodies of universities, their structure and number are determined by the Education Code of the Republic of Moldova. According to the functioning legislation, the System of management bodies in higher education institutions shall encompass the Senate, the Strategic and Institutional Development Council, the Scientific Council, Faculty Council, Administartion Council and Rector of the institution[2].

The institutional management is ensured by the management and administrative structures of ASEM. The quality of education and training the graduates for future employment is a priority for ASEM. In this regard, it is encouraged the use of student-centered teaching methods. In ASEM Charter, Chapter VII "Promoting student-centered education" is dedicated to this topic.

[1]METHODOLOGY of external quality assessment in authorizating of the temporary functioning and accreditation of study programs and professional technical education institutions, higher education and continuous training, GD. 616, of May 18, 2016

[2]Education Code of the Republic of Moldova 152 of 07.17.2014, art. 102

Continuous teacher training is a pedagogical and social activity designed, developed and implemented within the University, with self-management function of setting the continuous educational process at all its reference levels (functional - structural - operational).

At the functional level, teacher training development aims to stimulate the pedagogical and social capacities in practical conversion of the sistem finalities (ideals, goals of education) in the settled objectives of the educational process, in school and extracurricular environments.

At the structural level, teacher training development aims to stimulate the pedagogical and social capacities in fully capitalization of all educational resources (informational, human, didactic-material, financial) existing at the level of system and process.

At the operational level, teacher training development aims to stimulate the pedagogical and social capacities in designing, implementing, developing and completing of specific activities of the educational process lectures, seminars, practical work, extracurricular activities / with: students, teaching staff, parents and other educational community representatives; activities: management, methodological, of pedagogical and social assistance, of school and career orientation, counseling.

The main *organization forms* of teacher training development in pre-university education are:

a) methodical-scientific and psycho-pedagogical activities carried out at the level of the educational institution or group of units (methodological commissions, departments);
b) b)methodical-scientific communication sessions, symposiums and experience exchange on specialty and psycho-pedagogical issues;
c) periodic traineesships of specialized scientific information and in the sciences of education;
d) forms of distance learning training;
e) free-attendance courses organized by institutions of higher education, combined with periodic consultations, according to participants' options;
f) courses, organized by scientific societies and other professional organizations of the teaching staff;
g) training of specialized, methodological and pshyco-pedagogical courses;
h) training and development of the management staff, guidance; and control, according to specific programs;
i) scholarships of development, study traineesships and documentation stages accomplished in the country and abroad;
j) Postgraduate courses;
k) master / doctorate.

In the university, the Department of Education, Curriculum Development and Quality Management (DSDCMC) shall have the responsibility for the teaching and student-centered learning process. Every academic year, during the winter vacation, professors are given the opportunity to get acquainted with new teaching student-centered methods. The department shall develop policies in teaching - learning – assessment field, develop internal Regulations within the competence of this area. DSDCMC works in close contact with the departments, directing their work in the development and improvement of curricula, designing and developing study programs.

Continuous development and teacher training in ASEM aims to develop professional skills and are organized in accordance with the provisions of Procedure Process PP.6.2. Human Resources and implemented systematically according to the table below.

The departments and faculties may require the organization of training activities by filling and submitting the form *NI 6.2 NECESSARY INSTRUCTION* to Human Resources Service, specifyin: purpose / topic name and surname of the persons to be trained. Human Resources Service will analyze these requests and settle training activities to be included in form *PRO 6.2.* Training Program, approved by the Rector, and will organize the settled training activities.

Table 4. Life –long Learning

NR. crt.	Training methods	Responsible for organizing training	Reference documents
1.	Employee training in psycho-pedagogical field	DSDCMC	Education Code Regulation for the organization continuous professional training
2.	Traineeships at educational institutions abroad	External Relations Service	Policy on organizing continuous professional training
3.	Participation in scientific researches	Science Service	Code on science and innovation of the Republic of Moldova
4.	Doctorate	Doctoral School	Policy on organizing and carrying out of doctoral and post-doctoral studies.
5.	Participation in training and professional development activities organized within the faculty or department	Deans, Heads of Departments	Policy on organizing continuous professional training
6.	Professional development traineeships in organizations, enterprises	Deans, Heads of Departments	Policy on organizing continuous professional training
7.	Participation in conferences, seminars, trainings, workshops	Heads of Departments	Policy on organizing continuous professional training
8.	Self-training	Heads of Departments	Policy on organizing continuous professional training

Design and registration of the training activities at the department and faculty levels will be made by completing the relevant subdivision Plan activity.

The person who participated in the traineeship is required to report to the Department Meeting.

Teaching staff are required to register training activities in an Individual Plan.

Key performance indicators at the university level are determined, usually, in the academic accreditation process and refer to various components of the educational process.[3]

2.6 LEVEL COUNCIL OF EDUCATION

The ASEM Board of Education is represented through the Education Department, Curriculum Development and Quality Management (DSDCMC), which has a slightly different role from the existing in other countries studied in Working Package 2. The activities of this body are rezumed to:

- ✓ Organization of the training process.
- ✓ Development and improvement of ASEM academic curriculum.
- ✓ Training and record of students.
- ✓ Ensuring of a functioning institutional system of quality management.
- ✓ Development of psyco-pedagogical skills of teachers.

DSDCMC relations with the comissionss are mainly direct, the mentioned department coordinating the designing, development and improvement of university curricula in ASEM. Although curriculum development is the direct responsibility of area departments, Education Department has their coordination. Human Resources Service is involved into the development and continuous professional staff training. This Service keeps track of employees, of their professional training courses they had. At least once every five years, all teaching staff are required to attend a teacher training course (apart from 60 study credits mentioned) and a traineeship in companies in a real field of the national economy. The courses are considered while participating for a teaching or research vacant position. The records are kept by the Human Resources Service employers.

Continuous training at this level is geared towards motivating and stimulating teachers's creativity, aiming to include teachers in the system of education reforms through investigation and applied contributions, to support and prepare them to meet modern requirements in order to organize, conduct and evaluate the educational approach.

For the academic year 2016-2017 in order to develop teachers'skills there have been proposed the following development training courses:

***1. Problem based learning - PBL* (40 hours)** (Appendix 1)

Period: 26 to 30 December 2016. Trainers: Sergiu Baciu, PhD., Dr.Habilit., Assoc. Prof., ASEM + ...

Objectives, upon completion the course the student will be able to:

- develop a professional training curriculum based on PBL;
- develop and adapt the taught contents at education requirements based on problems;
- apply relevant PBL teaching technologies (case-study, project).

[3] http://anacip.md/index.php/ro/legislatie/anacip/ghiduri/send/22-ghiduri/412-ghid-de-evaluare-externa-a-programelor-de-studii-de-licenta-invatamantul- superior

***2. Innovative teaching - learning - assessment in vocational education* (40 hours)**

Period: 26 to 30 December 2016. Trainer: Svetlana Nastas, PhD., Institute of Education Sciences

Objectives:

- Ensure continuous professional development to maintain and optimize the quality of services;
- Promote innovative teaching approach through different methods and techniques of teaching - learning - assessment:
    - Oral: Aquarium (*Fish Bowl), Reporting, Virtue Fair, Brainstorming, Guided Dialogue, Summary, Discussion* etc.
    - Written: *Venn Diagram, T- Chart, Lotus Diagram, Spider Web, Clustering, Cause & Effect Diagram, Cube Model,* etc.
    - Mixed: *Portfolio, Project Work, Poster* etc.

***3. Psychology. Personal development of teachers*(40 hours)**

Period: 26 to 30 December 2016. Trainer: **Vrabii Violeta**, PhD., Institute of Education Sciences

Objectives:

- Elucidate the sources and effects of personal development;
- Identify dimensions of self-knowledge, self-efficacy, self-regulation;
- Analize the correlation: effective communication - personal effectiveness;
- Evaluate /self-evaluating of personal development indicators;
- Establish a training program of implementation in personal development coordinates.

***4. Applying Information and Communication Technologies in Education. Moodle System* (40 hours)**

Dates: 9 to 13 January 2017. Trainer: **Portărescu Serghei**, PhD., Assoc. Prof., ASEM

Objectives:

- Acquire methods of recording and moderation in Moodle system;
- Acquire methods of developing electronic teaching materials;
- Acquire management methods of files (teaching materials), placed in Moodle system;
- Acquire management methods of learning activities offered by Moodle system;
- Acquire methods of collaboration in the research and learning process offered by Moodle system;
- Acquire methods of assessment in students'activity by using the methods of knowledge testing offered by Moodle system.

***5. Ethics and effectiveness of teaching communication* (40 hours)**

Dates: 9 to 13 January 2017. Trainer: **Mancaş Maria**, PhD., Assoc. Prof., ASEM

Objectives:

- Self-evaluate own communication skills for personal and professional development;

- Develop communication and teaching skills related to human resources management in the process of teaching and assessment;
- Develop psycho-social behaviors, to improve teaching communication through the management of diversity in university;
- Develop *work-life balance* behavior (balance between work - personal life in the university).

Continuous training/ Life-long training in ASEM ensures the update and development of teachers' skills, including the acquisition of new skills, according to the evolutions in the plan of educational needs and curriculum, as well as depending on the requirements regarding adjustment of teaching staff skills to the changes in educational structures / processes. According to its main destinations, continuous training aims to:

a) update and develop, through periodic training/ development, of the skills in specialization area/areas which correspond to the teaching positions obtained through initial training;
b) develop skills for teaching career, through training system and obtaining scientific-didactic degrees;
c) acquire and develop leadership, governing, control, evaluation skills in the structures and organizations from the educational system;
d) acquire new skills through reconversion/rehabilitation of qualification for new specializations and / or teaching positions, others than those obtained through initial training;
e) acquire complementary or extension skills which enlarge the range of activities and functions that can be provided by the teaching staff, respectively teach in E-Learnng system, teach foreign languages, educational counseling and career guidance, adult education, etc .;
f) develop and expand cross-analysis competences regarding social roles, personal and professional development, interaction and communication with the professional and educational environment, assume responsibility for the organization, management and strategic performance development of professional groups, self-control and reflective analysis of their own work etc. .

If university plans to start preparing a new program, but non-existing in the mentioned Nomenclature, it is necessary to obtain provisional authorization from the National Agency for Quality Assurance in Professional Education (ANACIP). The program is developed at ANACIP, where they build a work team, that develops all the necessary documents. Subsequently they are approved by the Senate.

2.7 LEVEL OF STUDY PROGRAM

Continuous training is a right, and at the same time a moral obligation, which ensures teacher career advancement, it is the only possible answer to the extraordinary need of learning and framing with that culture that marks our present. Continuous training generates ideas and always restores the balance between new concepts and the possibilities of fixing them in a practical operational extension, in order to make it match real applications. The advantage of continuous training for the teacher is to ensure gained information, an addition of intellectual skills and concrete actions, extra

motivation and attitude reflected in further work training. For the teacher, learning is not just a matter of accumulation, of completing something, on the contrary, it is a reorganization, restructuring or even unlearning. Teacher's employment depends to a great extent on self-management, which involves knowing how to prioritize.

The main steps and activities through which chairs/departments contribute to continuous training/ teaching staff professional development in the study program are:

a) analysis of educational needs, general and specific, common and special and establishing the priorities, the educational process is designed on;
b) analysis of educational resources and set the way how they will be distributed and used at the concrete level of the university and courses;
c) social and specific pedagogical analysis of the context in which the educational process runs;
d) analysis of students' groups in terms of past learning performances and determining the initial conditions from which each stage of the educational process starts, respectively at the beginning of the cycle, school year, semester, a new unit from university curriculum;
e) operational defining of educational objectives and / or of skills approved in the educational process;
f) organization, logical structuring and psyco-pedagogical implementation of teaching and learning content, depending on the particular psychological and school age of students and on each group of students' characteristics;
g) selection, analysis and evaluation of teaching strategies, methods, techniques and tools for teaching- learning and applying them to the particularities of educational subjects;
h) selection, creation and validation of methods and tools for formative and summative assessment of students and evaluation of the educational process outcomes;
i) setting and applying the self-regulation and improvement means of the educational process based on the results of the evaluation at each stage;
j) broadening and deepening expertise of psyco-pedagogical approaches and their integration into investigation, assessment and critical analysis of theories, approaches, principles regarding education;

In the Education Code there are established minimum qualification requirements for teaching positions (assistant professor) and scientific– didactic positions (Lecturer, Associate Professor, Professor). Thus, in order to occupy a scientific- didactic position in higher education system, it is necessary to have a ISCED level 8 qualification - Doctoral Studies. For teaching positions, graduates of higher education non-pedagogical programs shall follow compulsory psycho-pedagogical module corresponding to 60 transferable credits. To obtain these studies credits, a teacher can enroll in different courses, which are organized in the University. So, ASEM offers newcome teachers to university the opportunity to gain the necessary knowledge in the field of psycho-pedagogical and accumulate the number of required credits (Annex 2). For ASEM employees these courses are free. Also, students in the cycle II, masters or teachers from other educational institutions can enroll in the courses. Responsible for organizing psycho-pedagogical module is ANACIP.

For each course unit included in the educational plan, a curriculum (syllabus) is developed. It includes the following elements: Course title / Course lecturer / Course code / year / semester /

number of credits accumulated / Language Training / Final evaluation / number of hours (contact: theoretical course / seminar / laboratory activities / project or practical work and individual study)/ Formative category of course/ Elective category of course / Maximum number of students who can enroll in the course/ Conditions of applying / Background / Objectives / components developed in the course and study outcomes / Course content / Minimum bibliography/ Teaching technologies (Dominant ways of organization; Teaching strategies; Teaching aids)/ Final evaluation mode/ Rating(Grading) final mark/expected moderation/ Total time (hours per semester) of the activities provided individually to the trainee.

Course curriculum (syllabus) is prepared by course Lecturer according to internal policy of the ASEM (Rules of studies organization based on the National Education Credit System, Methodology of the ASEM on developed and approved curriculum, IM7.5 / 3, etc.). Their content is updated at the beginning of each academic year by introducing new knowledge which result from scientific research, including their own, new bibliographic resources etc. and approved by the First Vice-Rector.

An ensured and enhanced quality of the module is reached by:

- Implementing an annual internal audit of the educational offer in terms of the following factors of quality: *meeting the needs of beneficiaries, effectiveness, efficiency.*
- Internal and external evaluation of the training programs quality based on the following assessement criteria: *Relevance, Praxiological value, Setting learning outcomes, Opportunity to assess the learning outcomes of the program, Opportunity to provide continuous assessment of learning, Correlation between learning outcomes and content units, Scientific value, Correlation between learning outcomes and teaching-learning methods, Level of requirements for the necessary material resources, Program productivity*.
- Providing a permanent consultation feedback of *external clients* (employers), *internal clients* (students, teachers, managers, etc.) and other *specific interest partners* (national, state, community, shareholders, creditors, etc.) in order to change the educational offer.
- Self-assessment and peer assessment of the staff involved in professional training.
- Monitoring students' competence and final stages of graduates' training.
- Flexible ways to participate in training through flexible schedules and introduction of distance learning.
- Development of human resources and materials to provide a pleasant and productive learning environment.

Life-long learning/Continuous training at the level of educational institution is necessary in terms of change, continuous motivation and stimulatation teachers and school managers' creativity to meet modern requirements in organizing, conducting and evaluating the educational approach. Also, continuous training process should be focused on transforming the teaching institution into the learning institution, and the teacher will turn from a professor who teaches into a professor who guides the student and provides a favorable environment for creative and independent learning.

3 CROSS-CASE ANALYSIS

3.1 INTRODUCTION

In this chapter we will make a comparative study between Moldovan higher education and educational systems in European countries: Sweden and Germany, highlighting both similarities and main differences between them, trying to highlight the drawbacks and pluses of the national system, but also ways that can improve and make Moldovan education efficient. We will focus on the whole system and the whole range of issues. Obviously, the focus will be on using student-centered teaching methods, firstly, and, secondly, we will further use the proposed methodology.

3.2 CROSS-CASE ANALYSIS: CRITERIA, PROPERTIES AND INDICATORS

Here we provide a graph presentation of indicators and criteria of each level in the comparative three universities: ASEM (Moldova), Royal Technical University in Sweden (KTH) and the University of Siegen (USiegen).

Table 5. Cross- Analysis

Criteria properties, indicators	ASEM	KTH	Usiegen
L1 System Level			
1.1. Curriculum acreditation	In order to get accreditation there was founded Independent Agency ANACIP. At the first level Cycle I, license programs are accredited, then the Cycle II, Master, programs, then the Cycle III, PhD. After this whole university can be subject to accreditation. According to the Education Code, accreditation results will be the basis in ranking of universities into categories and then university funding will depend on it. There are developed a set of	In Sweden the accreditation process is done for all higher education institutions at the same time. Last Swedish system for evaluation of higher education programs was completed in October 2014. Sweden is currently developing a new assessment system.	Accreditation system is decentralized and carried out by independent accreditation agencies that are accredited by the German Accreditation Council (Akkreditierungsrat - http://www.akkreditierungsrat.de).

	indicators that provide assessment of programs.		
1.2.National Agency for Quality Assurance	In the Republic of Moldova, the National Agency for Quality Assurance in Professional Education (ANACIP) is responsible for ensuring an integrated, reliable, objective and transparent external evaluation and accreditation of institutions and study programs.	The main responsibilities of the Authority on quality assurance in higher education refers to the recognition of new programs and the periodic evaluation of programs recognized. Both of these activities are the responsibility of the Department of Quality Assurance in the Swedish Higher Education Authority (SHEA).	The legal framework of the accreditation system is defined by the Law on establishment of the Foundation for the Accreditation of educational programs in Germany, as well as contracts between the Accreditation Council and Accreditation Agencies. Accreditation Counsil is a member of international networks of quality assurance: INQAAHE (International Network for Quality Assurance in Higher Education) and ENQA (European Network for Quality Assurance in Higher Education).
1.3. Professional bodies involved in accreditation.	For psyco-pedagogical program, the accreditation by professional bodies is not necessary. It is accepted the recommendation of a professional association regarding the use of study program for educational environment.	There are no professional bodies that contribute to the validation of programs.	There are no professional bodies that contribute to the validation of programs.
L2. Level Management of University			
Criterion 1. Governing Bodies, Management and organization of the university	There is not a clear distinction between Governing and Management bodies. The governing bodies consist of the Senate, Institutional Strategic Development Council, Scientific Council, Faculty Council,	University Council and Rector. It is a governing structural unit.	Governing bodies: Council, Senate, Rector's Office.

	Administrative Council and Rector.		
Criterion 2. Institutional Strategy of university, incorporating curriculum strategy with a focus on student-centered learning	The quality of education and training graduates for future employment is a priority for ASEM. In this regard, it is encouraged the use of student-centered teaching methods. ASEM Charter Chapter VII "Promoting student-centered education" is dedicated to this topic. The Strategic Development Plan of the Academy of Economic Studies of Moldova for the period 2012 - 2017 states "Promoting flexible and innovative methods of teaching, an effective means of ensuring this issue, being capitalization of opportunities offered by communication and information technologies, including to support personalized and interactive learning, distance learning, virtual mobility, etc., are required for this purpose and also strengthening of infrastructure dedicated to transfer of knowledge	The strategic vision of KTH - on year 2027 is specified that "student-based learning is in the center of KTH education .... there will remain teaching system based on" mentors "... Every student at KTH will feel at home ..will remain an international learning environment. KTH's future success depends on the staff and students	University of Siegen has an institutional development plan that focuses on applying new learning methods centred on students.
Criterion 3. Quality Assurance Bodies at university level	To implement the quality policy and objectives in ASEM, Department of Education, Curriculum Development and Quality Management of ASEM is created and run by director.	Quality policy, approved on 06.01.2016 includes four basic elements: (Quality policy for KTH) •Education •Research • Skills offer •Collaboration Action Plan prioritises	In the University of Siegen there was established Steering Committee in quality management area (LAQ) and Quality Centers (QZS) were established at the faculty.

		quality policy and activities each year. Annual report on quality provides an overview of activities and results.	
Criterion 4. Pedagogical training of teachers and their training	It is compulsory for teachers who do not have pedagogical training to attend psycho-pedagogical module of 60 study credits. At ASEM it is stipulated that in order to participate applyng for a vacancy in science teaching positions, it is compulsory to have a training in pedagogical area during the last five years and another one in the real sector of the economy.	Faculty Development, KTH / ECE is responsible for initial and continuous training of teachers. Pedagogical training is based on the model of CDIO. Since 1999 KHT has implemented systematic approach in curriculum development, called CDIO.	Center for Teacher Training and Educational Research (Zentrum für Lehrerbildung und Bildungsforschung (ZLB)) is a central scientific institution of the University of Siegen, responsible for teacher training at the University of Siegen. ZLB is represented in all quality bodies at the University of Siegen.
L3. Level of Faculty / Department			
Criterion 1. The role of faculty in communicating with the parts involved in student-centered teaching and learning process	University community communicates largely with students and teachers who have classes in that faculty. They have the right not to accept certain teachers who do not meet the particular requirements or are not approved by students. Departments have a greater involvement in student-centered teaching, imposing certain standards toits members.	At Faculty level, the main decision-making body is the faculty council, which consists of the dean, dean (s), other community representatives faculty and student representatives. Additionally, the faculty council and external members can be included.	Faculties and Departments are components of the internal structure of the University of Siegen. Starting a new study program is the prerogative of the faculty.
L4. Level of Council of Education			
Criterion 1. Structure of the body responsible for education	The body responsible for organizing the studies is ASEM Education Department, Curriculum Development and Quality Management	Learning Department of the School of Education and Communication in Science Engineering (ECE) at KTH), is responsible for education,	The body responsible for the development and quality assurance in teaching and learning at the University of Siegen and for the identification and

	(IDSDCMC), which works with the departments to develop curricula, analytical programs of the subjects.	research and collaboration in engineering field. The employees of the Learning department are members of the Council organization CDIO.	transfer of good practices is the Senate Permanent Commission for teaching and life-long learning.
Criterion 2. Analysis of evaluation practice	The evaluation has a continuous character and it includes current assessment (during practical classes), final evaluation (at the end of the course, during the session). The examination is made in writing, orally or computer assisted. It is used portfolio / project method.	Course analysis is done by course director and is based on assessment, discussions with students, teachers and examiners involved, as well as their own reflections. It is recommended that course evaluation be completed within one month after its completion and the analysis be posted on the website of the course.	The university uses various methods of assessment, colleagues'evaluation, monitoring evaluation, including an external evaluator.
Criterion 3. Method of developing a new study program	DSDCMC is developed and approved by the Senate. It is also required to obtain provisional authorization from ANACIP.	Cycle I courses are established / initiated by the school director after discussing with other schools. A decision to initiate a school course is done at school where the course will be held. Professional training courses offered are decided by faculty Vice dean, after following the preparation by the school director within the university administration.	Launching a new study program lasts approx. 24 months and the following steps are performed: • preliminary • examination • decision • implementation
Criterion 4. Involving students in curricula development	Students are not directly involved in developing the curriculum. But indirectly thay are involved by the representatives in the ASEM Senate where these documents are analyzed and voted, where they can express their opinion. Also surveys are continuousy carried out regarding the	Students are actively involved in all governing bodies	Students are involved in evaluating teachers and programs, courses.

	course or the entire process of studies.		
Criterion 5. Monitoring and regular analysis programs	On a regular basis, the review of programs is carried out every five years. Annually feedback is prodided by students, graduates, employers, which allows an analysis and, as required, initiating an updating procedure.	Program review is done each semester, for this purpose eight annual meetings are organized.	Programs are analyzed annually, including through feedback from students, employers.
L5. Integration of disadvantaged groups of students			
Criterion 1. Existence of a body that provides help to disabled students	ASEM has no special students disability service, yet at the institutional and faculty level there are factsheeets on disabled students to determine individual support needs and assistance that can be provided.	In KTH we did not notice the existence of this body.	To support this category of students at the University of Siegen, in the Counseling Center for students there was created an Office for disabled persons with disabilities or chronic illnesses and detailed information about its activity and services are published on the university website.
Criterion 2. *Ways of working with students from disadvantaged backgrounds regarding teaching/learning*	Important steps are taken to provide minimum conditions so that they are not marginalized. Counseling is done by the group tutor.	In university Policy there are developed principles of equality (Equality Ombudsman) which provide equality to disabled persons and prevent negative attitudes towards them.	In Siegen University, students with health problems and disabilities are entitled to "compensation" from existing problems. For example, prolonging the time during the exam, changing the form of written examination in oral or vice versa, providing breaks during lessons and exams etc.
L6. Infrastructure (physical environment)			
Criteria 1. *Providing facilities adapted to the needs of disabled persons*	ASEM makes an effort and takes measures to adapt infrastructure to ensure access to education for students with disabilities. Each	There is an infrastructure, which ensures access to education and provides learning opportunities for disabled students.	Infrastructure ensures access to research infrastructure and provides learning opportunities for disabled students.

	study unit has accessssibility ramp for people with mobility problems, there are lifts.		
Criterion 2. Existing facilities for students in supporting problem-based learning	ASEM has a modernized infrastructure with classrooms, well-equipped campuses, scientific library, WiFi etc.	The University has a very good infrastructure, with classrooms, well equipped campuses, libraries, WiFi, etc.	In the university there is a very good infrastructure, with classrooms, well-equipped campuses, libraries, WiFi, etc.
L7. Level study program (Psychology)			
Criterion 1. Program structure	The length of study for Psyco-pedagogical Module is a year and for annual stages is 40 auditory hours	The length of study is different, according to the course.	The length of sudy is different, according to the course.
Criterion 2. Workload of a student	The workload is calculated in transferable credits: for one academic semester - 30 ECTS; for one academic year - 60 ECTS. A ECTS equals 30 hours of a student work.	In Sweden each study year is equivalent to 60 ECTS or each semester to 30 ECTS. 1 ECTS equals 27 hours of a student work.	The annual volume of student work is approx. 1800 hours
Criterion 3. Students' evaluation	- There is Policy on the evaluation/assessment of students' learning which explains the types of evaluation applied to ASEM ways of organizing and conducting examinations, Assessment Scale. - Assessment is based on certain skills acquired by the student.	-A grade is submitted on a course completion. The grade is determined by a professor specifically designated (the examiner). High education institution provides at least five examination sessions.	Policy on examination contains comprehensive information, ways and length of time, admission rules to the exam, rules of repeated examination.
Criterion 4. *Involvement of teachers, students, graduates, employers in the study program design, management and improvement*	Usually, in developing a study program only the teaching staff are involved directly. However, before drafting some courses, students, employers, graduates are consulted through various	In a study program design, development and improvement there are involved multiple parts: teachers, students, employers, graduates both directly (through participation in various committees) and	At Siegen University there was created Alumni Association of Alumni Faculty Groups. Graduates' experiences can substantially contribute to the change of conditions of study and careers in courses.

	questionnaires, by organizing round tables. Thus, indirectly many more parts participate in program development and improvement.	indirectly (through questionnaires, feedbacks).	
Criterion 5. *Preventing and punishing cheating and plagiarism*	At the institutional level there is the Code of academic ethics, Policy on the prevention of plagiarism among students / MA, clarifying what plagiarism is, which are its consequences In ASEM each graduate is required to submit the thesis in electronic format, ASEM Repository System (anti-plagiarism) to verify the degree of plagiarism .	In the university there is a special platform - TURNITIN to test the level of plagiarism in all projects, bachelor's and master theses.	To detect cases of plagiarism at the University of Siegen use search engines on the Internet: Docol © c (www.docoloc.de) and UN.CO.VER (www.textbroker.de/uncover) In undergraduate thesis, students sign plagiarism Policy Statement (Plagiatserklärung) thus, ensuring that the thesis was developed independently, used resources (including in other languages) are indicated and electronic content corresponds to the content of the printed version.
Criterion 6. *Student' contestation*	The grade once submitted by examiner may be contested by regulations. Students may contest the results of the final examination within 24 hours from the announcement of grade. If it turns out that the student was not correctly assessed (underappreciated or overrated), the Jury may cancel the grade and delegate a board of three examinors to repeat the exam. In this case, the instructor of the course is not included in the board .	**Re-examintion**. If the student fails the exam during the examination session, he can only once a year retake the exam within three years after the initial examination. Re-examination period at KTH usually is - January, March, June and August.	There are very detailed regulations stipulating the conditions where claims may be submitted, ways of solving them.

Criterion 7. *The current rating/grading system*	Knowledge assessment is done using grades from 10 to 1. Grades from "5" to "10" obtained from the assessments allow obtaining credits, according to the Curriculum. The final grade is calculated based on summative commponents, such as results of tests taken during the semester and final examination and are registered exactly by a fugure according to decimal scale.	Since 2001 the KTH grading is done on a scale from A to F cycles I and II and cycle III, Ph.D., provided qualifications pass / fail.	German grading system includes grades from 1 (for good) to 5 (for insufficient). Scores may be submitted with decimal grades. Universities that have as a condition of admission Numerus Clausus (seats are limited) grading is from 1 to 18.
Criterion 8. *The role of external examiner*	External examiners are required for the final graduation exam. They are appointed as Chairperson of the Evaluation Board by Senate decision of ASEM. For current tests external examiners are not appointed.	External examiner is not required to be present in assessement	External examiner is not required to be present in evaluation
Criterion 9. *Employability of graduates*	The ASEM graduates interviewing is practiced.	Organizers of programs, university departments keep track of their graduates' employability. At KTH has formed a culture, university graduates announce whether they are employed or not, where, what position etc.	University of Siegen also monitors the employed graduates. Thus, since 2008 thay have participated in On-line Graduates' Survey.

From a historical point of view, most universities in Moldova focused over a rather long period, mainly on teaching and learning. We can say that universities that have undertaken notable research activities at national or international level are currently missing.

In universities there still predominate classic teacher-centered activities, we feel them outdated, at least from the fact, that it was designed to integrate graduates in a stable and inflexsible labor market to the changes in society, especially in relation with international influences. Taking into account the speed of the changes made today, the labor market flexibility, it is evident that a

student-centered learning society offers more benefits, offers opportunity of training specialists, who would have the skills that employers require. *Changing teacher-centered education to student-centered one implies a cultural transformation, and hence behavioral and attitudinal changes, both from students and teachers and the institution in general. Non- involving of one of these factors makes it impossible to achieve this method.*

After studying student-centered teaching methods in several universities in the European Union, we aim to introduce these methods in teacher training program at ASEM. We will focus on the gradual implementation of the problem-based learning (PBL) in this pilot program (BA).

4 ACTION PLAN (ROADMAP)

4.1 INTRODUCTION

Action Plan (Roadmap) is a massive list of measures, commitments and deadlines for the implementation of actions in order to overcome the challenges identified in the Problem- Based Learning Pilot Program.

Its immediate goal is to establish an institutional basis to overcome certain obstacles or certain existing threats to the implementation project.

Regarding the implementation period, there must be taken into account that some new elements, which will be implemented can be classified within the existing policy framework, while others require some changes in the existing normative regulations.

4.2 FIT-FOR-PURPOSE

In order to implement the Pilot Program, Action Plan (Roadmap) was developed (Annex 4). It includes several necessary activities to be implemented at the institutional level to achieve successfully Program - Pilot. The implementation of this Action Plan has already started, some activities being carried out, others are to be implemented. The mentioned activities are formally divided into several groups:

I. Activities related to the *development* of educational offer (psycho-pedagogical module, training) for teachers who will teach applying PBL. For their development it will be taken into account the experience seen and studied in partner Universities from the European Union, the legislative and normative framework, regulating the activity of higher education in Moldova.
II. Activities related to the *teacher training* in order for them to use PBL method. In this regard, some of the teachers that will have classes in these groups have participated in several trainings organized within the project at UTM or ASEM during 2016. Also, more professors will benefit from academic mobility at partner Universities from the European Union, which will be able to get acquainted with the current method. Within ASEM there will be organized teacher staff trainings on problem-based learning, assessment of student activity etc.
III. *Ellaboration of educational documents*: Discipline curriculum (syllabus), guides, case studies, evaluations, etc. (For I year of study).
IV. *Preparation of physical environment for* organizing the studies. In this regard, we have mentioned that ASEM - is equipped with everything necessary, including classrooms, literature, access to databases, WiFi free for students and teachers, etc. ASEM and library books were sent purchased within this project regarding problem-based learning, which can read all by all interested. There will be done additional purchases of books or subscriptions to certain databases.
V. Activities related to the *dissemination of best practices*. In this regard there will be used primarily ASEM newspaper *Economic Courier*, where we will regularly publish information about this project (it has already been published), the project team members

will participate with presentaions at various conferences, workshops, they will ellaborate scientific articles to be published in scientific journals in the country.

VI. *Extension of project for* other specialties within ASEM.

All mentioned activities require certain resources. The necessary financial resources will be covered by the project (mobility of teaching staff and students, purchase of equipment, etc.), with the support of ASEM (organizing trainings with teachers, their motivation, making repairs, purchase of equipment etc.).

4.3 CHANGE OF CONTENT

The Action Plan (Roadmap) presented in Appendix 3 includes some activities necessary for the implemention of Problem-Based Learning within the pedagogical Program framework. In fact, this action plan is oriented toward the modification of paradigm of higher education, namely:

- reorientation from students training, *to a process of guiding them in creating academic added value;*
- from the way of thinking of academic value as produced and taught by teachers, to the thinking as co-created value with the students and other partners of the training process;
- from treating students as isolated, to understanding them in the context of their own *social networks;*
- from the development of tangible resources (such as material resources) of the educational institution, to the prioritary development of *intangible resources* (such as human capital);
- from the approach of customer education institutions as targets, to address them as *partners and suppliers of relevant resources* for training programs;
- from putting in the forefront of teaching effectiveness, to *increased efficiency through effective* training to students as a result of *social and professional skills required by the society and labor market;*

5 CONCLUDING REMARKS

The 21st century skills requires the implementation of a training that allows students to apply course content, to actively participate in their learning, to significantly use technology and to collaborate.

The PBL is a student-centered learning model, based on research in which the student undertakes an authentic, poorly structured problem which requires a deeper research[4]. Students identify gaps in their knowledge, conduct research and apply what they learn to develop solutions and present their findings[5]. Through collaboration and research, students can develop problem solving[6], metacognitive skills, commitment to learning, and intrinsic motivation.

Students develop the following skills based on Problem-based learning:

- Critical thinking - a student's ability to issue clear and argumentative judgments
- Troubleshooting - a power that requires the person to apply an ordered / structured process to solve problems
- Teamwork - students' ability to work as part of a team and with others
- Self-guiding - students' motivation to guide their own learning

In the literature we read regarding the PBL, it was noticed a significant risk in using the PBL: despite the potential benefits of the PBL, many teachers lack confidence or knowledge to use it[7]. Thus, the basic focus we need to concentrate is adequate training of teachers and motivate them to use PBL.

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29. Regulation on occupation conditions of budget financing with ASEM, the cycle I, License, DS 10 of February 26, 2014, available at http://www.ase.md/files/documente/regulamente/interne/2.7_reg_locuri_bugetare.pdf
30. Regulation on the development of team final thesis / master DS no. 3 of December 24, 2014, available at http://ase.md/files/documente/regulamente/interne/3.4_teza_echipa.pdf
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APPENDICES

APPENDIX 1. THE TRAINING TEACHING "PROBLEM-BASED LEARNING - PBL"

Problem-based learning - PBL (40 hours)

Trainer: Sergiu Baciu, PhD., DSc., Assoc. Prof., ASEM + ...

The course is focused on developing a proactive personality and aims to form major beneficiaries in a pleasant and productive learning environment, **the competence to apply PBL in order to provide student-centered education based on research and training focused on professional skills.**

1. The finalities of learning. This continuous offer / training focuses on teaching pedagogical skills to the beneficiarie, through developing skills and attitudes that are based on certain relevant psycho-pedagogical knowledge, aiming at the establishment of a *performing pedagogical behavior.*

On completing the course the recipient will be able:

1) to build sequences / scenarios based PBL teaching;
2) to apply relevant teaching technologies PBL (case study project);
3) to develop a training curriculum based on PBL.

The purposes will be achieved by making the content of course units, but also through appropriate use of teaching - learning - evaluation.

2. The content. The contents are organized trans-disciplinary, in order to focus on the educational process rather than scientific content, but to solve problems in the professional field. Teachers will take the following modules:

- Module A. Problem-based learning. What is it is and how it can be *applied* PBL in professional education ?
- Module B. Design of curricular offer training. How can we design and organize the taught contents so as to provide *student-centered education based on research and focused on developing professional skills*?
- Module C. Methods of teaching - learning - PBL specific evaluation. How we can use *active learning methods* to create an environment that encourages students to work together and be self-motivated to solve a problem.

3. Methods of teaching - learning. Activities will be focused on learning through discovery. They will combine specifically for different situations, methods and processes such as problem solving, case studies, role play, heuristic conversation, discussion, brainstorming, investigation, project, exploring the multiple viewpoints, panel discussion, for and against argumentation, independent academic learning etc.

4. Methods of evaluation. In the training process there will be used particularly *participatory evaluation.*

Final evaluation will be done based on teamwork developing a way of applying PBL (case study, project) in teaching activity and its written / oral presentation.

APPENDIX 2. PEDAGOGICAL TRAINING MODULE

(realized uner the Education Code of the Republic of Moldova)

1. Introduction

Thorough specialized training specific to certain education disciplines is essential and fundamental for competent exercising and efficiency of educational activities. However, it must be struck the idea that if you are a good specialist is enough to be a teaching professor. Life has shown that often highly-qualified specialists, even in the position of scientists, have not always proved to be very good and effective teachers.

Under "the explosion of information", as a result of technical, scientific, cultural progress followed by continuous change, even movements in the taught subjects, in professions, in conditions of free economy, it necessary a special focus and outstanding ability to provide to the university teaching staff a pshyco-pedagogical training. In this context, we offer this training program, which has a tridimensional *major goal* in the hope that the beneficiaries will:

- Be aware of the importance of engaging in efficient activities and effective work and daily activity.
- Form and develop necessary skills for achieving success in teaching.
- Accumulate a stock of knowledge and create added academic value to education that will serve as a basis for personal and professional development.

2. The finalities of learning

This module focuses on the formation of psyco-pedagogical skills, developing skills and attitudes that are based on certain relevant knowledge, aiming at the creation of a powerful pedagogical behavior.

Specific key skills	**Key generic competences**
Trainee will be able to: • critically analyze theories, concepts and principles underlying pedagogy and modern education, • design and develop a training curriculum, • motivate students for efficient learning, effective and productive • organize and monitor teacher training, • apply relevant teaching technologies, • develop and adapt the taught contents to the training needs, • to assess students' skills.	**Trainee will be able to:** • foster communication and teamwork, • be a promoter of change, • evaluate themselves and make reflections on work colleagues, • develop professional skills, • act synergistically with subordinate skills, such as creative cooperation, valuing differences.

The finalites will be achieved by capitalizing the content of course units, but also through appropriate use of teaching - learning - evaluation.

3. Carrying out of teaching - learning – evaluation

Psycho-pedagogical curriculum module

Code	Name of teaching activity	Total hours			Number of hours by type of activity			Evaluation form	Nr. credit points
		Total	contact	Individual study	course	Seminar	Laboratory/ practice		
F.01.O.01.	General Pedagogy	120	30	90	16	14	-	E	4
F.01.O.02.	General Psychology	120	30	90	16	14	-	E	4
F.01.O.03.	Theory and Methodology	120	30	90	16	14	-	E	4
F.01.O.04.	Psychology of Education	120	30	90	16	14	-	E	4
S.02.O.05.	Theory and Methodology of Instruction	120	35	85	15	20	-	E	4
S.02.O.06.	Theory and Methodology of Evaluation	120	35	85	15	20	-	E	4
S.03.O.07.	Educational Management	90	30	60	15	15	-	E	3
S.03.O.08.	Educational Communication	90	30	60	15	15	-	E	3
S.01-03.O.09.	Teaching Practice	900	0	900	0	0	900	E	30
Total		**1800**	**250**	**1550**	**124**	**126**	**900**	**9E**	60

In developing psycho-pedagogical appoaches, there were applied **criteria for selecting of the content,** such as relevant contents for the development of teachers' competences, explicit utility of contents for teaching activity, adaptability to professional, socio-cultural, social, economic and technological contexts in changing / evolving , completeness and consistency of vision on speciality knowledge, addressed in relation to the teaching area, scientific actuality in relation to changes / innovations in conceptual, methodological and practical level, and assurance of quality in education.

Teaching-learning and evaluation activities will be organized interdisciplinary, focusing on learning by discovery. There will be following training activities:

- Activities course: lecture, seminar, training, workshop, cooperative learning, group projects, etc.
- Extra-curricular activities: self-teaching, consultations.
- Teaching practice: classroom demonstrations and educational development portfolio.

4. Literature recommended mandatory for self-teaching.

1. CIOBANU Olga. *Teaching Communication*
2. DIACONU Mihai; JINGA John (coordinators).*Pedagogy*

3. DRUTA Maria Elena. (Coordinator), Bade animals; Mihai Nina.*Didactics of Economic Subjects. Theoretical Considerations and Applications.*
4. TURCU Filimon.*School Psychology.*
5. BACIU Sergiu.*Methodological Support for Academic Evaluation*. Chisinau ASEM, 2010. 95 pp. ISBN 978-9975-75-512-2.

5. The final evaluation

To obtain the certificate of graduation the trainee will have to submit a pedagogical portfolio containing the following items: *A psyco- pedagogical essay on a topic; A draft curriculum; A project of three teaching activities; A project of three evaluation tests.*

APPENDIX 3. ACTION PLAN/ ROADMAP

	Implementing actions	Responsible	Implementation deadline	Resources
1.	Assess the need and opportunity to develop / change the curriculum to: • Module psycho-pedagogical • Training on problem-based learning PBL.	Baciu S.	January 2018	FR: within the approved budget HR: deans, department heads, university teachers
2.	Establishment of Working group and designation of the person responsible for drawing / modifying the curriculum	Baciu S.	February 2018	HR: university teachers
3.	Rating of the teachers'expectations on the skills followed by the program	Cepraga L.	January-March 2018	Teachers
4.	Analysis of similar national, European and international programs	Baciu S. Solcan A. Cepraga L.	January-March 2018	FR: within the approved budget HR: university teachers
5.	Evaluation of existing and necessary resources	Baciu S. Solcan A.	February 2018	HR: university teachers
6.	Program development. The discussion within the Working Group	Baciu S.	March 2018	HR: university teachers
7.	Mobility of university teachers	Cotelnic A.	November 2016 - February 2017	FR: within the approved budget HR: External Relations Service, university teachers, partner universities
8.	Academic staff training in PBL	Baciu S.	During	FR: within the approved budget HR: Department of Education, Curriculum Development and Quality Management; university teachers involved in the mobility program

9.	Develop educational documents: curriculum (syllabus), guides, case studies, evaluation, etc.	Baciu S. Trainees	February to June 2018	FR: within the approved budget HR: Department of Education , Curriculum Development and Quality Management; university teachers; ASEM scientific library
10.	Campaign to promote the program: - developing advertising leaflets; - visits to lyceums, - site settings: www.ase.md, Www.studentie.md etc.) - radio.	Responsible for the program	February-September 2018	FR: within the approved budget HR: university teachers, Marketing Service and Public Relations ASEM Student Senate
11.	Preparation of two classrooms for teamwork	I. Melnik, Vice Rector on administration and management area	July-August 2017	FR: within the approved budget HR: Technical service
12.	Initiate Pilot Program	Baciu S.	September 1, 2018	
13.	Conducting the study program	Baciu S. Trainees	September 2018 - June 2019	FR: within the approved budget HR: university teachers
14.	Monitoring and continuous assessment program	Baciu S. Trainees	During the study program	

EPP-1-2015-1-561 884, DK-EPPKA2-JP-CBHE

Introducing Problem Based Learning in Moldova: Toward Enhancing Students' Competitiveness and Employability (PBLMD)
www.pblmd.aau.dk

"Pedagogical Training Program"

Balti State University „Alecu Russo"

Work Package 3

Prepared by: Valentina Prițcan, Assoc. Prof., USARB (Task Force Leader)
Natalia Gaşiţoi, First Pro-Rector, Assoc. Prof., USARB
Mariana Spatari, Assoc. Prof., Head of Department, USARB

Evaluated by: John Reilly (external expert), University of Kent, UK
Louise Faber, associate professor, AAU
Kate Goodwin, associate professor, UOG

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Bălţi, 2018

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1 INTRODUCTION

The 21st century is centered around the concept of "knowledge society" and the universities are trying to meet the challenges of contemporary society, being placed in front of new expectations and requirements of the beneficiaries. European citizens need powerful, autonomous, proactive and inclusive universities, able of pursuing an education based on research, on a creative and innovative learning.

The challenges of the contemporary society are generated primarily by:

- the accelerating pace of globalization;
- aging population in at the European level;
- the rapid pace of technological development.

These changes have a major impact on the society in general, on the labor market in particular. In this context, universities are the key-players, especially in terms of developing the capacity of individuals to adapt to these requirements.

The reforms initiated over the past ten years have been focused mainly on the development of programs directed towards the integration of lifelong learning, to the creation of the European university area, both as regards the assimilation activity of "savoir" as well as in the research activities. In this context, universities must meet challenges caused by the diversity of people involved in the studies of extremely different learning needs associated with these differences.

Lifelong learning, permanent education or continuing training highlight the idea that the individual is in the center of education policy approaches. This form of education is perceived as a continuous and articulated investment in the development of the individual bringing together "all learning activities that occur throughout life, with the aim of improving knowledge, skills, competencies, a personal, civic, social vision or related to employability. "

The objectives set by the European Union through the Lisbon Strategy and the Bologna process aim at reforming the systems of higher education, in order to make these systems more flexible, more consistent and more open to the needs of society, capable of meeting the challenges of globalization and the need for training and reforming the European workforce.

The universities have the capacity to propose an education based on research, on the research aspects covered by lifelong learning. Giant human potential cannot be ignored by institutions of higher education, says *European Universities' Charter on Lifelong Learning*[1] (2008, p.4)

What must universities follow in the perspective of lifelong education*?* According to the Charter of European universities for lifelong learning (2008, p.5-8) the most important aspects are:

a. Embedding concepts of widening access and lifelong learning in their institutional strategies;
b. Designing education and learning ways adapted to a diversified population;

[1] (2008) Chart des universités européennes pour tout l`apprentissage have long to live, l'Association Européenne de l'Université (EUA), Brussels www.eua.be

c. Adapting study programmes to ensure that they are designed to widen participation in higher education, to increase the attractiveness of the program for those who want a return to higher education;
d. Providing appropriate guidance and counseling services;
e. Recognition prior learning experiences for students;
f. Embracing lifelong learning in a quality culture;
g. Strenthening the relationship between research, teaching and innovation - in a perspective of continuing education;
h. Consolidating reforms to promote a flexible and creative learning environment for all students;
i. Developing partnerships of local, regional, national and international level to provide attractive and relevant programmes.
j. Universities must become role models of institutions of lifelong learning

In such a perspective, universities are not only service providers in education and research, they become beneficiaries of lifelong learning and consequently models. Universities' employees can attend programs of learning / continuing training, whether they are professors, or they are boarding/administrative, technical or auxiliary staff.

Universities can not meet these commitments without a concentrated action of governments and regional partners that must provide the legal environment and funding means to develop education and training.

The internationalization of Higher Education in Moldova is an imperative of the day and the impending adjustment of study programmes to present demands and realities is an urgent necessity. In this context, this report represents a review of the activities of teacher training / continuing education from *Alecu Russo Bălţi State University*.

The goal of *Report* lies in achieving a comprehensive analysis of higher education system in Moldova and in particular, the Alecu Russo Bălţi State University, based on the methodology developed under the project PBLMD.

The methodology was applied in Work Package 2 to develop a similar report for the university system in Sweden and Germany, namely in two universities from these countries: Royal Institute of Technology of Stockholm (KTH) and the University of Siegen. When comparing the elements of the methodology used in European universities and those in Moldova, it was proposed a plan of a pedagogical program for developing teachers' competences in applying PBL teaching strategy.

We considered applicative aspects, the analysis of legislative framework governing legisltiv teaching universities, which represent a substantial part, notable part of the report.

Table 1. Team working on report

Name Surname	Title/Position in USARB	Team Position
Valentina Priţcan	Associate Professor	Team leader
Natalia Gaşiţoi	Associate Professor, First Pro- Rector	Team member
Mariana Spatari	Associate Professor, Head of Department of Public Law	Team member

2 METHODOLOGY

2.1 METHODOLOGICAL FRAMEWORK

When making the analysis of the existing student-centered teaching methodology PBL in *Alecu Russo Bălţi State University* we were guided by standard methodology, developed in the project and presented in the Report on the Work Package 2. This methodology aims at exploring the relationship between of the internal structures of the university and educational study programs, including the approach in which the development and support of study are integrated within the whole university. The cohesion of the development of study program with its support will be examined at different levels of the institution, with possible extending levels: Level of System, Level of University Management, Level of Study Council.

The topics underlying the methodology is the reference point in terms of data collection for the Report and subsequently, for their analysis. Also, we were guided by the criteria outlined in WP2, which eased the cross- analysis for the pedagogical study program at USARB and similar programs at the Royal Institute of Technology in Stockholm, Sweden (KTH) and the University of Siegen (USiegen) in the context of implementation of problem-based learning.

Studying the experience of listed universities in using student- centered teaching methods in general and those based on issues in particular and the whole education system has led to the development of the curriculum of teacher training that would allow the implementation of PBL method.

When developing the pilot program it was taken into account the use of PBL methodology at various universities we visited. Each university has its own particularities derived from the specific education system of that country. This challenge led to the development program of teacher training.

It was developed an action plan (roadmap) in order to to implement Pedagogical Program - Pilot (PPP), which aims to implement PBL, so that it shall become part of the philosophy in preparing the specialists in USARB.

2.2 DATA COLLECTION

The process of data collection was done according to predetermined methodology. In addition, it was analyzed the legal and normative framework, based on which the activity of higher education institutions in Moldova is carried out, in general, in USARB, in particular, in the field of our interest. We also capitalized the teaching experience and management of project members, who participated in data collection and preparation of the report. The information was collected according to the following model:

Table 2. Model of data reporting

Question / Problem	Resources consulted	Findings	Reflections
L1: Level of System			
L2: Level of University Management			
L3: Level of Faculty / Department			
L4: Level of Board of Education			
L5: Integrating Disadvantaged Students			
L6: Infrastructure (physical environment)			
L7: Level of Study Program			

2.3 DATA ANALYSIS

The team has analyzed the data, applying predetermined methodology and finding answers to submitted questions, taking into account the work method of the universities in Moldova, the impact different processes have on the activity of the institutions.

Cross-sectional analysis, as shown in the Table. 3 Cross- case analysis, allowed the reframing of criteria, properties and indicators for each level stored in the basic criteria that have been submitted to the Report for WP2. Highlighting and taking into account these criteria allowed us to carry out the cross-case analysis, to point some common elements, but to a great extent the existing differences. This analysis represented the basis for the developping Pilot- program.

Table 3. Template for the cross-analysis

Criteria properties, indicators	USARB	KTH	US
L1 Criterion etc.	Main elements by fields	Main elements by fields	Main elements by fields

2.4 LEVEL OF SYSTEM

2.4.1 The legal framework

The state policy in the sphere of education is determined by the Education Code of the Republic of Moldova no. 152 of 17.07.2014 (Official Gazette, 10.24.2014, no. 319-324, Art. No: 634, Art.624;art.539), that governs the organization and functioning of the education system.

At central level , the educational system is managed by the Ministry of Education, Culture and Research of the Republic of Moldova.

Continuing training as part of lifelong learning in Moldova is regulated by the following normative acts functioning:

- The Constitution of the Republic of Moldova, adopted on 29.07.1994, art. 35 - Right to education;
- The Education Code of the Republic of Moldova no. 152 of 07/17/2014, Title VII - Lifelong learning;
- The Law "Labor Code of the Republic of Moldova" no. 154-XV of 28.03.2003 Title VIII – Professional training;
- The Government Decision no. 1224 of 09.11.2004, The organization of continuing professional training;
- The Government Decision no. 191 22/04/2015 The National Agency for Quality Assurance in Professional Education.
- The Government Decision no. 616 of 18.05.2016 The approval of Methodology of external quality evaluation for provisional authorization and accreditation of vocational education and training, higher education and lifelong learning study programs and institutions.
- METS Order of RM no. 549 of November 16, 2005 "Methodologcal norms for the designing and implementation of standards in professional training programs."

2.4.2 State policies in the field

Based on the Education Code art. 4 the state policy in education area requires that:

1) Education is one of the national priority and the primary factor for sustainable development of a knowledge-based society.
2) Through its policy in the education area, the state shall ensure:

    a. the fundamental right to education, indispensable for exercising of other human rights
    b. the implementation of the basic mechanism for training and developing human capital;
    c. the fulfilment of the educational ideal and objectives, formation of the national identity and consciousness, promotion of general human values

The education shall have the mission:

a. to meet the educational requirements of citizens and society;

b. to develop the human potential to ensure quality of life, sustainable economic growth and people's welfare;
c. to develop the national culture;
d. to promote the intercultural dialogue, spirit of tolerance, non-discrimination and social inclusion;
e. to promote lifelong learning;
f. to facilitate the reconciliation of the professional with work and family life for men and women.

The development strategy of education for the years 2014-2020, "Education 2020" is the main policy document in the area of education, sets medium-term objectives and tasks for education development and defines the priority development, directions and orientations of the education system in the Republic of Moldova. The strategy is oriented towards three pillars: access, relevance and quality.

In the context of global change and increased demographic decline, lifelong learning becomes a major concern of the education system. One of the objectives of development strategy of education for the years 2014-2020 is to extend and diversify the system of adult lifelong education from the perspective of general training and learning, according to the person's needs related to socio-economic needs.

The professional training programs of adults are organized in continuing professional training and in other types educational institutions continues in other institutions / organizations, public or private who are subject to authorization / accreditation and are qualified for this activity in accordance with the law.

Continuing professional training is carried out through accredited professional training programs, which include all activities of theoretical and / or practical training in order to achieve the formation of competences for a particular area.

In accordance with Education Code art. 133 professional development of teaching, scientific-teaching, and management staff shall be compulsory during the entire professional activity and shall be regulated by the Government, and in accordance with art. 132 to hold the teaching positions, the graduates of non- pedagogical higher education programs shall compulsory attend a psycho-pedagogical module in the amount of 60 ECTS credits.

The professional development of teaching, scientific- teaching, and management staff shall be carried out in th higher education institutions and / or professional training institutions, other providers of educational services, based on accredited training programs through:

a. professional training internships in the educational and research institutions or accredited organizations in the country and abroad;
b. participating as partners in the international and national educational and/or research projects;
c. participating with communications and / or works in the international conferences, seminars, symposiums, and exhibitions.

2.4.3 Occupational standards

The educational system is organized by levels and cycles, in accordance with International Standard Classification of Education (ISCED 2011)

a) Level 0 – early childhood education:
   - ante preschool education;
   - preschool education;

b) level 1 – primary education;

c) level 2 – lower secondary cycle I: gymnasium education;

d) level 3:
   - upper secondary education,cycle II: lyceum education;
   - secondary technical and vocational education and training;

e) level 4 - post-secondary technical and vocational education and training;

f) level 5 - post-secondary non- tertiary technical and vocational education and training;

g) level 6 - higher education, cycle I: bachelor's degree;

h) level 7 - higher education, cycle II, master degree;

i) level 8 - higher education, cycle III, doctoral degree.

The continuing training of adults is carried out through:

1) thematic training courses of development / specialization up to 150 hours (up to 5 credits);
2) training courses / specialized / multiple qualifications of short duration until 1200 hours (up to 40 credits);
3) training and further training programs under study:
   a) technical vocational secondary education (level 3 ISCED) up to 900 hours (inthe amount of 30 credits);
   b) post-secondary non- tertiary technical and vocational education and training (level 4-5 ISCED) to 1800 hours (in the amount of 60 credits);
   c) higher education (degree, level 6 ISCED) up to 2400 hours (in the amount of 80 credits);

4) training and retraining programs for obtaining a new qualification in the studies:
   a) technical vocational secondary education (ISCED level 3) up to 900 hours (in the amount of 30 credits);
   b) post-secondary technical and vocational education nonterțiar (level 4-5 ISCED) lasting more than 1800 hours (in the amount of 60 credits);
   c) higher education (degree, level 6 ISCED) with a duration of more than 2700 hours (90 credits for the same area). After completing thematic training courses, professional development / specialization / multiple qualifications, training providers issue development / qualification / certification on professional competences.

2.4.4 Responsible structures

The development, promotion, and monitoring of the implementation and impact evaluation of national policy in the education area are the competence of the Ministry of Education, Culture and Research.

The Ministry of Education, Culture and Research have deconcentrated structures responsible for the public administrative management of education. Local authorities specialized in education area are established by the local public authorities of the second level as the organizational form of structural departments, subordinate district / municipal councils. The title, structure and operating regulations of local bodies specialized in education are established by district / municipal councils.

Quality management of education is ensured:

a) in general education:
   - at the national level – by the Ministry of Education, Culture and Research and the National Agency for Quality Assurance in Professional Education;
   - at the local level - by the local authority specialized in the education area;
   - at the institutional level – by the managers of of the institutions of general education;
b) in the vocational and higher education:
   - at the national level - the Ministry of Education, Culture and Research, relevant ministries and the National Agency for Quality Assurance in Professional Education;
   - at the institutional level – by the respective structures for quality assurance in education.

The methodology of external quality evaluation for provisional authorization and accreditation of vocational technical education and training, higher education and lifelong learning study programs and institutions in Moldova is developed by the National Agency for Quality Assurance in Professional Education, in accordance with the national and European normative framework (international recommendations) in the area:

- Education Code of the Republic of Moldova no. 152 of 17 July 2014;
- Regulation on the organization and functioning of the National Agency for Quality Assurance in Vocational Education, approved by Government Decision no. 191 of April 22, 2015;
- Nomenclatures areas of training of specialties and qualifications, trades / professions for training staff in higher education institutions, technical and vocational training;
- Standards and Guidelines for Quality Assurance in the European Higher Education Area (Standards and Guidelines for Quality Assurance in the European Higher Education Area, ESG 2015), developed by the European Association for Quality Assurance in Higher Education (ENQA);
- Recommendation of the European Parliament and Council of 18 June 2009 establishing a European reference framework for quality assurance in education and training (2009 / C 155/01);
- European Framework for Quality Assurance in Education and Training (EQAVET Framework) developed by the European Network for Quality Assurance in Education and Training (EQAVET European Quality Assurance ─ in Professional Education and Training).

Continuing professional training programs in lifelong learning are subject to the evaluation for provisional authorization or accreditation, functioning according to the law.

The decision on provisional authorization, accreditation, non-accreditation or withdrawal of the right to organize a continuing professional training is adopted by the Ministry of Education, Culture and Research, based on the evaluation results carried out by the National Agency for Quality Assurance in Professional Education.

2.4.5 Contents / Training programs

The types of continuing training programs shall be established by Regulation on structiring of continuing vocational education and training, approved by Government Decision no. 1224 of 09.11.2004:

- thematic courses of short duration (up to 72 hours);
- courses / specialized multidisciplinary (72-500 hours);
- retraining programs based on specialized university or college to achieve a new occupation lasting from 500 to 1000 hours;
- programs for retraining under specialized university or college to obtain a new qualification, with a duration of more than 1000 hours.

The normative acts regulating continuing training, development of professional training programs:

- Education Code of the Republic of Moldova no. 152 of 17.7.2014 Title VII. Lifelong learning;
- Regulation on Service Training, approved by Government Decision no. 1224 of 09.11.2004;
- Ministry of Education no. 549 of 16.11.2005 "Methodological Norms for the design and implementation of standards of professional training programs";
- classification of training areas and specialties for the training of higher education institutions;
- "Methodology of external quality for evaluation for provisional authorization and accreditation of vocational technical education and training", approved through the appendix. 1 to Government Decision no. 616 of May 18, 2016.
- Classification of Occupations of the Republic of Moldova (CORM 006-14).

The departments of post-graduate study programs for lifelong learning monitor the coordination of continuing training and orientation programs for external evaluation for provisional authorization or accreditation of training programs.

The continuing vocational training shal be carried out through accredited training programs, which include all activities of theoretical and / or practical training in order to achieve competences for a particular area.

Continuing training programs shall be organized by training providers for:

1. developing the key- competences;
2. enhancing the professional skills common to several occupations;
3. using the transversal skills.

When registering for professional training programs, the auditors take into account subjects previously studied in institutions of higher education or technical vocational secondary, post-secondary or post non-tertiary and qualification standards in this area.

Continuous training are carried out based on special programs, developed and organized by the institutions and organizations active in the field, using interactive methods with emphasis on multimedia.

Continuing professional training programs on their activity fields are developed by adult education providers and coordinated with relevant ministries and the Ministry of Education, Culture and Research, in accordance with the norms approved by the Ministry of Education.

The adult's study program process is based on professional skills training developed based on occupational standards and National Qualifications Framework.

Continuous training programs can be structured in modules or subjects or adapted to individual needs, so as to ensure equal and non-discriminatory access to training quality assurance standards.

Continuous training programs ensures the acquisition of professional skills according to occupational standards or nationally recognized qualifications.

Continuing professional training through courses and further training programs and retraining is organized based on the National Qualifications Framework and standards for external evaluation and accreditation.

Education Code of the Republic of Moldova (Code 152 of 07.17.2014, published in the Official Gazette of 24/10/2014 nr.319-324) states:

> 132 "(4) To hold the teaching positions, the graduates of non-pedagogical higher education programs shall compulsory attend a psycho-pedagogical module in the amount of 60 ECTS credits ."
>
> 133 "(1) The professional development of the teaching, scientific- teaching, scientific and management staff shall be carried out compusory during the entire professional activity and shall regulated by the Government. (2) The professional development of teaching, scientific and management staff shall be carried out in the higher education institutions and / or continuing professional training institutions, and other service providers, based on accredited training programs through: a) professional training inernships in the educational and research institutions or accredited organizations in the country and abroad; b) participating as partners in the international and national educational and / or research projects; c) participating with communications and / or works in the international conferences, seminars, symposiums, and exhibitions. "

As it has been mentioned before, we see the legislature's concern to ensure quality education through training and continuing development of psyco-pedagogical competences of teachers.

2.5 LEVEL OF UNIVERSITY

2.5.1 Strategies and institutional policies

Continuing training of teaching staff is a functional obligation determined by the Law of Education of the Republic of Moldova, Education Code of the Republic of Moldova[2] and USARB Charter.

The processes of initiation, approval, monitoring and periodic evaluation of the continuing training programs are part of the quality management system of the State University " Alecu Russo" and is a component of academic activities in USARB, the Study Program was developed according to the requirements:

1. Education Code of the Republic of Moldova no. 152 of July 17, 2014 (Official Gazette of the Republic of Moldova, 2014, no. 319-324, art. 634);
2. Regulation on the organization of studies in higher education based on the National Study Credit System, approved by order of the Ministry of Education no. 1046 of October 29, 2015);
3. Classifier of Occupations in the Republic of Moldova (Corma 006-14) (order of the Ministry of Labor, Family, and Social Protection no. 22 of 03.03.2014);
4. National Development Strategy of Education for the years 2014-2020 "Education - 2020" (Government Decision no. 944 of 14.11.2014);
5. Regulation on the establishment of adults, approved by Government Decision no. 193 of March 24, 2017;
6. Regulation on the certification of teachers from general, vocational education and from pshyco- pedagogical assistance services, approved by the Ministry of Education, Culture and Research. 62 of January 23, 2018;
7. The methodology of external quality evaluation for provisional authorization and accreditation of vocational education and training, higher education and lifelong study programs and institutions;
8. The guide of external evaluation for continuing professional training programs;
9. Government Decision 193 of 24.03.2017 on the organization of adult's professional training ;
10. "Methodological norms on developing and implementing of professional training programs stadards", approved by the Minister of Education, Youth and Sports no. 549 of November 16, 2005;
11. Suggestions regarding developing the study programs for adult' education, developed by the Ministry of Education, Culture and Research.

Teacher training frequency is determined by the rector of USARB based on the proposals by the heads of departments (or other units), taking into account the specific area of teacher activity and the possibilities for carrying out the continuing education programs.

The types of teacher professional development training includes: psycho-pedagogical master training and professional master studies, coursers of pedagogical skill development and scientific-

[2]Education Code of the Republic of Moldova 152 of 07.17.2014, art. 102

teaching, internships at enterprises, at educational and research institutions in the country and abroad. The participation of teachers with reports or exhibits at exhibitions, conferences, seminars, national and international symposiums is considered as an additional form of training.

The results of continuing profesional training are considered when teaching staff apply for a job, reelection contest, job advancement and establishing supplements to the basic salary.

2.5.2 Institutional structures

The strategies and development plans of academic staff are reflected in the Strategic Development Plan of USARB, department strategic plan and annual work plans of specialized chairs.

Within USARB, Centre of Continuing Professional Training **(CCPT)** http://formare.usarb.md/ shall be responsible for the continuing professional training.

The center of continuing training of USARB was established by the University Senate's decision of 21.03.2007 (minutes no. 9). The CCPT at USARB is a subdivision of specialized continuing professional training of USARB, being integrated into the system of continuous professional training in Moldova http://formare.usarb.md/

The Center shall organize and carry out professional training in the north region of the country and the national level training courses, additional qualification training and retraining, **thematic training courses / specialization**.

Adult's continuing training activity shall be carried out by retraining, training or specialization programs in accordance with the following objectives:

- facilitating the social integration of individuals in accordance with their professional aspirations and labor market requirements;
- training human resources able of contributing to increasing the competitiveness of the workforce;
- updating knowledge and professional training in the main occupation and related occupations;
- changing the qualification, determined by economic restructuring, social mobility or changes of work capacity;
- acquiring advanced knowledge, modern methods and procedures necessary to carry out the work;
- promoting lifelong learning;
- developing the research activity on adult education, which shall support the quality improvement of provided programs.

The professional training programs organized by the CFPC of USARB are carried out in the next fields: education, arts, humanities, political science, social sciences, social work, communication sciences, economics, law, nature sciences, science, engineering and engineering activities, agricultural sciences etc.

The training shall be be carried out through:

- thematic training courses / specialization up to 150 hours (up to 5 credits);

- improvement/ specialization multiple-qualifications courses, up to 1200 hours (40 credits);
- courses and supplementary training programs based on studies:
  a) secondary technical and vocational training (ISCED level 3) up to 900 hours (up to 30 credits);
  b) post-secondary non-tertiary technical and vocational training (ISCED level 4-5) to 1800 hours (up to 60 credits);
  c) higher education (ISCED level 6 undergraduate) to 2400 hours (up to 80 credits).
- training and retraining programs to obtain a new qualification in the studies:
  a) technical vocational secondary education (ISCED level 3) up to 900 hours (up to 30 credits);
  b) post-secondary technical and vocational education non-tertiary (level 4-5) with a duration of more than 1800 hours (minimum 60 credits);
  c) higher education (ISCED level 6 undergraduate) lasting more than 2,700 hours (90 credits for the same area).

The work of the CFPC USARB follows the existing laws and regulations in training http://formare.usarb.md/acte-normative/

USARB has several good practices in lifelong learning:

- The internationalization process by implementing training projects in the field of capacity building, financed by the European Commission. Currently, USARB is a member of the consortium implementing the project *EPP-1-2015-1-561 820, DE-EPPKA2 Creating Moldovan JP-CBHE-E-network for Promoting innovative e-teaching in the continuing professional education (TEACH ME)* , within the program Erasmus +, KA2, *Capacity Building in Higher Education*. The project *TEACH ME* is financed by the European Commission - Executive Agency for Education, Audiovisual and Culture (EACEA) and is coordinated by Fachhochschule des Mittelstands (FHM) in Bielefeld, Germany. The USARB institutional coordinator – is Valentina Priţcan
- (http://www.usarb.md/proiecte-internationale/; https://sites.google.com/site/usarbteachme/despre-proiect)
- Creating the *Resource Center for continuing training of the academic staff in the field of information and communication technologies* "WETEN USB" (Director: prof, dr. Valeriu Cabac), organized as finality of WETEN project - Western-Eastern Teacher Education Network, reference number: 145 035-TEMPUS-2008-LT-JPTHN, within TEMPUS IV program, coordinated by Kaunas University of Technology, Lithuania (project duration: 2009-2011) (http://www.weten.org/);
- Enrolling in the professional training courses since 2013, can be done online, before the start of the the process of training for proper focusing on teachers' requirements: teachers select the required program of 150 hours by direct contacting; note topics of priority interest; indicate their workplace (middle school, high school, etc.); if necessary, thematic modules are offered; inform if they need accommodation and other services offered by USARB;

- For professional training of academic staff in ICT through the Rector's order USARB (no. 05-350 of 12.07.2012) a Resource Center was created. The Resource Center shall:

  - inform the teachers about Web applications, emerging information technologies, their teaching potential applications
  - offer teachers consulting services on ICT use in the training;
  - expertise the developed courses for the learning platform MOODLE;
  - carry out training sessions in the use of ICT at the requirement of university subdivisions;
  - organize seminars and conferences in the area of ICT, prepare teaching materials, guides for the teachers;
  - participate in university policy in the field of information and the Internet training and implementation of ICT.

Another university subdivision responsible for the quality of university processes, including processes for continuous training is the **Department of Quality Management (DMC)**, http://www.usarb.md/departamente/departamentuldemanagementalc/ , created in the USARB created in September 2011. On December 5, 2011 and August 24, 2012 after the university was certified by the Certification Structures of Management Systems IQNet (The International Certification Network) and SRAC (The Romanian Society for Quality Assurance) in the areas of university education activity and preparing the academic and university staff.

The Quality Management System (QMS) in USARB is applied in the fields of education research and academic administrative services.

DMC is the main structure that has the function to establish responsibilities and decision-making skills, to facilitate the implementation and continuous improvement of the QMS, to train the university managers, the internal audit group in quality area, to collect the information on best practices in quality management.

The University has established, documented, implemented a quality management system in accordance with the requirements of EN ISO 9001: 2008 (SR EN ISO 9001: 2008), and keeps and continually improves it. The following activities were carried out:

a. the necessary processes for the Quality Management System were determined and applied throughout the University;
b. the sequence and the interaction of these processes were determined ;
c. the necessary criteria and methods for the operation and effective control of the processes were determined;
d. the availability of resources (human and infrastructure), information and educational materials necessary for the operation and monitoring of these processes was ensured;
e. the mentioned processes are monitored, measured, analyzed;
f. actions are pursued and implemented in order to achieve the planned results and to continuously improve the QMS processes .

According to the documents of Quality Management System (QMS) implemented and authorized in USARB, the structures in charge of SMC maintenance and management are:

a. Quality Management Representative, authority to prime Pro-rector;

b. Senate Committee “Assessment and Quality Assurance in Education ", in charge of policies promoting quality assurance and control processes within the university.
c. Coordinator of the QMS, position of the head of Quality Management Department (DMC);
d. Committees for evaluation and quality assurance of the Faculties, formed to coordinate, control and analyse activities to ensure and maintain the quality of education in college.
e. The responsible for all quality assurance processes carried out within the department (education, research, organization and external relations).

The Quality Management System (QMS) in USARB is applied in the areas of education, higher and continuing education, scientific research and university administrative services. The USARB advocates for institutionalization of quality culture. The Quality Management System underpins the Strategic Development Plan for the period 2013-2018 in USARB. The university eleborated the QMS Manual, according to the requirements contained in EN ISO 9001: 2008 (SR EN ISO 9001: 2008).

Among the policies of USARB on continuing training are included the internationalization policies that **ensure teaching staff mobility.**

http://www.usarb.md/erasmus/actiunea-cheie-1-mobilitati/

Summing up, we note that the continuing training of academic staff represents objective no.4 provided in pct. 8.1., Chapter VIII "Management Strategy" from the Strategic Development Plan of USARB. In this regard, during the years 2012 - 2017 the holders of the Departments benefited from:

- internships mobility, study visits to universities in the country and abroad;
- continuous training courses for teachers in the area of using of information and communication technologies, organized in USARB;
- competitions and awards for the best scientific and teaching material;
- language courses within the USARB;
- psycho-pedagogical module.

To increase professional growth, annually in the USARB there are organized:

- scientific events (Colloquia Professorum, Interuniversitaria, Doctorate Students Colloquium ”Current Guidelines in doctoral research ")
- Seminars, trainings organized by experienced professors from USARB and other educational institutions;

For the professional development of academic staff in USARB, the following methods of supporting and stimulating performance are applied: awards, awarding diplomas of merit, expressing gratitude from the University Management, financial support for the continuing professional teacher development through internships, improvement courses based on national and international projects. A personal finance award has been set annually since 2011 for the teaching-scientific performance of teaching staff.

Table 4. Continuing Professional Training of teaching staff

NO. crt.	Ways to improve	Responsible for organizing training	Reference documents
1.	Psycho-pedagogical module	Prim vice-rector; Vice-rector for low attendance studies; CFPC, QMS	Education Code of the Republic of Moldova; Regulation on Continuing Professional Training;
2.	Internships at educational institutions abroad	Department for International Relations	Regulation on Continuing Professional Training Regulation on the organization of mobility;
3.	Participation in scientific research	Science Service	Code on science and innovation of the Republic of Moldova
4.	PhD / Postdoctorate	Doctoral School	Regulation on Doctorate and Post-doctorate studies
5.	Participation in training and professional development activities organized within the faculty or department	Deans, Heads of Departments	Regulation on Continuing Professional Training
6.	Professional training internships in organizations, enterprises	Deans, Heads of Departments	Regulation on Continuing Professional Training
7.	Participation in conferences, seminars, trainings, workshops	Heads of Departments	Regulation on Continuing Professional Training
8.	Self-training	Heads of Departments	Regulation on Continuing Professional Training

2.5.3 Contents / programs of continuing professional training

Processes of initiation, approval, monitoring and periodic evaluation of continuous training programs are part of the Quality Management System of the State University ” Alecu Russo and is a basic component of USARB academic activities.

Continuing professional development training programs are developed in accordance with the Methodological Norms on design and implementation of standards programs of professional training approved by the Ministry of Education, Culture and Research, taking into account the level of

education, professional training of trainees and training objectives: training specialization, retraining, obtaining a new professional qualifications based on higher education etc.

The standard of the professional training program shall establish professional competences, the training conditions of the specialst, the norms of carrying out and the finality of the training process correlated with the qualification standards of specialties and specializations included in the Classification of Occupations and classification of training areas.

The standard of continuing professional training program based on higher education shall include the following components:

- General characteristic of continuous training program based on higher education;
- Specifying the level of training required for admission to training opportunities;
- The structure of continuing professional training Program:
- Minimum requirements for the content of continuous training programs;
- Study program: general study program, list the course units/ modules, schedule for study processes, practice internships, distribution of hours by groups of course units / modules.
- Conditions for carrying out the continuous professional training program (teaching , duration, form and language training, given that the training takes place);
- The training program completion CVT evaluated based on the knowledge, skills and aptitudes;
- Final assessment (exam / test graduation project / test certificate).

Continuing professional development programs are developed, taking into account the level of education, training of professional personnel applying for training.

The curriculum reflects:

- the training purposes;
- profile, specialty, qualification;
- basic admission;
- the duration of Program (hours, ECTS credits);
- the form of organizing the education (frequency, low frequency modules, distance);
- schedule of study (number of hours per day);
- list of the courses / modules;
- the number of hours/classes according to the course units / modules;
- types of training hours (lectures, seminars, practical work / laboratory, etc.);
- assigning the stages of training;
- evaluation forms.

The curriculum of the course unit / module includes:

- objectives of the course unit / module;
- introduction;
- totality and list of topics;
- core subjects of every issue presented in the determined sequence;
- the name of the types of teaching- learning activities provided for that theme;
- methodological recommendations for carrying out the study program/ curriculum;

- evaluation forms;
- the list of literature and other types of training-methodical materials necessary for instruction.

2.5.4 Modalities of continuing professional training (CPT)

According to the stipulations of Center of Continuing Professional Training (CCPT) of USARB http://formare.usarb.md/cursuri/ continuing training is carried out through:

- *qualification* - acquiring a set of professional skills that allow the person to carry out specific activities of an occupation or profession;
- *improvement* - development of professional skills in the same qualification;
- *specialization* - acquiring knowledge and skills in a limited area of coverage of occupations;
- *obtaining additional qualifications* - acquiring special knowledge and specific skills required for a new occupation or profession related to the previous one;
- *re-qualification* - obtaining the skills necessary for a new occupation or profession, different from the previously acquired.

Center of continuing Professional Training at USARB provides programs of professional training according to the Regulation on Professional Training, approved by Government Decision no. 1224 of November 9, 2004 through:

1. thematic courses of improvement / specialization up to 150 hours (until 5credits)
2. courses of improvement / specialization /multiple- qualification of short duration up to 1200 hours (up to 40 credits);
3. additional training courses and programs based on studies:
    a. secondary technical and vocational education (ISCED level 3) up to 900 hours (up to 30 credits);
    b. post-secondary non-tertiary technical and vocational training programs (level 4-5 ISCED) up to 1800 hours (up to 60 credits);
    c. higher education (undergraduate level 6 ISCED) to 2400 hours (up to 80 credits).

4. courses training and retraining programs for obtaining a new qualification in the studies:
    a. secondary technical and vocational training programs (ISCED level 3) up to 900 hours (up to 30 credits);
    b. post-secondary non-tertiary technical and vocational training education (levels 4-5) with up to more than 1800 hours (minimum 60 credits);
    c. higher education (undergraduate level 6 ISCED) with a longer than 2700 hours (90 credits for the same area)

Training programs organized by the CFPC of USARB take place in the next fields: education, arts, humanities, political science, social sciences, social sciences, communication and information sciences, economics, law, natural sciences, sciences, engineering and engineering activities, agricultural sciences etc.

In-service enrollment training is done based on personal application and contract for the provision of professional training services signed by vice-rector for the study and training time. The registration can be done online.

In continuous training of teaching staff in the specialty, the technical-material basis of the specialized training centers of the University, laboratories and classrooms of the faculties, Scientific Library of USARB spaces are used.

In continuing professional training of teaching staff in the area of specialty, heads of department, experienced teachers and scientists participate as trainers. .

2.6 LEVEL OF THE FACULTY / DEPARTMENT / EDUCATION PROGRAM

Planning the methodical activity of the academic staff with reference to the study program is carried out in accordance with pt.1.1. *Didactic-methodical activity* from the strategic plan of the department for 2013-2018, being modified at the beginning of each academic year through section III. *Didactic-methodical activity* from the activity plan of the profile departments; section III. *Methodical activity* of individual work plans, discussed and approved at meetings of departments and the Faculty of Law and Social Sciences, were monitored throughout the year by the head of department.

Methodical work of academic staff with reference to the study program, is materialized annually by developing didactic-methodical materials: textbooks, lecture notes, courses on the Moodle platform, methodical materials, methodical instructions, guidelines, curricula, current and final assessment samples.

Academic staff evaluation is carried out during the study year in the following forms: promoting public hours; observing mutual lectures, seminars, laboratory works; discussing and reviewing curricula, guides, lecture notes, support materials presented at meetings of specialized chairs, presenting and discussing reports and the reports on methodical and scientific activities, students' semester surveying by the Department of Quality Management (DMC) of the USARB.

The results of teaching staff' assessment by students are sent half-yearly by e-mail to the DQM, heads of departments, deans, rector and each employed individually. Analyzing the evaluation results of academic staff, in the department and training work plans are included activities to improve teaching process and to remove shortcomings.

During the chair meetings, best practices are of the academic staff are highlighted, attention is drawn to shortcomings detected and a plan of correcting measures is recommended.

The main steps and activities through which the departments / chairs contribute to the continuous training / professional development in the study program level are:

a. analyzing education needs, general and specific, common and special and setting priorities based on which the educational process is planned;
b. analyzing the educational resources and formulating how they will be distributed and used in the concrete level of the university and course units;
c. analyzing social and specific pedagogical context, the educational process is carried out;

d. analyzing groups of students in terms of learning and determining the performance of the baseline from which to start each stage of education or the first cycle, the school year, semester, the beginning of a new chapter in the university curriculum;
e. operational definition of educational objectives and / or skills covered in the educational process;
f. organization, logical structuring and implementation of teaching and learning pedagogical content, depending on the particularities of the psychological age of the students.

A special place is the training level study program, focusing on academic staff' ICT skills:

- Strengthening the capacities of using Adobe Connect platform within the project PBLMD http://www.usarb.md/evenimente/articol/consolidarea-capacititatilor-de-utilizare-a-platformei-adobe-connect-in-cadrul-proiectului-pblmd/
- SMART Notebook training http://www.usarb.md/evenimente/articol/training-ul-smart-notebook/.

To sum up, professional training programs initiated in the USARB, run after initial training and are aimed at developing the professional skills acquired through initial training or acquiring new skills.

Continuous Training courses carried out in the USARB include training activities in the field of professional training, involving the following categories: postgraduate specialization courses, postgraduate courses, programs of conversion / retraining and more.

They may have qualification, initiation, specialization, respecialization, professional training or retraining as ***finality***. These activities can be credited, and if they are creditted, students' credits will be recognized through further training activities.

3 COMPARATIVE ANALYSIS CARRIED (CROSS-CASE ANALYSIS)

3.1 INTRODUCTION

In this chapter we will make a comparative study between the higher education system in Moldova and the education systems in Sweden and Germany, highlighting both simiarities and essential differences, trying to highlight weaknesses and areas of strength of the local system, and ways we can improve and streamline higher education in Moldova. We do not intend to review the entire system and highlight the needs, problems and opportunities. We will focus only on identifying how to apply the methodology PBLMD, methods of teaching –learning-evaluation, student-centered and follow the methodology established in the PBLMD Project.

3.2 CROSS- CASE ANALYSIS: CRITERIA, PROPERTIES AND INDICATORS

We reflect the comparative situation in three universities: USARB, Moldova, Royal Institute of Technology in Stockholm (KTH), Sweden and the University of Siegen (USiegen), Germany through analizing synthetic indicators and criteria at each level.

Table 5. Cross-analysis

Criteria properties, indicators	USARB	KTH	USiegen
L1 Level of System			
1.1. Curriculum accreditation	In Moldova the National Agency for Quality Assurance in Education and Research (ANACIP) has the mission to provide an integrated, reliable, objective and transparent external evaluation and accreditation of study programs. At the first stage the programs of Cycle I, and programs from Cycle II Master and the Cycle II, Doctorate and continuing professional training are accredited. Then university can be subject to full	In Sweden the assessment and accreditation procedure is for all higher education institutions at the same time. Last Swedish system for evaluation of higher education programs was completed in October 2014. Sweden is currently developing a new system of evaluation and accreditation of study programs.	Evaluation and accreditation system is decentralized and carried out by independent accreditation agencies that are accredited by the German Accreditation Council (Akkreditierungsrat - http://www.akkreditierungsrat.de).

Criteria properties, indicators	USARB	KTH	USiegen
	accreditation. According to the Education Code, accreditation results will be in the classification of universities into categories and then it will depend on funding universities. They are a set of indicators that allow evaluation of programs of study and training.		
1.2.National Agency for Quality Assurance.	In Moldova the National Agency for Quality Assurance in Education and Research (ANACIC) has the mission to provide an integrated, reliable, objective and transparent external evaluation and accreditation of the institutions and education programs in vocational technical education, higher education and continuing professional training in the Republic of Moldova	The main responsibilities of the Authority on quality assurance in higher education refers to the recognition of new programs and the periodic evaluation of recognized programs. Both of these activities are the responsibility of the Department of Quality Assurance in the Swedish Higher Education Authority (SHEA).	The legal framework of the accreditation system is defined by the Law on establishment of the Foundation for the Accreditation of educational programs in Germany and contracts between the Accreditation Council and accreditation agencies. Accreditation Board is a member of international networks of quality assurance: INQAAHE (International Network for Quality Assurance in Higher Education) and ENQA (European Network for Quality Assurance in Higher Education).
1.3. Professional bodies involved in accreditation.	For psycho-pedagogical program, the accreditation by professional bodies, is not necessary. It is accepted the opinion of a professional association regarding the use of the study program for educational environment.	There are no professional bodies that contribute to the validation of programs.	There are no professional bodies that contribute to the validation of programs.

Criteria properties, indicators	USARB	KTH	USiegen
L2. Level of University Management			
Criterion 1. Governing Bodies, Management and organization of the university	The governing bodies consist of USARB Senate, Institutional Strategic Development Council, the Scientific Council, Faculty Council, Administrative Board and Rector.	University Council and Rector. It is governing unit..	Governing bodies are: Council, Senate, Rector.
Criterion 2. Institutional strategy university curriculum incorporating strategy with a focus on student-centered learning	The quality of education and preparing graduates for future employment is a priority for USARB. In this regard, it is encouraged the use of interactive methods of teaching / student centered. USARB Charter, art. 5 states that USARB promotes student-centered education. In the process of training highly qualified specialists, students are partners of the teaching and research staff; students express their opinions through their representatives in the governing bodies of the University and its subdivisions.	The strategic vision of KTH – on the year 2027 is specified that "student-based learning is the center goal of KTH education .... there shall remain teaching system based on" mentors "... Every student at KTH shalll feel at home. .. shall remain an international learning environment. KTH's future success depends on the staff and students.	University of Siegen has an institutional development plan that focuses on applying new learning methods centred on students.
Criterion 3. Quality Assurance Bodies at university level	To implement the quality policy and objectives in USARB, the Quality Management Department was created in 2011.	Quality policy, approved on 06.01.2016 includes four basic elements: (Quality policy for KTH) •Education •Research	In the University of Siegen there was established Steering Committee in quality management area (LAQ) and at the Faculty level

Criteria properties, indicators	USARB	KTH	USiegen
		•Skills offer •Collaboration Action Plan prioritises quality policy and activities each year. Annual report on quality provides an overview of activities and results.	there were created Quality Centers (QZS).
Criterion 4. Pedagogical training of teachers and their training	It is compulsory for the teachers who do not attend teacher training psycho-pedagogical module of 60 study credits. In USARB it is stipulated that in order to apply for science teaching positions, it is necessary, to have a pedagogical training the last five years.	Faculty Development in Teaching and Learning, KTH / ECE is in charge of initial and continuous training of teachers. It is based on the pedagogical formation of CDIO. Since 1999, KHT has implemented a systematic approach in curriculum development, called CDIO.	Center for Teacher Training and Educational Research (Zentrum für Lehrerbildung und Bildungsforschung (ZLB)) is a central scientific institution of the University of Siegen, in charge of teacher training at the University of Siegen. ZLB is represented in all quality bodies at the University of Siegen.
L3. Level of Faculty / Department			
Criterion 1. The role of faculty in communication with the parties to the student-centered teaching and learning	Wider community college students and teachers who have classes in that faculty. They have the right to reject certain teachers who do not meet the particular requirements or are not approved by students. Departments have greater involvement in student-centered teaching, requiring its members to certain standards.	At college, the main decision-making body is the Faculty Council, which consists of the dean, dean (s), other community representatives faculty and student representatives. Additionally, the faculty council and external members can be included.	Faculties and Departments are components of the internal structure of the University of Siegen. Starting a new study program is the prerogative of the faculty.
L4. Integration of disadvantaged groups of students			

Criteria properties, indicators	USARB	KTH	USiegen
Criterion 1. *Existence of a body that provides care to disabled students with disabilities*	USARB does not have a division dedicated to students with disabilities, yet at the institutional and faculty level there factsheets on disabled students to determine individual support needs and assistance that can be provided.	At KTH there is a special subdivision to facilitate the adjustment to education of students with SEN and to increase the number of learning resources.	To support this category of students, at the University of Siegen, in the Counseling Center for students it was created an Office for disabled persons or with chronic illnesses and detailed information about its activity and services is presented on the university website.
Criterion 2. *Ways of working with students from disadvantaged backgrounds in teaching*	Important steps are taken to provide minimum conditions so that they are not marginalized. Counseling is done by the group tutor or a specialist (doctor, psychologist) at request.	In the university Policy there are developed principles of equality (Equality Ombudsman) which provide equality to disabled persons and prevent negative attitudes towards them.	In Siegen University, students with health problems and disabilities are entitled to "compensation", based on health existing problems. For example, prolonging the time during the exam, changing the form of written examination in oral or vice versa, providing breaks during lessons and exams etc.
L5. Infrastructure (physical environment)			
Criteria 1. Providing facilities adapted to the needs of disabled persons.	USARB makes an effort and takes measures to adapt the infrastructure to ensure access to education for the disabled students. Students with physical disabilities are accommodated on the ground floor in University dormitories and classes are conducted in blocks of study and classrooms with access provided to students with such mobility problems.	There is infrastructure, which ensures access to education and provides learning opportunities for disabled students.	The infrastructure ensures access to studies and provides learning opportunities to disabled students.

Criteria properties, indicators	USARB	KTH	USiegen
Criterion 2. Existing facilities for students in supporting problem-based learning	USARB has modern infrastructure, with classrooms, well-equipped campuses, library science, WI-FI etc.	The university has a very good infrastructure, with classrooms, well-equipped campuses, libraries, WiFi, etc.	The university emphasizes a very good infrastructure, with classrooms, well equipped campuses, libraries, WiFi, etc.
L6. Level of study program (Psychology)			
Criterion 1. Program Structure	*Psycho-pedagogical module structure consists of three components:* Pedagogy, Psychology, Didactics of a Discipline.	The length of study is different, depending on the course.	The length of study is different, depending on the course.
Criterion 2. Workload of a student	The workload is calculated in transferable credits ECTS: an academic semester - 30 ECTS = 900 hours	In Sweden each year of study is equivalent to 60 ECTS or each semester to 30 ECTS. 1 ECTS equals to 27 hours of student work.	The annual volume of student work is about 1800 hours
3. Students' Evaluation	- There is Regulation on the evaluation/ assessment of student learning, which describes the types of evaluation applied to USARB arrangements for organizing and conducting the examinations -Assessment Scale. - The Regulation describes the formula for calculating the average for a course unit; the number and re-examination periods; the type of final examination.	-A grade will be submitted on a course completion.The grade is determined by a professor/ teacher specifically designated (the examiner). High education institution provides at least five examination sessions.	The Regulation on examination contains comprehensive information nature, ways and length of time, admission rules to the exam, rules of the repeated examination.
Criterion 4. *Involvement of teachers, students, graduates, employers in the*	Usually, in developing a study/education program only the teaching staff are directly involved. However, before drafting	In a study program design, development and improvement of a study program multiple parts are involved:	At Siegen University, Alumni Association of Alumni Faculty Groups was created. Graduates experience can

Criteria properties, indicators	USARB	KTH	USiegen
education,, management and development program	some courses, students, employers, graduates are consulted through various questionnaires by organizing round tables Thus, indirectly in the development and improvement program several parties are involved.	teachers, students, employers, graduates both directly (through participation in various committees) and indirectly (through questionnaires, feedbacks).	substantially contribute to the change of conditions of study and careers in courses.
Criterion 5. *Preventing and punishing cheating and plagiarism*	At the institutional level there is the Code of Academic Ethics.	In the university there is a special platform - TURNITIN to test the level of plagiarism in all projects, bachelor's and master theses.	To detect cases of plagiarism at the University of Siegen use search engines on the Internet: Docol © c (www.docoloc.de) and UN.CO.VER (www.textbroker.de/uncover). If undergraduate thesis, students sign plagiarism Policy Statement (Plagiatserklärung) thus ensuring that the thesis was developed independently, sources used (including in other languages) are indicated and electronic content corresponds to the content of the printed version.
Criterion 6. *Contestations of students*	The grade once submitted by examiner may be contested by regulations. Students can challenge the results of the final examination within 24 hours of the announcement of grade Revaluation of result takes place within 48 hours after application is made.	**Re-examination**. If the student fails the exam during the examination session, he can only once a year re-take the examination within three years after the initial examination. Re-examination period at KTH usually is - January, March, June and August.	There are very detailed regulations stipulating conditions where claims may be submitted, ways of solving them.

Criteria properties, indicators	USARB	KTH	USiegen
	If the exam was taken in writing, together with the head of department, the dean designates a third person, a specialist in the field, who will review the work and will appreciate based on grading scales, to the students with displaying the evaluation results. If it was an oral examination, the dean with the head of the expert committee create a revaluation of at least 3 members (third party specialists in), one of which is the teacher in charge of the course unit. The decision of the Committee is final and incontestable. The final grade determined by the Committee can not be lower than that the first submitted in the examination record forR.		
Criterion 7. The current rating/grading system	Knowledge assessment is done with grades from 10 to 1. Grades from "5" to "10" from the assessments, alow earning credits, according to the Educational plan. The final grade is the result of the weighted sum of marks from current assessments and final examination and is entered with two digits after the comma.	Since 2001 the KTH grading is done on a scale from A to F cycles I and II and cycle III, Ph.D., provided qualifications pass / fail.	German grading system includes grades from 1 (for good) to 5 (for insufficient). And scores may be awarded with decimal places. Universities that as a condition of admission Numerus Clauses (seats are limited) notation is from 1 to 18.

Criteria properties, indicators	USARB	KTH	USiegen
Criterion 8. *The role of external examiner*	External examiners are required for the final graduation exam. They are appointed as Chairperson and members of the evaluation board by the USARB Rector's decision. For current tests external examiners are not appointed.	External examiner is not required to be present in evaluation .	External examiner is not required to be present in evaluation
Criterion 9. *Employability of graduates*	In USARB graduates' interviewing is practiced.	The organizers of programs, university departments are aware of the graduates' employability. KTH has formed a culture: university graduates notify whether they are employed or not, what position, place etc.	University of Siegen also monitors the employed graduates. Thus, since 2008 they have participated in On-line Graduates Survey.

The concepts of lifelong learning / continuing education emphasize the idea that the individual is in the center of education policy approaches. In such an approach, institutions providing continuing education programs must meet the interests and needs of the individual.

Lifelong learning is seen as a continuous investment and articulated development of the individual, bringing together in the sense of the European Committee "all learning activities undertaken throughout a person's lifetime, with the aim of improving knowledge, skills and competencies, in a personal vision: civic, social or employment-related to the labor market "(2001). Since 2000, at European level, learning is seen as a common future for all in a uniquely individual way and the European Council by the Memorandum on lifelong learning, suggests member states that the lifelong learning should be the common development direction, which can ensure a successful transition to the knowledge society, considering the education and training as responsible for promoting and implementing this concept.

Under the circumstances that education in Moldova was declared a national priority and trilateral *education- research- innovation* is considered the basic strategy in ensuring the country's economic growth and welfare, it is necessary the capitalization of lifelong learning.

In the universities of the Republic of Moldova classic teacher- centered activities predominate, which we consider outdated, at least from the fact that it was designed to integrate graduates in the labor stable and markets inflexible to changes in the society, especially in the relation to international influences. But taking into account the speed of the changes made today, labor market flexibility is

evident that a student-centered learning society offers more benefits, it offers the opportunity to train specialists, who would have the skills that the employers require. *Changing teacher-centered education to student-centered one implies a cultural transformation, and hence behavioral and attitudinal changes, both from students and from teachers and the institution in general. Not involving one of these factors make it impossible to achieve this method.*

After studying teaching methods focusing on PBL / student- centered in several European universities ,we plan to introduce these methods in teacher training program from USARB. We will focus on the gradual implementation of education based on problems (PBL) in this pilot program. The conceptualization, design and implementation at national level of a coherent strategy and comprehensive training of a permanent personality development can be a practical response to the challenges of the new millennium, giving up the idea of acquiring a culture and knowledge which will prove to be useful throughout life.

4 ACTION PLAN/ROADMAP

4.1 INTRODUCTION

Action Plan/Roadmap is a consolidated list of measures, commitments and timetables for the implementation of actions in order to overcome the challenges identified in the Problem- Based Learning Pilot Program training problems.

Its immediate goal is to establish an institutional basis to overcome certain obstacles or certain existing threats to the implementation project.

Regarding the implementation period, there must be taken into account that some new elements, which shall be implemented can be classified within the existing policy framework, while others require some changes in the existing normative regulations.

4.2 FIT-FOR-PURPOSE

In order to implement the Pilot Program, Action Plan (Roadmap) was developed (Annex 4). It includes several activities necessary to be implemented at institutional level to achieve successfully Program - Pilot. The implementation of this Action Plan has already started, some activities being carried out, others shall be implemented. The mentioned activities are formally divided into several groups:

I. Activities related to the *development* of educational offer (Module/ PBL Training), for teaching staff, who will teach applying PBL method. For their development it will be taken into account the experience studied and analyzed in the partner Universities from Western Europe, the laws and norms that regulate the activity in the field of higher education in the Republic of Moldova.
II. Activities related to the *teaching staff training,* so that they colud use PBL method. In this regard, some of the teachers that shall have classes in these groups, have participated in several trainings organized within the project at UTM or USARB during 2016-2017. Also, more teachers have benefited from academic mobility in Universities of Western Europe, members of the consortium PBLMD, where they had the opportunity to become familiar with the method. Within USARB there shall be organized trainings for teachers on problem-based learning, the organization of teaching adjusted to PBL etc.
III. *Ellaboration of educational documents*: Discipline Curriculum (syllabus), guides, case studies, evaluations, etc. (For Level I).
IV. *Preparation of physical environment* for organizing the studies. In this regard, USARB is equipped with the necessary equipment, including classrooms, literature, access to databases, WiFi free for students and teachers, etc. The Scientific Library of USARB received the books purchased within PBLMD project, related to problem-based learning, which can be read by all interested. They will be made additional purchases of books or subscriptions to certain databases.
V. Activities related to the *dissemination of best practices*. In this regard it will be used primarily the site of USARB www.usarb.md, where we post regularly PBLMD project

activities http://www.usarb.md/pblmd/ , project team members will participate with communications in various conferences, workshops, will ellaborate scientific articles to be published in scientific journals in the country.

VI. *Expansion of project* other specialties within USARB.

All mentioned activities require certain resources. The required financial resources will be covered by the project (the mobility of teaching staff and students, purchase of equipment, etc.), with the support of USARB (organizing trainings with teachers, their motivation, making repairs, purchase of furniture, etc.).

4.3 CHANGE CONTENT

Action Plan/Roadmap shown in Appendix 3 includes some activities required for the implementation of the Program Framework based on learning pedagogical issues. In fact, this action plan is oriented towards the modification of paradigm of higher education, namely:

- reorientation from training students, to a process of guiding them in the process of creating academic added value;
- from the way of thinking of academic value as produced and taught by teachers, to the thinking as co-created value with the students and other partners of the training process;
- from treating students as isolated, to understanding them in the context of their own social networks;
- from the development of tangible resources (such as material resources) of the educational institution, to the prioritary development of intangible resources (such as human capital);
- from the approach of customer education institutions as targets, to address them as partners and suppliers of relevant resources for training programs;
- from putting in the forefront of teaching effectiveness, to increased efficiency through effective training to students as a result of social and professional skills required by the society and labor market;

5 CONCLUDING REMARKS

The 21st century skills requires the implementation of a training that allows students to apply course content, to actively participate in their learning, to significantly use technology and collaborate.

The PBL is a student-centered learning model, based on research in which the student undertakes a genuine problem, poorly structured requiring deeper research[3]. Students identify gaps in their knowledge, conduct research and apply what they learn to develop solutions and present findings[4]. Through collaboration and research, students can develop problem solving[5], metacognitive skills, commitment to learning, and intrinsic motivation.

Problem-based learning make students develop the following skills:

- Critical thinking - a student's ability to issue clear and argumentative judgments
- Troubleshooting - a power that requires the person to apply an ordered / structured process to solve problems
- Teamwork - students' ability to work as part of a team and with others
- Self- guiding - students' motivation to guide their own learning

In the literature we read regarding the PBL, it was noticed a significant risk in using the PBL: despite the potential benefits of PBL, many teachers lack confidence or knowledge to use it[6]. Thus, the main goal we need to focus is adequate training of teachers and motivate them to use PBL.

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7 APPENDICES

Appendix 1. The teacher training program: "Problem-Based Learning - PBL"

PROBLEM-BASED LEARNING - PBL (40 hours)

Trainers: **Valentina Priţcan**, PhD., Assoc. Prof., USARB
Natalia Gaşiţoi, PhD., Assoc. Prof., USARB

The course is focused on developing a proactive personality and aims to develop at major beneficiaries in a pleasant and productive learning environment, **the compentence of applying PBL to provide *student-centered* education *based on research* and focused on *developing professional skills*.**

1. The finalities of learning. This continuous offer / training focuses on teaching pedagogical skills to the beneficiaries, through developing skills and attitudes that are based on certain relevant psycho-pedagogical knowledge, aiming at the establishment of a *performing pedagogical behavior.*

On completion of the course the trainees will be able:

- to understand the essence of PBL as an efficient and relevant pedagogical approach to be used in classrooms;
- to capitalize an efficient collaboration for PBL and its development inside and outside the classroom;
- to understand how to build students' independence for PBL ;
- to ask questions that shall encourage initiative and lead students to PBL;
- to experience a set of project-based learning activities;
- to possess identified tools and resources related to project-based learning that can be used for working in the classroom;
- to experience teaching strategies and instruments placed on the course;
- to reflect on their own teaching practices;
- to appreciate the work of their colleagues.

The finalities will be achieved by capitalizing the content of course units, but also through appropriate use of teaching - learning – evaluation activities.

2. The content. The contents are trans-disciplinary organized, in order to focus on the educational process rather than the scientific content, on solving of the problems in the professional field. The teaching staff shall accomplish the following modules:

- **Module A.** Teaching and Learning in the 21st Century: Challenges for changing the paradigm of learning. Important elements of PBL: relevance, challenge, motivation, interdisciplinarity, authenticity, collaboration. Analytical reflections on the summary of Buck Institute:

- **Module B.** Project-based learning, development of projects and PBL approaches: how do we make difference? PBL components: student- centred, collaboration, adjusting to the real world, and the variety of public, solving of creative problems etc.
- **Module C.** New types of cooperation in the PBL. Strategies and activities to promote effective collaboration between students, student-teachers (classroom). Strategies and activities to promote effective cooperation outside the classroom.
- **Module D.** Analysis of PBL steps after Practical PBL Series.
- **Module E. PBL research.** Defining the problem and determining what is known about the problem (previous knowledge). Finding what it takes to learn more about the issue (research subjects). How are sources / data found to solve the problem (databases, interviews etc.). Formulating good research questions. Research hypotheses. Deciding roles in the group.
- **Module F. Producing performance.** Product development and presentations summarizing research, solutions and learning. Finding resources to develop fundamental knowledge. Collaborative presentation of the discoveries, including one or two solutions, in the form of posters.

3. Methods of teaching - learning. Activities shall be focused on effective strategies for teaching- learning and assessment. They shall be combined specifically for different situations, methods and processes such as problem solving, case studies, role play, heuristic conversation, discussion, brainstorming, investigation, project, exploring multiple viewpoints, panel discussion, for and against argumentation, independent academic learning etc.

4. Methods of evaluation. In the training process there shall be used particularly *participatory evaluation*.

Final evaluation shall be done based on teamwork developing and written/oral presentation of a way of applying PBL (case study, project) in teaching.

Appendix 2. Centre of Continuing Professional Training (CCPT) in USARB

MISIUNE

Oferirea de programe de formare valoroase atât din punct de vedere teoretic, cât și practic, în conformitate cu cerințele sistemului educațional din țară și adaptate nevoilor pieței muncii, recunoscute la nivel național de către Ministerul Educației, Culturii și Cercetării

- Pentru cursurile tematice de perfecționare/specializare, CFPC eliberează certificate proprii.
- Pentru cursurile de perfecționare/specializare multidisciplinare, CFPC eliberează certificate tipărite de către subdiviziunile Ministerului Educației, Culturii și Cercetării. Pentru cursuri și programe de calificare suplimentară și recalificare profesională CFPC, eliberează diplome:
  - în baza studiilor nivel ISCED 5 – diplome de nivel ISCED 5;
  - în baza studiilor nivel ISCED 6 – diplome de nivel ISCED 6.

DATE DE CONTACT

Adresă: Str. Pușkin, nr. 38, Corp 6, Birou 638, MD-3100 Bălți
E-mail: formare.continua.usarb@gmail.com
Telefon: ***(231) 5 24 12***
Pagina web: http://www.usarb.md/
http://www.usarb.md/link-uri-rapide/formare-continua/

UNIVERSITATEA DE STAT „ALECU RUSSO" DIN BĂLȚI

CENTRUL DE FORMARE PROFESIONALĂ CONTINUĂ

Nu este niciodată prea târziu
pentru a sonda necunoscutul,
nu este niciodată prea târziu
pentru a merge mai departe.

Gabriele D'Annunzio

PROGRAME DE FORMARE CONTINUĂ

- **cursuri și programe de recalificare profesională**
- **cursuri și programe de calificare suplimentară**
- **cursuri de perfecționare/ specializare multidisciplinare de scurtă durată**
- **cursuri tematice de perfecționare/ specializare**

MISIUNE

Oferirea de programe de formare valoroase atât din punct de vedere teoretic, cât și practic, în conformitate cu cerințele sistemului educațional din țară și adaptate nevoilor pieței muncii, recunoscute la nivel național de către Ministerul Educației, Culturii și Cercetării

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  - în baza studiilor nivel ISCED 5 – diplome de nivel ISCED 5;
  - în baza studiilor nivel ISCED 6 – diplome de nivel ISCED 6.

DATE DE CONTACT

Adresă: Str. Pușkin, nr. 38, Corp 6, Birou 638, MD-3100 Bălți
E-mail: formare.continua.usarb@gmail.com
Telefon: ***(231) 5 24 12***
Pagina web: http://www.usarb.md/
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UNIVERSITATEA DE STAT „ALECU RUSSO" DIN BĂLȚI

CENTRUL DE FORMARE PROFESIONALĂ CONTINUĂ

Nu este niciodată prea târziu
pentru a sonda necunoscutul,
nu este niciodată prea târziu
pentru a merge mai departe.

Gabriele D'Annunzio

PROGRAME DE FORMARE CONTINUĂ

- **cursuri și programe de recalificare profesională**
- **cursuri și programe de calificare suplimentară**
- **cursuri de perfecționare/ specializare multidisciplinare de scurtă durată**
- **cursuri tematice de perfecționare/ specializare**

Appendix 3. Psycho-pedagogical Module - USARB

The description of program. To provide graduates / future graduates of non-pedagogical higher education who, during their studies did not accomplish the Psycho-pedagogical module and apply for teaching positions, the State University "Alecu Russo" offers the possibility of studying the subjects in the following module by enrollment (for graduates of non- educational programs) and extracurricular / off schedule basis (for students of non-pedagogical education).

In developing the training program "Psycho-pedagogical module" it was taken into account the normative framework and existing educational policies, national and local achievements in the area, the requirements of European integration, of national and international experience, social and educational needs of modern school.

The program correlates with the educational policy documents:

- Education Code of the Republic of Moldova no. 152 of July 17, 2014 (Official Gazette of the Republic of Moldova, 2014, no. 319-324, art. 634);
- Regulation on organization of studies in higher education under the National Credit System Study, approved by order of the Ministry of Education no. 1046 of October 29, 2015;
- Framework Plan for higher education (cycle I – Bachelor, cycle II - Master, integrated studies cycle III - Doctor), approved by order of the Ministry of Education no. 1045 of October 29, 2015;
- The classifier on occupations in the Republic of Moldova (CORM 006-14) (order of the Ministry of Labor, Family, and Social Protection.no. 22, of 03/03/2014).
- National Development Strategy ”Education -2020” for the years 2014-2020 (Government Decision no. 944 of 14/11/2014).
- The standards on training of teachers in general secondary education. Chisinau, 2007.
- The framework regulation on the organization of internships at the State University "Alecu Russo" Bălți (cycle I Bachelor, Cycle II Master degree) approved 07/19/2013;

The module includes a volume of **60 transferable credits**, 30 credits including the theoretic-methodical in the field of education, psychology, didactic discipline and 30 credits required for an internship, reflected in the tables below.

The distribution of classes. Theoretical and methodological training in pedagogy, psychology, Didactics of discipline

Nr. crt.	The name of the course unit / module	Total hours			The number of hours by type of activity			Evaluation form	Number credits
		Total	contact	Individual study	C	S	IT		
1.	Pedagogy	150	30	120	12	12	6	E	5
2.	Psychology	150	30	120	12	12	6	E	5
3.	General Didactics. Educational standards	180	36	144	6 6	12 12	-	E	6
4.	Class-teaching. Inclusive education	150	30	120	6 6	12 6	-	E	5
5.	Age and educational psychology	150	30	120	12	18	-	E	5
6.	Evaluation in education	120	24	96	12	12	-	E	4
		900	**180**	**720**	**72**	**96**	**12**	**6**	**30**

Internship

Nr. do	Activity name	Total hours			Number of hours by type of activity			Evaluation form	Number credits
		Total	contact	Individual study	course	Seminar	Laboratory		
1.	Teaching practice/internship	600	120	480	-	-	-	E	20
2.	The lesson: documentation, drafting, editing, public support, simulation teaching	300	60	240	-	-	-	E	10
Total hours		**900**	**360**	**540**	-	-	-	**2**	**30**
					-				

*Note.*The program provides direct contact hours and hours of individual activity. Hours of contact are held in the State University "Alecu Russo" Bălţi and are monitored by the *Centre of Continuing Professional Training (CCPT).* Individual work hours are performed independently by trainees and are monitored by the school where the teacher is employed.

Competences:

- The conceptual approach of the educational process based on knowledge and implementation patterns, categories and principles of education.
- Designing and carrying out research in educational issues by identifying optimal solutions to achieve quality education.
- Assigning path of development of education by making educational outcomes.
- Designing educational approach by anticipating its elements.
- Evaluation of educational situation, the purpose of teaching activities and academic performance learners.
- Organizing and monitoring of education in relation to social and human contexts and cultural identity.
- Applying the principles, values and norms of professional ethics in their strategy work.
- Identifying roles and responsibilities in a multi- specialized team and application of communication technology, networking and effective work within the team.
- Identify training opportunities and effective utilization of resources and learning techniques for their own development.

Teaching Strategies:

- ***Methods and procedures:*** Video-conference, Cube, Mosaic, PRES, five minutes essay, Debate, Free Writing, Brainstorming, Clustering, Fishbowl, snowball, Know-Want to Know- Learned, Wenn Diagram, Filips 6/6/6, multiprocessual inquiry, Multicolored Questions Multiprocesual questioning, Case studies, teaching modeling, problem-solving, role play, Essay, reflective diary, double log, report, individual and group project, RICAR, SPIR, MURDER, PQRST, SQ3R, APASE, mindmaps, etc.
- ***Teaching aids:*** multimedia projector, interactive whiteboard, projection screen, presentation programs Power Point and Prezi, the Internet (website, email, youtube, virtual library, online dictionary, Skype, Facebook, bookmarking, mindmap, learning platform Moodle; PRIMO Exlibris, online communities of teachers and students: www.sophia.org, www.didactic.ro, www.didactic.md, www.conferendo.com etc.)
- ***Types of activity:*** frontal, individual, pair and group work.

Internship:

Teaching practice is a mandatory part of the educational process and is done in order to consolidate professional skills and facilitate the process of insertion of teachers / student teachers to the work place.

Applicants for "psycho- pedagogical module" without teaching experience, shall have a teaching internship in an amount of 20 credits, this stage being monitored by the Department of Educational Sciences. *Teaching practice* provides training/ development of communication and relation skils, psychosocial skills, informational and technological skills, coordination and organization skilss, design and evaluation skills aimed at developing oneself. The tasks set by internship trainees during the internship has a higher degree of complexity and targets, besides applying acquired knowledge, the aspects of business management.

The applicants with teaching experience of at least 1 year in education, according to the provided documents and who continue their work activity in this area, will earn 20 credits for teaching practice based skills assessment and recognition of practical experience by the Department of Educational Sciences.

In order to successfully achieve the objectives a series of activities are promoted:

- Organizing and holding a conference initiation with the purpose to familiarize students with the framework regulation on the organization of internships at the State University "Alecu Russo" of Bălţi (cycle I, Bachelor, Cycle II, Master degree) approved at 19/07/2013;
- Knowing the schedule consultations of each teacher-methodologist;
- Presenting an exhibition of documents included in the portfolio models student practitioner;
- Councilors methodical made by the head of pedagogical practice;
- Ceremonies of teaching practice accompanied by exhibitions of student-interns products.

Evaluation:

The evaluation of the developed competences is done by the criteria of quality assurance, has a stimulating character, emphasizes the skills and attitudes, and is based on principles of self-organization and self-evaluation.

Types of the evaluation are:

- *Current rating* test, essay, report, case study, project, report, presentations, conceptual maps, portfolios, computer-aided evaluation etc.
- *Final evaluation:* Teaching project (research, development, writing, public support, simulation education).

The target group:

The training program "Psycho-pedagogical module" is for the graduates of higher education programs and students of non- pedagogical education programs who want to apply for a teacher position in the education field.

Team training:

The training program provides a rate of teaching, management and scientific staff, on full-time basis and part-time both internal and external, with vocational qualification under the program aimed at 100% of the positions, the process of planning, recruitment and management of academic staff being in strict accordance with the Regulations (diploma of professor and Associate professor, Doctoral degrees, Master's degrees and university education). Large fluctuations are not recorded. The average age of teachers is about 40 years old, the work experience average about 28 years, which means that the teaching staff have rich life and professional experience.

Design of training:

No.	Contents	Number of hours		
		Contact	Individual study	Total
	I. Theoretic and methodological			
1.	**Pedagogy** Pedagogy - science and art of education. The role of education in the society development. Educational factors. Interdependence of general education forms. Finalities of education. Dimensions (general content) of education. Education and the challenges of the contemporary world. Education system. Teaching and learning process. Didactic principles. Teaching strategies. Pedagogical design. Assessment in education. Teacher's personality	30	120	150
2.	**Psychology** The object of psychology. Structure, branches and research methods in psychology. The content, essence, features and functions of the psyche. The structure of the human psyche. Psychology as a science. Structure and tasks of psychology. Research methods in psychology. Genesis psyche. The emergence and development of psyche phylogenesis. Human consciousness. Factors and conditions of mental development. Perception sensations. Memory. Thinking. Imagination and creativity. Attention. Language, speech and communication. Interpersonal relationships. Terms of groups and collective. Emotions and feelings. Will. Temperament. Character. Skills. Personality. Structure and factors in becoming a personality. Motivation of personality. Activity.	30	120	150
3.	**General didactics. Educational standards.** ***Didactics*** The process of education as a subject of didactics. Principles of didactics. Content of education. Approach of objectives in the educational process. Theory and curriculum methodology. Methodology of the educational process. Means of education. Organizational forms of the educational process. Lesson planning. Elements of didactic docimology. ***Educational standards*** Key concepts. Approach of *quality* dimension in education. Types of standards in Moldova: standards related to children; standards related to the teacher. Types of standards for children: reference, operational. Correlation "standard-curriculum education." Teacher standard - the level of professionalism that must be achieved. Professional standard	36	144	180

	structure: areas, principles, indicators. Correlation: the qualifications framework, professional standards - Code of Ethics - job descriptions.			
4.	**Class- teacher/Tutor. Inclusive education** ***Class- teaching subject*** The educational system of the school. Class- teacher/ Tutor. Children-centred and quality education. Organizing the class- teacher/tutor activity. Norms and regultions in class- teacher activity. Classroom Management. Portfolio of a class- teacher/tutor. Educational partnership. ***Inclusive education*** Inclusive education: conceptual and legal framework. Support activities for children with SEN. SEN child development. Assessing the development of SEN children. Individualized education plan. Curricular adaptations. Partnership in inclusive education. Management on inclusive education	30	120	150
5.	**Age and educational psychology** Mental development during early schooling. Mental development during adolescence. Mental peculiarities during youth. Psychiatric features of adulthoo. Psychology of teaching- learning. The psychology of education. The psychology of a teacher	30	120	150
6.	**Educational evaluation** Evaluation: conceptual delimitations. Evaluation methodology of school results. Assessment/Evaluation tools. Assessing school performance. Evaluation criteria by descriptors. School success and failure. Self-evaluation of teaching activity.	24	96	120
	Total	**180**	**720**	**900**
Traineeship				
1.	Teaching practice	120	480	600
2.	Lesson plan: documentation, drafting, editing, public support, teaching simulation.	60	240	300
Total		**360**	**540**	**900**
Total program		**540**	**1260**	**1800**

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Appendix 4. Action Plan of USARB

	Implementing actions	Responsible	Implementation deadline	Resources
1.	Mobility of academic staff	V. Priţcan	November 2016 - February 2018	FR: within the approved budget HR: External Relations Service, academic staff, partner universities
2.	Evaluation of training requirements of university academic staff in PBL program	N. Gaşiţoi V. Priţcan M. Spatari I.Odinokaia	January March 2018	**FR**: Within the approved budget **HR**: Deans, department heads, teachers
3.	Developing the design of PBL Training. *Problem Based Learning*	V. Priţcan	March 2018	Bibliographical and electronic resources available
4.	Creating of the Working Group and designation of the person in charge of developing / modifying the curriculum	N. Gaşiţoi V. Priţcan M. Spatari I.Odinokaia	March 2018	HR: academic staff
5.	Evaluation of teachers' expectations regarding the competencies after accomplishing the program	N. Gaşiţoi V. Priţcan M. Spatari I.Odinokaia	March-April 2018	Professors
6.	Analysis of similar national, European and international programs	N. Gaşiţoi V. Priţcan M. Spatari	March-April 2018	FR: within the approved budget HR: academic staff
7.	Evaluation of existing necessary resources	N. Gaşiţoi V. Priţcan	February 2018	HR: academic staff
8.	Development of program. Discussion in the Working Group	V. Priţcan	April-May 2018	HR: academic staff
9.	Academic staff training in PBL area.	V. Priţcan N. Gaşiţoi	During the program	RF: within the approved budget HR: DMC, DTI, BS, academic staff who study program provide teaching AP
10.	Developing educational documents: curriculum	N. Gaşiţoi V. Priţcan	February - June 2018	FR: within the approved budget

	Implementing actions	Responsible	Implementation deadline	Resources
	(syllabus), guides, case studies, evaluation, etc.	Teachers involved		HR: DMC, DTI, BS, academics who study program provides teaching AP
11.	Campaign to promote the program: - developing advertising leaflets; - visits to lyceums, - USARB sites; - Radio broadcasting.	Responsible for the program	February-September 2018	FR: within the approved budget HR: DMC, DTI, BS, academic staff assuring teaching process of the program AP, Student Management
12.	Preparation of two classrooms for teamwork	N. Gaşiţoi V. Priţcan M. Spatari, V. Zeleneţcki	July 2017 - August 2018	FR: within the approved budget HR: Technical Services, DTI, Economics Administrative Service.
13.	Initiate Pilot Program	V. Priţcan	September 1, 2018	
14.	Conducting the study program	V. Priţcan Trainees	September 2018 - June 2019	RF: within the approved budget HR: academics
15.	Monitoring and continuous assessment program	V. Priţcan Heads of Departments	During the program	HR: academic staff

EPP-1-2015-1-561 884, DK-EPPKA2-JP-CBHE

Introducing Problem Based Learning in Moldova: Toward Enhancing Students' Competitiveness and Employability (PBLMD)

www.pblmd.aau.dk

Pedagogical Training Program

Cahul State University „Bogdan Petriceicu Haşdeu"

Work Package 3

Prepared by: Todos Irina, Task Force Leader

Roşca-Sadurschi Ludmila, Leader of Business and Management Study Program

Noni Ludmila, Team Member

Vulpe Olesea, Team Member

Evaluated by: Olav Jull Sørensen, Professor, Department of Business and Management, AAU

Colin Simpson, Senior Lecturer in International Business, UoG

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Chisinau, 2018

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1 INTRODUCTION

Education represents the basic factor in the transmission and creation of new cultural and universal human values in human capital development, in the formation of national identity and consciousness, in promoting European integration aspirations and takes a leading role in creating conditions for sustainable human development and building a knowledge-based society.

Establishing a new vision of education is possible due to a new current – *Lifelong Learning.* This emerges in the process of a personality training and development throughout his/her life.

The change of the demographic component in the world, indicates an increase in the number of elderly people comparing with the young share they hold, which also has led to the appeared conditions that imposed the principle of *Lifelong Learning* in the educational practice. The Development of Critical Thinking is an important formative goal and mainly achieved by using active-participative strategies. These strategies must not be separated from the traditional ones they mark higher up the spiral modernizing teaching strategies. Through active- participative methods we estimate all situations and not only active- methods themselves in which the trainees are placed and removed from the position of training object and turn them into active subjects, co-participants in their own development.

Behind each teaching strategy there is a hypothesis about the mechanism of student learning. Trainers must be concerned with finding varied teaching methods and startegies adapted to different situations in which trainees will find themselves. Based on their professional skills constantly updated, a trainer will practise new teaching methods. There is room in this field for the pedagogical demonstration of imagination and creativity, with positive effects not only on the trainees, but also on the trainers.

Moldovan Education faces a predominantly theorizing aspect, even with tendencies of informational overload. Therefore, the trainers' effort must be channeled towards operational knowledge, which will lead to an increase in interest and motivation of trainees in various fields of knowledge, it will better prepare them towards their integration into social life.

The quality of education largely determines the quality of life and creates opportunities to develop full abilities of every citizen. Currently, the educational component focuses on quality of education and skills that students acquire in the educational process.

The *goal* of this study is to make an analysis of the educational system of teacher professional training in higher education institutions in the Republic of Moldova and, in particular, in the State University "BP Hasdeu" in Cahul, based on the methodology developed within the project.

This methodology was applied in Working Package 2 with the purpose to develop a similar Report for the university system in Sweden and Germany, particularly in two universities in these countries: Royal University of Technology in Sweden (KTH) and the University of Siegen. When comparing the elements of the methodology used in European universities and the one in Moldova, it was proposed a plan of pedagogical program for developing teachers' skills in applying PBL teaching strategy.

Table 1. Working Team on report

Name, Surname	Title, position in USC	Position in team
Todos Irina	Associate Professor,Vice-Rector for educational activity, quality and training partnerships	Team leader
Roşca- Sadurschi Ludmila	Professor, Ph.D	Team member

2 METHODOLOGY

2.1 METHODOLOGICAL FRAMEWORK

When analyzing the existing situation in the field of teacher continuing professional training in higher education institutions in Moldova, and especially in the State University "BP Hasdeu" in Cahul, we are guided by standard methodology developed in the project and presented in the Report on Work Package 2.

This methodology involves studying the correlations between internal structures of teacher training at the university and national system. This analysis will be divided into the following levels: Level of System, Level of University Management, Level of Board of Education, Level of Disadvantaged Students, Level of Study Program.

In this report we are guided by the criteria outlined in WP3 (program) and WP2 (teaching), which served us as support to the cross-case analysis for pedagogical study program in USC and similar programs in Royal University of Technology Sweden (KTH) and University of Siegen (USiegen) in the implementation of problem-based learning.

2.2 DATA COLLECTION AND ANALYSIS

To collect primary and secondary data, there were analyzed present laws and regulations with reference to the legal framework of continuing professional training of teachers in higher education in Moldova and USC. Following the data collection, the Working Group analyzed the data, looking for answers to submitted questions.

Table 2. Model of data reporting

Question / Problem	Sources consulted	Findings	Reflections
L1: Level of System			
L2: Level of University Management			
L3: Level of Faculty / Department			
L4: Level of Board of Education			
L5: Integrating Disadvantaged Students			
L6: Infrastructure (physical environment)			
L7: Level of Study Program			

To analyze the data it was used the suggested methodology in WP2 and WP3. The cross- case analysis, as shown in the Table. 3 (cross-case analysis), allowed the reframing of criteria, properties and indicators for each level, yet based on the criteria that have been submitted to the Report for WP2. Highlighting and taking into account these criteria allowed us to carry out cross-case analysis, to point out some common elements, but also to a great extent the existing differences. This analysis represented the basis for developping the Pilot- program.

Table 3. Template for the cross- case analysis

Criteria properties, indicators	USC	KTH	US
L1 Criterion etc.	Main elements by fields	Main elements by fields	Main elements by fields

2.3 LEVEL OF SYSTEM

The trends of continuing professional development systems of teachers in Europe and in the world determine the perspectives of teaching staff continuous training at the national level. The systems of teacher training opt today to ensure the European dimension of teaching staff continuous training by using the European Qualification Framework as a reference tool. Modern guidance systems in the development of teacher training systems are focused on the following key dimensions:

- orientation to standards of teacher coninuous training to provide quality of life-long learning;
- implementation of the system of professional transferable credits to ensure mobility in professional development;
- decentralization in the field of life-long learning and creating of continuous training services market;
- accreditation of continuous training programs and educational service providers in the continuous training of teaching staff;
- transition from the systemic approach of the continuous training to the approach on programs and projects;
- orientation of continuous training systems to pedagogical competence and educational performance, adopting the approach of learning results;
- career development of teaching staff through evolutionary processes and the model of scientific professionalization of teaching career, improving personal participation of teachers in professional development and life-long learning, in formal, non-formal and informal education contexts.

Lifelong learning shall include the learning activities carried out by a person during the whole life, for training and developing skills from personal, civic, social and professional perspectives. Lifelong learning in the formal education context represents an institutionalized process, which is structured and based on an explicit curricular design.

These provisions are mirrored in the Education Code of the Republic of Moldova (Code 152 of 07.17.2014, published in the Official Gazette no.319-324 of 24/10/2014) which state in Article 133 that

1) The professional development of teaching, scientific-teaching, scientific and management staff shall be compulsory during the entire professional activity and shall be regulated by the Government.
2) The professional development of teaching, scientific-teaching, scientific and management staff shall be carried out in the higher education institutions and / or continuing professional training institutions, and other service providers, based on accredited training programs through:
    a) professional training internships in the educational and research institutions or accredited organizations in the country and abroad;
    b) participating as partners in the international and national educational and / or research projects;
    c) participating with communications and / or works in the international conferences, seminars, symposiums, and exhibitions.

The continuous professional training activity is regulated by Government Decision no. 193 of 24.03.2017 approving the Regulation on the adults' continuing education. The Regulation on the Adults'continuing education is meant to regulate and develop the normative framework regarding adults' education in the European context; the development of financing mechanisms and facilitating the development of adults' lifelong education programs, giving priority to the development of key skills: digital, business, linguistic, intercultural and other new skills required by the labor market; the use of cross-case competences; the development of professional competences common to many occupations. The Regulation is meant to regulate the activity of adults' continuing professional development in within the education system and outside of it.

The adults' continuing education in the lifelong learning context, represent all processes in the development of formal, non-formal and informal learning that assist adults to develop their skills, to enrich their knowledge and to improve their professional and technical qualifications or apply them in another useful personal and social way. The access to adults' professional training is guaranteed through equal rights, without discrimination based on age, sex, race, ethnic origin, political or religious affiliation.

The adults' continuing education is based on the following principles:

1) ensuring the proactive character and continuity in the training and development of human personality;
2) adapting the professional training programs to the needs of a continuous developping society;
3) preparing the personality in an utmost adaptation to rapid changing conditions of the educational system;
4) mobilization and capitalization of all media means available within the institutional and noninstitutional;
5) professionalism.

The adults'continuing education has the following functions:

1) to foster personal development;
2) to complete basic education with recurrent or compensatory education;
3) to increase professional competence;
4) to guide adults to a new way of solving important issues;
5) to offer a new chance of getting a qualification;
6) to strengthen the capacities to use the benefits of information and communication technology;
7) to provide every citizen with the acquisition of skills and competences in exercising social rights and responsibilities;
8) to educate, cultivate individual skills and interests to a citizen in achieving an active social role;
9) to promote community and personal actions.

Continuous professional training programs in lifelong learning are the subject to the assessement in obtaining the accreditation or authorization of temporary functioning, in accordance with the Methodology for external quality assessment for authorization of temporary functioning and accreditation of curricula and vocational education institutions, higher education and continuous training, Gov.Dec. 616 of May 18, 2016, approved by the National Agency for Quality Assurance in Professional Education (ANACIP), which was created in 2015 to ensure an integrated, reliable, objective and transparent external evaluation and accreditation of institutions and study programs from vocational, technical, higher education and continuous training.

2.4 LEVEL OF UNIVERSITY MANAGEMENT

The governing bodies of universities, their structure and number are determined by the Education Code of the Republic of Moldova[1]. **The system of management bodies of USC** *encompass the Senate, the Strategic and Institutional Development Council (CDSI USC), Faculty Council, Administrative Council and Rector of the institution.*

The management activity in the State University "Bogdan Pericеicu Hasdeu" in Cahul were targeted, through joint efforts of administrative board and teaching staff, towards the organization of the educational process in the context of the objectives included in the Bologna Declaration. The legal framework for achieving the Bologna statements were formed from all the regulatory documents developed at European and national level in the institution through intercession of the Ministry of Education and the University Senate decisions.

The main institution objective as a whole, represents the implementation of higher education reform and assurance of quality education and training of future specialists.

Teaching staff training is an activity with pedagogical and social content, produced and developed within the institution and educational system, with managerial function of continuous self-control educational process, at all levels within the reference (functional-structural-operational).

[1]Education Code of the Republic of Moldova 152 of 07.17.2014, art. 102

At the functional level, teacher training development aims at boosting pedagogical and social capacities of the practical conversion of finality system in the targets engaged in the educational process in school and extra school environment.

At the structural level, teacher training development aims at boosting pedagogical and social capacities of full capitalization of all educational resources (informational, human, didactic-material, financial) existing at the level of system and process.

At the operational level, teacher training development aims at boosting pedagogical and social capacities of designing, implementation, development and completion of specific activities of the educational process (lectures, courses, seminars, tutorials, hours of meetings; extracurricular activities: students, teachers, parents, other representatives of the educational community; activities: management, methodological, pedagogical and social assistance, educational and vocational guidance, counseling, etc.), under optimal conditions, corresponding the existing internal and external contexts, for a short, medium and long term.

The analisys of teacher training improvement activity implies referring to pedagogical concepts of training, in general, and continuous training, in particular. Continuous training represents the central function of education (expressed as a permanent training development required for the optimal social integration of a human personality). Thus, training is functionally subordinate, education is only particular case of training ". Between education and training, their matrix of functioning is updated differently in teacher training, in adults' education programs generally or in students' training. "

Direct institutional responsibility for quality assurance lies with the Quality Education Management Service in the Career Guidance and Counseling. In order to improve the quality of the study process, at the Senate level there was formed the Senate Committee on quality issues. At the Faculty level, this responsibility lies with of the quality committees.

During the academic year the teaching staff are given the opportunity to become familiar with the new teaching student-centred methods. The Quality Education Management Service in the Career Guidance and Counseling has the role to develop the quality strategy, internal rules aimed at the teaching - learning – evaluation activity, etc. The Quality Education Management Service in the Career Guidance and Counseling relates closely with the teachers, guiding their work in the development and improvement of curricula, designing and developing of the study programs.

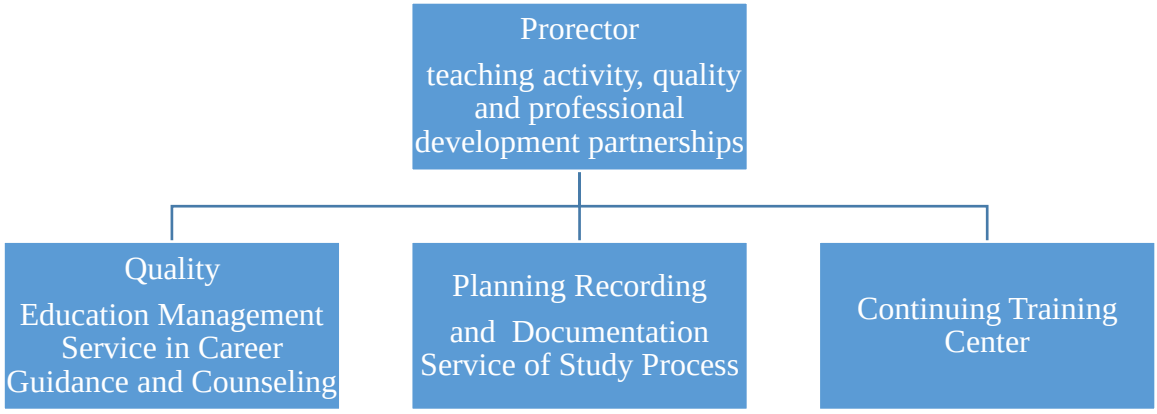
Continuous development and teaching staff training from USC aim to develop professional skills and are organized in line with the professional development Plan teaching-scientific staff. (Appendix 1).

Teacher training development takes place, also through participation in training courses abroad. The teachers who participated in these traineeships are required to present a report within the Department Meetings. Teachers are required to register the training activities carried out in the Individual Plan.

The key performance indicators at the university level are determined, usually, in the academic accreditation process and refer to various components of the educational process.[2]

2.5 LEVEL OF STUDY COUNCIL

In the USC functions, powers and duties of the personnel involved in teaching, learning and management and of the existing relationship are determined by the existence of a well-defined and established organizational structure, relationships expressed in the chart.



Quality Education Management Service in Career Guidance and Counseling is the administrative functional unit which ensures:

a) the application of quality standards in USC;
b) to make proposals for improving the work of evaluation and quality assurance in accordance with the national and European standards;
c) to carry out audit programs on quality at USC faculties and departments ;
d) to provide the necessary information for quality evaluation in USC and publish reports on quality assurance in USC;
e) to offer the necessary consulting and guide the self-evaluation and follow the self-evaluation reporting in accordance with the national reference standards and requirements set by the National Agency for Quality Assurance in Professional Education or other agency of quality evaluation, registered in the European Register of Quality Assurance in Higher Education;
f) to provide services of guidance and career counseling to the USC students and graduates and other members of the university community;
g) other specific areas of responsibility.

[2] http://anacip.md/index.php/ro/legislatie/anacip/ghiduri/send/22-ghiduri/412-ghid-de-evaluare-externa-a-programelor-de-studii-de-licenta-invățământul- superior

Service of planning, tracking and documentation of the educational process is the administrative functional unit which ensures :

a) to plan the schedules of the study process, study formations, teaching positions ;
b) to record the number of students ;
c) to issue order drafts of promotion, graduation, expelling, transfer, etc ;
d) to issue documents of interest to the central and local authorities and authorities/ bodies / public specialized services ;
e) to documente students and graduates;
f) to maintain documentation related to admission, educational process and academic achievement;
g) to release documents of studies;
h) other specific areas of responsibility.

The Center for Continuing Craining (CFC) is a subdivision of the State University "BP Hasdeu" in Cahul and it was created in 2009 under the order of the Ministry of Education and Youth no. 649 of 14 August 2009. The overall goal of the CFC is to promote continuous training strategy for maintaining and developing professional skills that will contribute to the ensuring the profesional quality of the teaching staff in practice.

The functioning and development objectives of CFC are:

- ❖ Ensuring continuity and interconnection between initial and continuing training of staff for the national economy;
- ❖ Developing the offer of training programs based on the level of competitiveness that will allow professionals to benefit from a diversified offer from the State University "BP Hasdeu" in Cahul;
- ❖ Identifying the needs of teaching, professional training and reconversion (retraining) of the labor market;
- ❖ Reconsidering continuous training of teachers in terms of motivation for lifelong learning ;
- ❖ Optimizing strategies for lifelong learning ;
- ❖ Developing human resources through training activities and continuous professional development;
- ❖ Ensuring equal access to training and professional development of teachers in schools and high schools in southern regions;
- ❖ Informing the audience on research, production and latest innovations in education ;
- ❖ Promoting the image of the State University "BP Hasdeu" in Cahul by engaging the specialists in continuous professional training in this sphere ;
- ❖ Developing and capitalizing effective ways of establishing partnership in continuing teacher training with the employers from various fields of national economy.

Target groups CFC's are:

- **Teaching staff for secondary school teachers of different specialties** *(Romanian Language and Literature, Biology, Chemistry, Pedagogy of Preschool Education,*

Mathematics, Technological Education, Fine Arts, Physical Education, Music Education, French Language and Literature, English Language and Literature, Informatics, The Pedagogy of Primary Education, History, Civics, Geography, Physics, Russian Language and Literature);

- **managers of pre-university institutions** to gain the required competences in ensuring the quality of the educational process;
- **people with secondary general education, lyceum education, vocational education, incomplete higher education and higher education in the Arts, Science, Technical fields etc**. to gain the required competences in teaching.

Teachers have benefitted from the following seminars, trainings and continuous professional training courses.

Table 4. Trainings, seminars, training courses in the USC during 2016 to January 2018

Nr.	Name of Activity	Trainers	Period	Total hours
1.	I. **Method of training**: Curricular design *based on training of competences* 1. Competences: The finalities of higher education 2. Didactic planning in higher education	Cojocari-Luchian Snejana Barbă Maria	March 23 to 24, 2016 April 12 to 13, 2016	**8** 4 4
2.	Training Course and teacher development training in the use of SMART Interactive Board	Bârlea Svetlana Căpăţână Ana	November 14 to 15, 2016	8
3.	Training Course and teaching development training in the use of (SMART Board) and Soft-of SMART Notebook	Rudenco Eugeniu	May 2017	60
4.	Training Course in Adobe Connect	Rudenco Eugeniu	June 2017	8
5.	English Language Courses for scientific-teaching and teaching staff of the USC	Paşalî Nadejda Colodeeva Liliana Puşnei Irina	November 1, 2017 - January 31, 2018	60

2.6 LEVEL OF STUDY PROGRAM

Through excellence the teaching profession is meant the teachers' permanent training and development, so that they can offer the individual who is taught, a comprehensive perspective on the field he teaches. The teacher of any discipline undertakes such a training process that will develop him/her periodically until the end of his/her career.

Professional development through attending training courses is necessary for the teacher in order to be able to provide an insight about the contemporary scientific world and to learn effective ways of interaction with the students.

The educational activity of the institution is scheduled, organized and carried out in accordance with the Education Code and other laws in force. Teachers' continuing development takes place under the Programs of Trainings and Agreements of Collaboration as well as extra-budgetary financing support (grants provided by foundations and international programs).

The activity of scientific- teaching and teaching staff represents teaching courses, seminars, tutorials, practical and assessement trainings, according to the curriculum and curricular programs, scientific research activities, training courses, scientific-methodical activities and other activities in the interest of education.

In the Education Code there are established minimum qualification requirements for teaching positions (assistant professor) and scientific - teaching (lecturer, associate professor, professor). Thus, for occupying a scientific teaching position in the higher education szstem, it is necessary to have a qualification of ISCED level 8 - Doctoral graduate. For teaching positions, the graduates of higher education non-pedagocical programs, must compulsory follow the psycho-pedagogical module corresponding to 60 credits transferable.

"Education Code of the Republic of Moldova (Code 152 of 07.17.2014, published in the Official Gazette no. 319-324 of 24/10/2014) states:

> 132 "(4) To hold the teaching positions, the graduates of the non-pedagogical higher education programs shall compulsory attend a psyco-pedagogical module in the amount of 60 ECTS credits".

To obtain these study credits, a teacher can enroll in different courses which, are organized in the University. Thus, USC offers newcomer university teachers the opportunity to gain the necessary knowledge in the psycho-pedagogical field and accumulate the number of credits required – the psycho-pedagogical module. Also, students that are enrolled in the Cycle 2, Master or teachers from other schools can attend these courses. The Centre for Coninuing Training is responsible for organizing the psycho-pedagogical module.

3 CROSS-CASE ANALYSIS

3.1 INTRODUCTION

In this chapter we make comparative analysis between Moldovan higher education and educational systems in European countries: Sweden and Germany, highlighting both similarities between them and the main differences, trying to highlight the shortcomings and advantages of education vernacular, and how to improve it.

3.2 COMPARATIVE ANALYSIS: CRITERIA, PROPERTIES AND INDICATORS

Here we present the comparative situation of criteria, properties and basic indicators in three universities: USC (Moldova), Royal Technical University in Sweden (KTH) and the University of Siegen (USiegen).

Table 5. Cross- Analysis

Criteria properties, indicators	USC	KTH	USiegen
L1 Level of System			
1.1.Cuurriculum acreditation	In the Republic of Moldova the accreditation process is provided by the National Agency for Quality Assurance in Professional Education - ANACIP. Starting with the academic year 2016-2017 the first stage of accreditation of Cycle I, Undergraduate, Sciences of Education started, then the second stage other programs joined the accreditation. After finishing it, Cycle II Master and the third cycle will start. Only after these levels are accredited we can discuss about the institutional accreditation.	Accreditation is a form of external evaluation and is carried out by the National Agency for Higher Education, an institution independent from the Ministry of Education. Swedish Agency for Higher Education comprises several departments: information, law, evaluation, nostrification of foreign programs. The Evaluation department has 36 officers, the other experts for evaluation/accreditation committees are recruited from outside. The experts are distinguished personalities in the field, many of whom were invited from other countries (60% of experts recruited - in Finland, Denmark, Norway). The frequency of external evaluation of universities in Sweden every six years. The	The accreditation process is carried out by Independent Accreditation Agencies. These in turn are accredited by the German Accreditation Council. (Akkreditierungsrat - http://www.akkreditierungsrat.de).

		evaluation time of a study program is 18 months. The basic principle of the external evaluation of universities is to provide real assistance in educational activities. External evaluation criteria are different, the most important, which are also known to the academic community in Moldova include: percentage of Doctors required at university assessment / accreditation which is 100%; transparency of information for students; student's determined role in the process of evaluation (ie. students are representatives Evaluators of the evaluation committees, having the same wages, holding the same responsibilities as expert-teachers).	
1.2. National Agency for Quality Assurance.	The National Agency for Quality Assurance in Professional Education (ANACIP) is the entity in Moldova, responsible for ensuring at the national level, an integrated, reliable, objective and transparent external evaluation and accreditation of institutions and study programs.	The main responsibilities of the Authority on quality assurance in higher education refers to the recognition of new programs and the periodic evaluation of programs recognized. Both of these activities are the responsibility of the Department of Quality Assurance in the Swedish Higher Education Authority (SHEA).	German Accreditation Board is a member of international networks of quality assurance: INQAAHE (International Network for Quality Assurance in Higher Education) and ENQA (European Network for Quality Assurance in Higher Education). German Accreditation Council carries out the accreditation process based on legislation, such as: *1. Law on the establishment of the Foundation for the Accreditation of study programs in Germany* *2. Contracts between the Accreditation*

			Council and accreditation agencies.
1.3. Professional bodies involved in the accreditation.	The accreditation process involves ANACIP experts, qualified teachers and specialists in the real sector. These selected individuals form a team and assess the curriculum, regardless the field.	There are no professional bodies that contribute to the validation of programs.	There are no professional bodies to participate in the accreditation process.
L2. Level of University Management			
Criterion 1. *Governing Bodies, Management and organization of the university*	**The governing bodies of USC** It consists of the *Senate, Institutional Strategic Development Board (CDSI USC) Faculty Council, Administrative Council and Rector of the institution.*	According to Swedish Higher Education Act 1992, the governing body of the university is the university council - ***University Board.*** ***University Board*** is the highest authority at KTH. The President of KTH reports to the University Board.The Board consists of 15 members - president, who shall be one of eight foreign representatives, three faculty members, the president and three students. ***The President*** is appointed by the government for a period of six years from the appointment by the University Board. **The Deputy Chairman** is appointed by the University Board**. The Vice Presidents** are appointed by the president for special tasks. ***The Administrative Board of President*** consists of President, Vice-Dean of the Faculty, Dean of Faculty,Vice Presidents and President of the University Student Union (THS). The Administartive Board of President deals with strategic issues such as education, research and other aspects of a more general	University Management is represented by the Council, the Senate, the Rector.

		nature. Meetings take place every two weeks. ***The Strategic Board of* President** consists of the President,Vice President, Vice Dean of the Faculty, University Director, Deans of all faculties and two student representatives. Vice Presidents are appointed for specific problems. President Strategic Board deals with issues concerning all KTH schools and is a forum for discussion and information. President Operations Board meetings are held every second week. ***Faculty Board*** is responsible for the quality and research of education at KTH. Faculty Board is chaired by the Dean of the Faculty. Depending on the nature of discussed issues, the Faculty Board decides itself or prepares draft decisions of the President and / or the University Board on issues related to education, research and employment.	
Criterion 2. Institutional Stategy of university incorporating curriculum strategy with a focus on student-centered learning	The University is committed in implementing international standards on quality management of educational system aimed at: achieving quality; quality improvement; ensuring the repeatability of the processes; providing effective training; proper evaluation of the effectiveness. The quality of study process, fundamental objectives of its improvement are	The structures of communication between the top management and faculty levels work to renew the strategy focused on student learning and teaching. At schools and boards of education levels, they work on developing and improving the study curricula, each council must have an advisory committee to develop learning, student-centered teaching.	University of Siegen, is focused on student-centred learning, a process carried out by applying new methods of learning that are found in the institutional development plan of the university.

	permanently in the spotlight of Rector, Dean, Chairs. This goal is reflected in the institutional sector strategy on ***The development and strengthening internal mechanisms and quality assurance of educational offer, approved on 02.11.2017.***		
Criterion 3. Quality Assurance Bodies at university level	Functional-institutional administrative entity which is involved in quality assurance is ***The Quality Education Management Service in the Career Guidance and Counseling.***	The strategy of quality ensurance at KTH is based on the principle of continuous improvement. Action Plan on quality policy establishes priorities and activities each year. The responsibility for quality lies with every student, teacher and employee in daily activities. Formal organization: - Faculty Board : academic responsibility for quality - Dean, Vice Dean - President, the University Board - University Administration - Department for Strategic Planning and resource allocation: support in quality assurance - KTH schools - Director of BA and MA -Director of Doctorate studies - Program Director - External Advisory Group.	Bodies for Quality Assurance at the University of Siegen are: at the level of University – the Committee of Coordination in the Management of Quality (LAQ), and at faculty were created Centers of Quality (QZS).
Criterion 4. Pedagogical training of teachers and their training	According to the legislation scientific-teaching staff who are employed must have a graduation diploma of	Responsible for initial and continuous training of teachers is in Faculty development in Teaching and Learning, KTH/ ECE.	Pedagogical training of teachers in Unversity of Siegen is provided by the Center for Teacher

	graduating psycho-pedagogical module. The University offers this opportunity by organizing courses at the Center for Continuing Education. Also teachers are required to perform various training and development, so that to provide evidence when applying for a vacancy.	The KTH, problems- based learning (PBL) is implemented by using the concept CDIO. To prepare teachers for the economy based on knowledge, a new model of education, which aims to give students a more balanced and holistic approach that integrates teaching, knowledge in the field, people and process abilities, values and ethics there was developed - CDIO. New approaches to teaching, learning and evaluation which promote creativity and authentic learning are explored through this model.	Training and Educational Research at the university. (Zentrum für Lehrerbildung und Bildungsforschung (ZLB). The training programs of teachers of all faculties are found in the center .
L3. Level of Faculty / Department			
Criterion 1. The role of faculty in communication with the parties involved in student-centered teaching and learning	At Faculty / Department the communication process is widely used by students and teachers and is focused on discussing, consulting timetable, exams, etc.	Faculty Board/Council represents the entire faculty and acts as an advisory body of the President. The Council has overall responsibility for issues related to the quality of education, research and community interaction.	Communication with the parts in the student-centered teaching and learning lies with the Faculty, which has the power to decide to begin a new program of study.
L4. Level of Council of Education			
Criterion 1. The structure of the body responsible for education	In the USC the entity responsible for studies is ***The Service of planning, tracking and documentation of the educational process***	The Faculty Board/Council is responsible for the quality of education and research at KTH. Faculty Council is chaired by the Dean of the Faculty. Depending on the nature of the treated problems, the Faculty Council decides or prepares draft decisions for the President and / or the University Board on issues related to education, research and employment. A number of program committees and subcommittees are subordinated to the Faculty Council.	The Senate Permanent Committee for teaching and life-lon learning is the body responsible for studies at the University.

Criterion 2. Analysis of evaluation practice	The assessment of student learning is an essential component of *curriculum management* and is part of the coherent and interdependent sequence of key actions that make up the educational process, including *planning-teaching-learning and assessement* in a specific discipline. According to the model in which the assessement is integrated in the teaching process, teaching staff from USC will apply the following evaluation: ***Initial or predictive assessement***	The President decided in KTH to analyze all courses (without exceptions). The analysis of the course is made by the course director. This should be based on assessment, discussions with students, teachers and examiners involved, as well as their own reflections. It is recommended that course evaluation be completed within a month and the analysis be posted on the website of the course. In addition, the course director, during the first lecture of the course should emphasize the changes made in the course since the last review and what caused their change. In all courses, students will have a chance to asses them. Most often this takes the form of a questionnaire / survey completed by a student anonymously. The questionnaire can be designed by the representatives of students or the course teacher, or preferably after a consultation with both parts. Questions in the survey cover all course components (objectives, conditions, manual, course content, teaching, examination).	Assessement in the University of Siegen, takes different forms and methods. Besides the evaluation of teachers, colleagues and an external evaluator may participate in the evaluation process.
Criterion 3. Method of developing a new study program	It is developed and approved by the Departments / Basic Departments, approved by the Faculty Board and then approved by the Senate. It is also required to obtain Provisional	The state does not decide whether to initiate new programs of study. This is done at the university level. At the government level only registered trends are examined (based on statistics), they are made public and are presented to the community and at the university level these trends are discussed and decided on	The development of a new study program goes through the following steps of : • preliminary • examination • decision • implementation The launching period of a

	Authorization from ANACIP.	initiating study programs. Schools and / or professional organizations are usually the initiators of new curricula, sometimes, this is done at the suggestion of the President of KTH. The demand for new programs is analyzed in education / study committee, is approved (or not) by the Faculty Board and a final decision has the KTH President. The University curricula must plan study programs, so that determined competences by descriptors to be attained by the student.	program may take approx. 24 months.
Criterion 4. Involving students in curricula development	Directly (officially) students are not involved in developing the study curriculum. But indirectly, they are involved by including representatives in the Senate and Faculty Board where these documents are analyzed and voted, where they can express their opinion. Questioning students is also done permanently.	Student representatives are members of all Management and Consulting University Bodies, being represented in academic councils at all levels of university and research councils. The student union appoints representatives in the university council. Each school or program may have its own subsidiary or student union. The branch has a research committee which monitors the quality of the program. The Committee shall have a chairman and a vice-president. Each program also has a student in charge of the program. Each group / class has a representative. These representatives attend meetings organized within the program: conferences, group program development group sustainable development, program planning meetings, meetings Semester start-up, "Link meetings" etc.	The representatives of students are members of all Management Bodies and University Advisory. They are represented in academic councils at all levels of university , the Senate and its Council and Students' Parliament.

Criterion 5. Monitoring and regular analysis programs	Regular revision is carried out every five years. Annually feedback from students, graduates, employers is obtained, which allows an analysis and, depending on need, initiating an update procedure.	Revision of programs is done each semester, for this purpose are organized eight annual meetings.	Monitoring and analysis programs are held annually. For their improvement, it is taken into account the opinions of students and employers.
L5. Integration of disadvantaged groups of students			
Criterion 1. Existence of a body that provides help to disabled students.	USC does not have a service responsible for disabled students, yet at the institutional and faculty level there are records of disabled students, to determine individual support measures and assistance that can be provided	In KTH there is a coordinator for the disabled students. People who need this coordinator can make an appointment online or by phone. This coordinator provides all of the information and necessary support.	In the university there is is a Center of Services for disabled students, where students can get information on how to register and make studies despite their disability or chronic disease.
Criterion 2. Ways of working with students from disadvantaged backgrounds in teaching	Counseling these students is done by the Director of the study program in which students are enrolled. Dean's office takes important steps to provide minimum conditions so that they are not marginalized.	The most commonly taken measures are: - Assistance in taking notes - a partner of the course takes notes for the disabled student. - Longer periods of writing for exams and tests - Opportunity to take tests in a private room - Individual Study Plan - if the student needs to study at a slower pace, a special plan is ellaborated individually - Mentor - Adapted benefits of studying- computers are equipped with accessories such as speech synthesis, spelling and enlarge programs. - Access to sign language	Students from disadvantaged backgrounds benefit from: Assistance for students with limited mobility; for students with visual impairments and disabilities; impaired speech; Assistance for the chronically ill. They also have some benefits, such as: extending or providing breaks during lessons or exams; changing the form of the written examination in oral one or vice versa.

		interpreter - Literature course is transferred to other media by TPB (The Swedish Library of Talking Books and Braille) for students diagnosed with dyslexia or other conditions that make it necessary. - Access to the rest rooms	
L6. Infrastructure (physical environment)			
Criteria 1. Providing benefits adapted to the needs of disabled persons	USC makes effort and takes measures to adapt infrastructure to ensure access to studies for disabled students.	The infrastructure is perfectly adapted to provide access to education and provide learning opportunities for disabled students.	For disabled students are provided both physical and educational conditions. The study buildings as well as their conditions are intended for disadvantaged students (the location of study rooms and their conditions, special lifts, even the bathroom).
Criterion 2. Existing benefits for students in supporting problem-based learning	USC has a modernized infrastructure with classrooms, well-equipped campuses, scientific library, WiFi etc.	KTH is equipped with blocks of modern education, modern technologies that allow a physical environment favorable for the learning-teaching process. They come to support *problem-based learning*. The rooms are well-furnished, equipped with proper technologies. There are large halls for courses and small for teamwork. The library has enough resources to ensure the needs of students. Students have access to WiFi in the campus. Extensive use of platform BILDA,of social networks and Skype especially in organizing group work, providing study rooms in group at the choice of sudents, free WiFi connection in campus, IT assistance for students, but	Availability of technical materials necessary for the efficient process of trial and PBL: classrooms, laboratories overtime, well equipped campuses, libraries, WiFi, etc.

		also in coordinating the work with the supervisor, can ease the participation of disabled people.	
L7. Level of Study Program (Psychology)			
Criterion 1. Program Structure	The length of study for Psycho-pedagogical module is a year.	The length of time: Cycle I (6 semesters); Cycle II (4 semesters) ECTS: 180 ECTS (6 semesters of 30 ECTS) In Cycle 2 – Master, the program is set for 4 semesters - 2 years of study - 120 ETCS.	Structure and length of the program varies depending on the course.
Criterion 2. Workload of a student	The workload is calculated in ECTS: one academic semester - 30 ECTS; for one academic year - 60 ECTS. An ECTS equals 30 hours of a student work.	In Sweden each year of study is equivalent to 60 ECTS or each semester to 30 ECTS. An ECTS equals 27 hours of a student work.	The annual workload of a student is about. 1800 hours.
Criterion 3. Students' evaluation	There are Regulations: - The USC Regulation of organizing studies in higher education based on the National System of Study Credits; - USC regulation of organizing the final Bachelor examination; - Regulation on developing the thesis (project) to license and master thesis-*mod.2015;* - Regulation on the assessement of student learning; - USC Regulation on the organization of internships; - Rules of organization and development of higher education studies of Master.	In KTH A-F grading scale is used. The Regulation on the grading scale is "Course grades Regulation. Valid from 01.07.2015 ". It states that students from courses in Cycle I and Cycle II are graded on a scale from A to F. A-E are passing grades, A is the highest grade. Degrees (P - Pass) and (F - fail) are used for trainings in some circumstances. Rules can be viewed at the following link: https://intra.kth.se/polopoly_fs/1.661094!/Course%20grades.pdf	Student evaluation is in accordance with the Internal Regulations of the university.

Criterion 4. *Involvement of teachers, students, graduates, employers in the design, management and improvement of the study program*	Usually, in developing a study program only the teaching staff are involved directly. However, before drafting some courses, students, employers, graduates are consulted through various questionnaires, by organizing round tables. Thus, indirectly many more parts participate in program development and improvement. .	In a study program design, development and improvement there are involved multiple parts: teachers, students, employers, graduates both directly (through participation in various committees) and indirectly (through questionnaires, feedbacks).	The revision of programs is done periodically. The aim is to analyze all interested parts (teachers, students, graduates, employers), strengths and weaknesses of the study program to define opportunities in order to improve and develop a plan for implementing the proposals, which are registered in a log of their responsibilities and of their enforcement.The implementation of the measures will be pursued at the next annual meeting.
Criterion 5. Preventing and punishing cheating and plagiarism	At the institutional level thereis the University Charter, which includes the Code of academic ethics, the Regulation on the prevention of plagiarism among students / Master students, clarifying what is the situation of plagiarism, which are its consequences. USC has signed agreement with an international company to develop programs and oferring services of checking anti-plagiarism. Accordingly, each year students' theses are checked by the system and stored in the database.	To prevent plagiarism at KTH there are following Regulation "Handling of plagiarism in education at KTH Internal Regulations 8/2011". It states the cases that can be considered plagiarism, and those cases that can not be considered plagiarism and the consequences. Diciplinary measures that may be taken into account is either a warning or a suspension. Regulation can be analyzed using the link: https://intra.kth.se/polopoly_fs/1.661096!/Handling%20of%20plagiarism%20in%20education%20at%20KTH.pdf	Anti-plagiarism is provided by using search engines on the Internet: Docol © c (www.docoloc.de) and UN.CO.VER (www.textbroker.de/uncover). Graduate students sign Plagiarism Policy Statement (Plagiatserklärung) thereby ensuring that graduation thesis was developed individually indicating resources used, and the content of the printed version coincides with the electronics.
Criterion 6. Students' contestation	The grade once submitted by the examiner may be challenged according to	If the student fails the exam during the examination session, he can only once a year to re-examine within	Challenging occurs under Internal Regulations which describe the process

	the regulations. Students may challenge the results of the final examination within 24 hours from the announcement of grade. If it turns out that the student was not correctly assessed (underappreciated or overrated), the Jury may cancel the grade and delegate the formation of an examining board of three persons in order to repeat the examination. In this case, the teacher of the course is not included in the new examination board .	three years after the initial examination. The re-examination period at KTH usually - January, March, June and August.	and how to carry them out.
Criterion 7. The current grading system	Knowledge assessment is done by using grades from 10 to 1. Grades from "5" to "10" from the assessments, allow to obtain credits according to the curriculum. The final grade is calculated based on the summative components, such as, the results of tests taken during the semester and final exmination and are registered exactly by a figure according to the decimal scale.	Since 2001 the KTH grading is done on a scale from A to F cycles I and II and cycle III, Ph.D., provided qualifications pass / fail. Rules can be viewed at the following link: https://intra.kth.se/polopoly_fs/1.661094!/Course%20grades.pdf	German grading system includes grades from 1 (for good) to 5 (for insufficient). And scores may be submitted with decimal grades. Universities that have as a condition of admission Numerous Clauses (seats are limited) the grading system is from 1 to 18.
Criterion 8. The role of external examiner	External examiners are required for the graduation exam. They are appointed as Chairperson of the Evaluation Board by the Senate’s decision of USC, but may be in the board for bachelor / master exams and representatives of business (business executives). For current	External examiner is not required to be present in assessement.	External examiner is represented by the entrepreneurial environment or employer. Usually, they are invited to support a practical report or multidisciplinary projects, such as PBL.

	tests, external examiners are not appointed.		
Criterion 9. Employability of graduates	USC practiced interviewing graduates in their first year of employment.	Organizers of programs, university departments are aware of the work post-graduation disciples. At KTH has formed a culture of university graduates to announce whether employed or not, where, what position they hold etc.	Employing students is a one of priorities of the University of Siegen. Students can get employed both after graduation and during the studies. Students' access to information on labor offers is provided by the *Career Services* portal on the official website of the university (http://www.uni-siegen.de/start/karriere/?lang=de).

The general objective of classical universities in our country has been the highest focus on teaching and learning, and less on research work.

Accordingly, in universities traditional teacher- centered activities predominate rather than student- centered, which is considered outdated, at least from the fact that it was designed to integrate graduates on the labor stable markets and into an inflexible society to changes, especially in relation with international influences. However, taking into account the speed of the changes made today, labor market flexibility, it is evident that a student-centered learning society offers many benefits, allows training the specialists, who would have the skills that the employers demand.

After studying student-centered teaching methods in several universities in the European Union, we aim to introduce these methods in the teacher training professional program at the State University "BP Hasdeu" in Cahul. We will focus on the gradual implementation of problem- based learning (PBL) in this Pilot- program (Business and Administration) and simultaneously, in the specialty, where they teach the torrent (Accounting).

4 ACTION PLAN/ ROADMAP

4.1 INTRODUCTION

Action Plan is a consolidated list of measures, commitments and timetables of implementating the actions to overcome the challenges identified in the Problem- Based Learning Pilot Program.

Its purpose is to establish an institutional basis to overcome certain obstacles or certain existing threats to the implementation project.

4.2 FIT-FOR-PURPOSE

To implement the Pilot- Program, Action Plan (Roadmap) was developed (Appendix 3). This includes several activities need to be implemented at the institutional level to achieve successfully Pilot- Program. The implementation of this Action Plan has already started, some activities being carried out, others are to be implemented. The mentioned activities are divided into six groups:

I. Activities related to the *development* of educational supply (psycho-pedagogical module, training) (Appendix 2) for the teaching staff who will teach, including the application of PBL. In developing them, it was taken into account the laws and regulations that regulate the activity in higher education system in the Republic of Moldova, and the experience noticed and studied in partner universities in the European Union.
II. Activities related to the *preparation of teaching staff* in order for them to use the PBL method. In this regard, some of the teachers that will have classes in these groups have participated in several trainings organized within the project at UTM or USC (with the participation of European partners) during 2016-2017. Also, many teachers have received academic mobility to partner universities in the European Union, where they were familiarized with the method in question.

    I. *Developing educational documents*: Curriculum at disciplines, guides, case studies, evaluations, etc. (For 1st year of study).
    II. *Preparing the physical environment: for* organizing the studies. Classrooms were renovated and equipped with furniture and techniques to achieve project objectives in teaching and assessing the students, providing work in groups. Blocks of studies are equipped with free WiFi for students and teachers. The book library was completed with books purchased within the project on the teaching PBL methodology.
    III. Activities related to the *dissemination of best practices*. There will be periodical publications on the website of the university, on the Facebook page of the Department, but also in local and regional newspapers.
    IV. *Extending of the project for* other specialties in the USC.

In 2017-2018 academic year the project will already have expanded with two specialties *Accounting* and *Informatics*. In order to conduct the activities for upgrading the methodology of PBL method, there will be organized training seminars for teachers from these two programs.

4.3 CHANGE OF CONTENT

The Action Plan shown in Appendix 3 includes some activities required to implement Problem Based Learning within the Framework of the pedagogical-program. In fact, this action plan is geared towards the paradigm change of higher education, namely:

- Rethinking the curriculum and content subjects taught in PBL;
- Re-orientating the approach from traditional classical teaching (focused on the taught subject) to PBL teaching (student-centered and guiding their knowledge and practical application of the subjects);
- Changes in approach and positioning students as central entities in the study;
- Positioning on the important places in the process of human resource studies: teachers and students, with all their needs;
- Collaborative relationships and partnerships with business environment that dictates the demand on the labor market.

5 CONCLUDING REMARKS

Problem based learning (PBL) changes the classical approach of higher education, by changing the teacher's role, attractiveness of studies based on problems, but also offers the students an important role in identifying and solving problems.

PBL is a student-centered learning model, based on research in which the student undertakes a genuine problem, poorly structured which requires a deeper research[3]. Students identify gaps in their knowledge, conduct research and apply what they learn to develop solutions and present findings[4].

The key factors of success of the project, and the PBL method are:

- It allows students to take the lead and take responsibility for their own studies;
- It creates a symmetrical power relationship between students and teachers;
- It favors increased competitiveness and employability of students;
- It integrates and supports the socially disadvantaged students.

[3] Jonassen, DH, & Hung, W. (2008). All problems is not equal: Implications for problem-based learning. Interdisciplinary Journal of Problem-Based Learning 2 (2), 4.

[4]Barrows, HS (1996). Problem-based learning in medicine and beyond: A brief overview. In L. Wilkerson, & WH Gijselaers (Eds.), New Directions for teaching and learning, No.68 (pp. 3-11). San Francisco: Jossey-Bass.

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6. Jonassen, DH, & Hung, W. (2008). All problems is not equal: Implications for problem-based learning. Interdisciplinary Journal of Problem-Based Learning 2 (2), 4.
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7 APPENDICES

Appendix 1. Extract from Professional Development Plan of Teaching Scientific Staff for 2018

No. #	Name surname	Position held	The condition of appointment (Full-time/ Part-time)	Trainings (*Period of the institution* where the training will be held)	Training Sessions (*Period of the institution where the internship will take place*)	Academic Mobility (*Period of the institution where the training will take place)*
Department of Economics, Engineering and Applied Sciences						
1	Ana Nedelcu	Associate Professor Interim	Full-time	1. Interactive pedagogical techniques in continuing professional training – March, USC 2. E-teaching, e-learning in continuing professional development – March, USC 3. English language courses, private courses 4. Training courses for accountants in Continuing Professional Development Program, ACAP	1. April, October, USC in the mobility of the project PBLMD	
2	Roșca-Sadurschi Liudmila	Senior Lecturer	Full-time	1. Interactive pedagogical techniques in continuous professional training- March, USC 2. E-teaching, e-learning in continuing professional development –March, USC 3. English Courses - October-May 2017/2018, USC	1. April, October USC in mobility of the project PBLMD	
3	Popovici Ilona	Senior Lecturer	Full- Time	1. Interactive pedagogical techniques in CVT - March USC 2. E-teaching, e-learning in continuing professional development - March USC 3. English Courses - October-May 2017/2018, USC 4. Research Methodology, USC January	1. April, October, USC in the mobility of the project PBLMD	1 April, Cluj Napoca, Babeș-Bolyai, România

				5. Management of research projects, UST, February to March		
4	Rumeus Iurie	University lector	Full- Time	1. Interactive pedagogical techniques in CVT - March USC 2. E-teaching, e-learning in continuing professional development - March USC 3. English Courses - October-May 2017/2018, USC 4. Training courses *Protection of Intellectual Property*, organized by AGEPI, July 5. Training courses organized by the Institute for Standardization of Moldova, ISM, July	1. April, October USC in the mobility of the project PBLMD	

Appendix 2. Pedagogical training module

(Done according to the Education Code of the Republic of Moldova)

Professional development retraining in psycho-pedagogical module for teaching staff in vocational/professional education (secondary vocational, secondary specialized education) is intended for individuals with secondary general education, lyceum education, vocational education, higher education and incomplete higher education in the fields of Arts, Science, Technical etc. to gain the required competence in teaching.

Retraining program will include the trainee workload (hours-classroom and work / self-study) equal to 30 transferable credits. A transferable credit represents 30 hours of learning activity in all its aspects (teaching, research carried out in the classroom and individual activity, trainee required to achieve the goals of the study).

The length of studies is one year. In the 1st semester classes will be planned to units of the Course / Module specified in Appendix 1 and in the 2nd half, teaching practice will take place.

The plan of study:

This module focuses on the formation of psyco-pedagogical competences, on developing some skills and attitudes that are based on certain relevant knowledge, aiming at the creation of a *performance pedagogical behavior*.

Code	**Modules**	**Total hours**	**Total hours contact**	**The number of contact hours**			**Indivi-dual study**	**Evalua-tion form**	**Number of credits**
				Course	Seminar	Practice		Exam / Portfolio	
F.01 O.001	Module of Pedagogy	**210**	**54**	26	28		**156**	Exam	7
F.01 O.002	Module of Psychology	**180**	**46**	30	16		**134**	Exam	6
S.01 O.03	Didactics of the subject	**210**	**54**	26	28		**156**	Exam	7
	Teaching Practice	**300**	**10**			10	**290**	Portfolio	10
	Total hours	**900**	**164**	**82**	**72**	**10**	**736**		**30**

The finalities will be achieved by capitalizing the content of course units, but also through appropriate use of teaching - learning – evaluation activities.

Appendix 3. Action Plan/Roadmap

	Implementing actions	Responsible	Implementation deadline	Resources
1.	Carrying out the trainings –Learning based on PBL, for the teaching staff who will teach the study curricula *Accounting, Informatics*.	Roşca Sadurschi L.	January (3-11) 2018	FR: within the approved budget By HR: department heads, HR: teaching- scientific staff
2.	Establishment of Working Group and designation of responsibilities for developping of methodological materials - as support in forming working groups of students, project works, case studies	Popa Andrei; Roşca Sadurschi L .; Todos Irina	February-March 2018	HR: teaching-scientific staff
3.	Introduction of the Psyco-pedagogical Module concepts PBL and ways of working with this method into the Module of Pedagogy	Todos Irina, Barbă M.	April-May 2018	HR: teaching-scientific staff
4.	Improving curricula with introducing elements of PBL	Miron O,, Rumeus I.	September 2017 - February 2018	HR: teaching-scientific staff
5.	Efficient use of technical equipment	Andrei Popa, Bărlea S; Vulpe M.	During time of implementation	HR: teaching-scientific staff
6.	Mobility of the teaching- scientific staff	Popa Andrei	November 2017, February 2018, September 2018	FR: within the approved budget RU: teaching-scientific staff
7.	Academic staff training in PBL	Roşca Sadurschi L. Todos I.	During time of implementation	HR: teaching and scientific staff
8.	Dissemination Project	Responsible for the program	During 2018	FR: within the approved budget HR:teaching and scientific staff
9.	Monitoring and continuous assessment of the program	Roşca Sadurschi Liudmila, Team Members	During time of implementation	

EPP-1-2015-1-561 884, DK-EPPKA2-JP-CBHE

Introducing Problem Based Learning in Moldova: Toward Enhancing Students' Competitiveness and Employability (PBLMD)

www.pblmd.aau.dk

Pedagogical Training Program

State University of Moldova

Work Package 3

Prepared by: Otilia Dandara, Vice-Rector for Academic Affairs, member of the working group

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1 INTRODUCTION

The quality of education and professional training is one of the priority concerns of the European community. Education is considered to be an essential means of economic growth and the development of a social environment propitious to the evolution of personality. This priority is highlighted by promoting the new educational paradigm and the strategic provisions on labour market management and the development of education systems, mainly of higher education ones.

Therefore, EU policy documents contain educational policies that foresee concrete actions to improve professional studies at any level and relate directly or contextually to the improvement of human resources in educational institutions from both the EU countries and from the entire European region.

Being the starting point of a new continental strategy, the Lisbon Declaration (2000), revised and renewed (2005), sets out the integrated guidelines for economic growth and employment that have influenced the education systems all over the European continent.

The provisions of the Europe 2020 Strategy stipulated the stimulation of a new type of growth (smart, sustainable and propitious to inclusion) by: raising skills levels and enhancing lifelong learning, encouraging research and innovation, more efficient use of smart grids and the digital economy, the modernization of the industry Overall, this strategy promotes an economy based on knowledge and innovation. The importance of a systemic approach and complex actions between the EU and the other European countries are clearly formulated in the Copenhagen Declaration, which has highlighted the creation of new challenges in the field of human resource development. Therefore, it is emphasized that adherence candidate countries are, from the very beginning, integrated as partners in future cooperation in education and training initiatives at European level.

In the key European policies, the project 561884-EPP-1-2015-1-DK-EPPKA2-CBHE-JP is also being developed, which aims to change qualitatively the professional training methods, but in this context, the necessity of training - development of human resources in universities, implicitly, is outlined, in terms of psycho-pedagogical skills.

Within the university training in various fields, the psycho-pedagogical skills system refers primarily to teaching technologies. Being the most flexible element of the teaching process, the teaching-learning-evaluation technology must respond to the context and needs of training the beneficiaries, therefore its adapting to the new realities and requirements has become an imperative of time.

The universities in the Republic of Moldova, members of the consortium, have the opportunity to take over and adapt to the particularities of the national higher education, the good practices of the partner countries, but these can be of real use only after a thorough analysis of their own traditions, after identifying the necessary elements to undergo qualitative changes, after creating a feedback mechanism, which makes possible the achievement of the proposed goals.

The study conducted in various universities in the Republic of Moldova (the first of this kind) will highlight the way of pedagogical training at the system and institutions will create an overview of the possibilities of modernizing the professional training of the university professors on the psycho-pedagogical dimension.

2 RESEARCH METHODOLOGY

2.1 METHODOLOGICAL FRAMEWORK

This study was conducted relying on the following principles:

- systemic approach to the problem;
- reporting: normative framework - implementation results;
- Disclosing the information in three-dimensional aspect: objective analysis of causes or context; description of the current situation, argumentation of the necessity of development.

The study methods were adapted to the research objectives and reflected the documentation and analysis process as: general - particular; continental approach, national approach, institutional approach. From this perspective, we used the following methods:

- analyzing EU educational policy documents;
- analyzing the regulatory framework and good practices of partner countries;
- analyzing the normative framework of higher education in the Republic of Moldova;
- Case study: Psycho-pedagogical training at the State University of Moldova.

The case study method referred to several criteria:

a) the conceptual framework of teacher training;
b) presentation of training strategies (not of sporadic actions, determined by the moment);
c) analysis of the target groups involved in the training process;
d) analysis of professional education outcome;
e) analysis of training and involved structures.

The study was geared towards the following performance indicators: the relevance of the data for the presented university; clarity and explicitness of factual material;

2.2 DATA COLLECTION

For data collection, we used the documenting method by studying policy documents; the method of analyzing the action plans of various university structures; the training program analysis method; the method of analyzing the results of the questionnaires; the method of conversation with the managers of the subdivisions involved in pedagogical training and the academic staff.

We have collected the relevant information from national policy documents. Being finalities of strategic development lines of higher education, they have served as a normative framework and conceptual landmarks for the intended activities at the higher education and institution levels.

The strategic documents elaborated at the institutional level were analyzed as well: institutional strategies, action plans; activity plans of the Continuous Training Section, Quality Management, Curriculum Development and Evaluation; activity plans of specialized departments. We deduced the priorities and objectives of teacher training in the USM from these sources, as well as the degree of involvement of these structures in the pedagogical training of university staff.

Another source of data collection was the analysis of training programs. From the programs we deduced the topic and frequency of trainings, as well as the target group involved.

MSU applied questionnaires to assess training needs and training outcomes.. Analyzing these results, we deduced the importance of the proposed topic for the development of professional skills.

2.3 DATA ANALYSIS

Data analysis was performed in relation to several performance indicators: relevance of the presentation in terms of project objectives; objectivity in relation to the specifics of psycho-pedagogical skills training at the State University of Moldova; clarity and explicitly of the presented material according to the established algorithm.

3 TRAINING FOR UNIVERSITY TEACHING CAREER IN THE CONDITIONS OF THE REPUBLIC OF MOLDOVA

3.1 CONCEPTUAL CAUSES

1. Educational paradigm change

Pedagogical training of university professors has undergone a serious change in recent decades. This situation has been caused by the change in the emphasis between education and society at global level. Since the 1970s, the UNESCO Commission (coordinated by E. Faure) notes a crisis in education. The visible changes in education policy, influenced both by cultural and social objectives, and by economic reasoning. We also find deepening social crises caused by the difference between the standard of living, the degree of integration of well-positioned social categories and social categories at risk of exclusion. The way these tensions are solved lies in education. The basic purpose of the development is to improve the quality of life not only of some social categories, but of all ones. The created context places the education in the position of priority activity of contemporary society. In relation to the pace of socio-economic change, the effects of education have become more and more delayed. In this situation, the continuity of education is emphasized.

E. Faure highlighted three new phenomena, which, in the researcher's opinion, had to be taken into account both in the doctrinal and in the practical plans:

- For the first time in the history of humanity, the development of education considered on a planetary scale tends to precede the level of economic development.
- For the first time in history, education is consciously designed to prepare people for types of society that still do not exist. This is as newer task for educational systems, as education has in general had the function of reproduction of society and of existing social relations; but this mutation is easily explained by comparing the relative stability of past societies with the accelerated evolution of contemporary societies.
- While so far slowly developed societies absorbed easily and willingly absorbed the products of education. or at least they found the solution to accommodate, such a situation is no longer valid today. For the first time in history, different societies are beginning to reject a large number of products offered by institutionalized education. As E.Faure points out, education has had the task to devote less effort to the distribution and storage of accumulated knowledge (although this should not be exaggerated) and to pay more attention to the appropriation of study methods (E. Faure, 1974).
- In order to become a priority, the education has been subject to qualifications or prejudices. USM (as well as the whole system of higher education), being in this period of time within a totalitarian state, the metamorphoses in the educational field, to a small extent, reach the ordinary course of university life. But once independence is declared, when universities are faced with societal problems, for which the state has not formed any

mechanisms of influence and resolution strategies, the universities feel the need to re-conceptualize their activities, focusing on the resizing of the didactic process.

The resizing of the educational process is caused by the emergence of new phenomena. There is a growing connection or interdependence between the quality of education and socio-professional integration. Hence, the enhancing of interdependence between labour market requirements and professional training appear. The phenomenon of massification in education appears, even in higher education, which until recently had an elitist character. Coombs Ph. notes several situations that explain the increasing demand for education: a) children and parents endlessly aspire to the benefits of training; b) Governments see the prerequisite for national progress in the development of education, therefore try to increase " the participation in education", which means the inclusion of more and more age groups over a period of higher education (Coombs 1989).

Education is set to try to adapt to educational requirements and necessities.

- More and more active enrolment in secondary and higher schools (the explosion of education). Young people stay in school more and more. Workers can also return to school for a specific professional education.
- The variety of forms of education has expanded.
- The hyper industrialized societies tended to focus increasingly more on meritocracy: the educated talent is the substitute that contemporary society has found in supporting the family and inherited wealth.
- The number of university graduates has increased and competition has emerged.
- The "knowledge industry" has grown considerably.
- The school has no longer the monopoly in transmitting knowledge, the media intervenes.
- There is a widening / expanding trend of institutionalized life-long learning. These findings explain the strengthening of lifelong learning. Both the consolidation of higher education and the consolidation of life-long learning generate changes in the way the educational process is organized: the university professor is faced with knowing and overcoming the problems generated by the heterogeneity of the student contingent on the criterion of motivation, age, capacities, finalities of studies, etc. Under these conditions of radical change in higher education, learning by taking models is losing its efficiency. There is a need to acquire and to know the new conceptual approaches, of the theoretical milestones of communication and relationship in a university classroom. In these conditions, the issue of specialized content is less complicated in relation to conceptual and technological issues (speaking about didactic technologies). The university professor, has to answer more and more insistent, not the question *"What content do they transmit to the disciples??"*, but rather *How / In which way you form the behaviour that the disciple needs?*

The 2000 UNESCO Commission Report, presented by J. Delors, began with the finding that education must play a fundamental role in the development of the individual and society. Education is one of the means available to cultivate a form of human development that can overcome certain tensions:

- The tension between short and long-term considerations: these ones have always existed, but today they rely on the predominance of the ephemeral, of the moment, in a world in

which the abundance of passing information and emotions is always the focus of immediate attention. In this situation educational policies intervene.

- The tension between the need for competition on the one hand and the concern for equal opportunities on the other. Those with decision-making positions must give each one the means to take full advantage of the opportunity offered to them. This has led us to rethink and update the concept of permanent education in order to reconcile three factors: the conceptual spirit, which is the incentive, the co-operation that gives the force, and the solidarity that unites.
- The tension between the extraordinary expansion of knowledge and the ability of the human being to assimilate it (Delors J., 2000).

Changes in the relationship between education and society impose the change of the educational paradigm at all levels, but strongly rely on the higher education segment. In this context, as educational model, according to social aspirations, becomes the constructivism. Thus, the cognitive constructivism lies around the idea of constructing its own mental model, modified by complementary processes, in order to create its own knowledge. The role of the educator becomes in such a way, to provide an "ambient context for the exploratory activity of the pupil. The social constructivism, in turn, having as its ideological support the theses of L.S. Vigotski, demonstrates the psychological and social natures of consciousness, the social genesis of the human psyche, but the interaction component with the environment becomes a focal element for building their own models of knowledge. In this situation, the mental development is inextricably connected to the motivational or affective one, this is why it is guided by the principle of unity of the cognitive and affective aspects of the professional training.

2. Changing the concept of higher education

The concerns about establishing a new relationship between education and society, are crystallized in the idea of capitalizing on education in order to develop the effective economic and social development. In this respect, higher education is identified as the main source in this mission. The process of setting up the Bologna Process is launched through the Lisbon Convention (1997), based on an economic objective / reason: rational use of human capital and labor. This convention is in the process of being titled: Regarding the recognition of higher education qualifications in the states of Europe. The argument in favour of this decision becomes the key idea of the meeting: "Being aware that the right to education is a human right and that higher education, instrumentally is for the goal and progress of knowledge, represents is a good asset of exceptional cultural and scientific importance to individuals and society; Given that the higher education must play a vital role in promoting peace, mutual understanding and tolerance, as well as enhancing mutual trust between peoples and nationalities; "

This Convention treats the key issues of the idea of creating a single European area of knowledge by highlighting university autonomy, mobility (for access to cultural diversity), recognition of the duration of studies, with emphasis on the recognition of qualifications.

The moment of transition from the period of preparation to the actual stage of confirmation of the Bologna conception, can be considered the meeting of the four ministers of education from the

most representative European countries that took place in Sorbonne on the occasion of the Sorbonne University anniversary.

The core of Bologna Concept is stipulated in the Magna Charta Universitarum, signed by the ministers of education, which confers the following ideas: the future of humanity depends on education, but the universities are meant to accomplish this process; universities must provide young generations with a cultural, social, economic future through university studies and training for lifelong learning; universities, through education, must strike a balance between the natural and the social environment.

The conceptual and procedural actions that were to be taken in the university environment required a considerable modernization of the human resources training. The new approach of professional training in the university, changes the emphases in relation to the different components of the educational process: if traditionally, the key element was the content, now the key element becomes the outcome, followed by the considerable increase in the role of didactic technology. The last one works according to the principle of openness, diversity and maximum possible adaptation to the learning opportunities and needs of the learner. Under these circumstances, teaching and training only by model and exercise is not enough. The rhythm of change goes beyond the informal formative possibilities and traditional forms of establishing the competences of the university professor. There are a series of questions for which the seniors do not have the answer themselves: how to re-conceptualize the design of the didactic process in a heterogeneous environment of students (difference of motivation, theoretical background, different learning abilities, etc.); how to conceptualize the academic path so as to effectively combine the theoretical and practical activities and individual work. These aspects of the professional activity imposed the necessity of the psycho-pedagogical training of the academic staff and the establishment of the compulsory degree of this training.

3.2 STRUCTURAL CAUSES

1. The emergence, together with the establishment and consolidation of the higher education system of the Republic of Moldova, the necessity of exercising by the university professors the conceptualization function of the study programs.
2. Extending the autonomy and, implicitly, the responsibility of the universities regarding the elaboration and implementation of the methodological framework of the educational process carried out in the universities.

3.3 TRAINING TRADITIONS FOR THE TEACHING CAREER

The concept of psycho-pedagogical training reflects state policies on the development of professional competences in this segment of the labour market. Given to the fact, that some persons currently employed in the system, were trained and activated in two educational systems: that of the USSR and that of the Republic of Moldova, their preparation for the academic teaching career can be related to the strategies promoted during these distinct periods.

The educational system of the USSR, including the higher educational system, was a centralized one, subordinated to a command style. As an authoritarian state, the USSR limited the academic autonomy, and this is also visible in the didactic dimension. The conceptual framework of the didactic process was developed by specialized institutions, so that the teachers could only apply the conceptual and methodical provisions into practice. The educational process itself was carried out according to a content-based academic paradigm, which implied a magistrocentrist teaching style, where the teacher was the main actor and the main source of the discipline content, unchanged over the years. Under these conditions, the higher education was an environment of conservative professional activity. This fact did not require the university professor to know conceptual references or innovative teaching methodologies. These particularities of the functioning of higher education influenced the attitude towards the psycho-pedagogical training and the content of continuous professional training in general. Continuing training was mainly focused on acquiring some contents or specialized technological processes. The way of preparation for the didactic career was done mainly by the example method: as a model for organizing the didactic activities were teacher-mentors of the university assistant.

The pedagogical skills of teachers in the Moldovan higher education system were shaped in accordance with the profile of professional training and activity. In the universities and faculties with pedagogical profile, the pedagogical competences were preponderantly formed through the study of the psycho-pedagogical disciplines, but in the institutions and faculties without a pedagogical profile, the professional competences were mostly shaped implicitly. The methodical seminars were organized too, with the purpose of implementing some teaching strategies. The senior teacher had such a training, who now hold scientific and didactic titles and according to legislation, have been trained according to their needs.

3.4 CONDITIONS OF PEDAGOGICAL TRAINING WITHIN THE HIGHER EDUCATION SYSTEM OF THE REPUBLIC OF MOLDOVA

a) Factual findings

After the declaration of independence, the educational system of the Republic of Moldova is established. Although, it remains to be a centralized system, a management principle that also refers to higher education, however the development trends in society, offer a field of manifestation to the university autonomy, first of all to the academic aspect, that refers to the conceptualization and realization of the programs of studies. The development of the higher education system in the Republic of Moldova coincided with the radical changes of the educational phenomenon. A new configuration is established between education and society, mainly, this configuration is influenced by the ever-increasing role of socio-professional integration, thus changing the relation between universities and the labour market, between universities and educational service beneficiaries: students, employers, parents, society. These global changes have produced effects on professional education as a process and result. New paradigms and models are being identified, that are considered as conditions / premises of quality education. The change also touches the university environment. The conservatism, perceived in the past as a strong point of the university, a context of preservation of scientific and academic values, gives the place to the opening and implementation

of the new. The academic paradigm is abandoned and emphasis is placed on teaching technologies, that the learning process should be focused on the learner and on the training of his / her skills.

At the national level, the role and involvement of universities in the conceptualization of study programs, curriculum development (according to the new concept), materials and didactic support, as well as assessment tools are increasing. The university professor is faced with methodical tasks he has not solved until then (so he lacked the model). Under these conditions, the role of psycho-pedagogic training and skills of conceptualization, designing, realization (in another way) and assessment (in another way) of the didactic process increases. This situation imposed a re-evaluation of the psycho-pedagogical training at the level of state / national strategies as well as institutional ones. At both levels, both, the system and the institution taken in part saw a development resource: institutional and institutional ones, in the psycho-pedagogical professional development of teachers.

b) Regulatory regulations at national level

The training and professional development of teaching staff in higher education has always been subordinated to a normative framework and was a compulsory condition of career development. In this respect, we stipulate, art. 41 and art. 51 of the Law on Education no. 547 of 21.07. 1995 and the Regulation on the Organization of Continuous Professional Training for the Development of Quality Services, approved by the Government Decision of the Republic of Moldova no. 1224. However, it should be mentioned that by virtue of relatively constant teaching conducted in universities, continuous training focuses predominantly on the specific technological contents and processes and on the empirical development of teaching skills. The designing, organization, realization and evaluation skills of the didactic process traditionally did not involve training based on the acquisition of new pedagogical approaches. The emphasis is largely, on the ability of the university professor to self-educate; the high level of professional qualification, assuming the ability to overcome methodological problems too.

As a result of the processes outlined above, the peculiarities of professional development of university professors have also changed. The change of the educational paradigm and the conception of higher education has required the re-evaluation of the system of skills of the academic staff, changing the emphasis on the technological dimension (organization of the process of teaching-learning-evaluation) and relational (individualization of the student's academic path and active involvement of thereof). This emphasizes the need and importance of psycho-pedagogical training.

The obligation of psycho-pedagogical training is stipulated in the *Order no. 199* of 9 April 2011 and concerned the development of these competences for teachers at all levels of professional education, including the higher education. This order also regulates the outcome and content of the psycho-pedagogic module. All the teachers were to complete a 30 credit training process: 20 - theoretical training and 10 - practical training.

Table 1. The structure and content of the psycho-pedagogic module

O. No.	Module composition	Total hours	Form of assessment	No. of credits
Theoretical component				
1.	Pedagogy Module	210	Evaluation Portfolio	7
2.	Psychology Module	180	Evaluation Portfolio	6
3.	Didactics of the discipline	210	Evaluation Portfolio	7
Practical component				
4.	Teaching practice (confirmation from the educational institution where he/she works)	Presentation of elaborated didactic materials (curricula, methodical support)		10

Order no. 199 regulated the training of psycho-pedagogical skills in relation to the professional experience and the status of the scientific-didactic staff, too. Point 3 of this order stipulates: Persons who are working in professional training institutions and holding the scientific-didactic title of university professor or university lecturer, will attend the psycho-pedagogical module upon request. This provision is applicable in professional education institutions at all levels, but of course they refer to higher education institutions as a matter of priority.

This Order is the first normative act that normalizes and recognizes the importance of psycho-pedagogical training at the normative level and is a proof of a consistent policy of the state in ensuring the quality of professional training under the new conditions.

Enhancing the psycho-pedagogical aspect in the teachers training in higher education is achieved through the stipulations of the Education Code, no. 152 of 17.07.2014, published on 24.10.2014 (OJ No 319-324), the date of entry into force, 23.11.2014.

a) By art. 132 of Education Code, the minimum qualification requirements for the occupation of didactic and scientific-didactic functions in higher education are established - possession of a qualification of at least 7 ISCED level - master's degree studies. (4) In order to occupy the teaching positions, the graduates of the non-pedagogical higher education programs will have to follow the psycho-pedagogical module corresponding to a number of 60 transferable study credits.

The provisions stipulated by the Education Code determine the obligatory and normative nature of psycho-pedagogical training for all teachers in higher education, without making certain differences between different categories of employees. This imperative nature of the law emphasizes the need to train the conceptualization and organization of the didactic process at a time of continuous reform in education and implicitly in higher education.

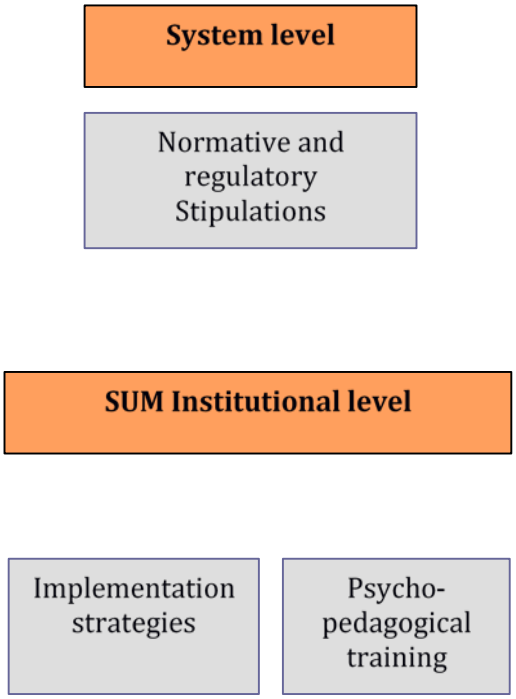
There is no normative document on the content of psycho-pedagogical training. To this end, the academic communities of the Republic of Moldova are given the freedom of action in order to determine the problems and modules according to the training needs of the employees and the strategic development objectives of the institution.

4 PEDAGOGICAL TRAINING WITHIN THE STATE UNIVERSITY OF MOLDOVA

4.1 CORRELATION OF INSTITUTIONAL PRIORITIES WITH NATIONAL POLICIES

The concern of the SUM to build the professional skills of its employees was influenced by changes in higher education. The SUM acted in the context of the following algorithm: normative-regulatory provisions, issued at the Government level, decisions / implementation strategies at the institution level, professional training under the psycho-pedagogical aspect. Fig. 1.

Fig.1. Way of USM action in implementing the reforms



Here are some stages of enhancing psycho-pedagogical training in the USM.

a) Elaboration and implementation of standards in higher education in the Republic of Moldova 2003 - 2005;
b) Elaboration and implementation of the university curriculum based on the objectives: 2005 - 2007;
c) Focusing the training process on skills training 2010 - present.

Since 2003, a stringent need for training of psycho-pedagogical skills has arisen, not only through the traditional way, the implicit assumption of the seniors' experience, but also through the formalization of this process and the provision of the training modules for the various target groups.

In the period 2003-2005, the issue of standards in higher education prevailed. To this end, the problem of the orientation of the professional training process towards objectives, formulated from

the perspective of the diversity of the professional activity aspects, has been raised. The concept of higher education training standards was developed by a group of specialists from the USM, which was later implemented at national level. Theoretical bases and examples of application to the specialty were reflected in the work: "Designing the initial professional training standards in university education. Methodological Guide, by Guţu VI., Muraru E., Dandara O., CEP USM, Chisinau, 2003.

This issue has generated an exchange of context of professional activity in the traditional perception of university professors and imposed a new vision on the correlation of various aspects of the didactic process. In the context of psycho-pedagogical training, in terms of accumulation of new knowledge and the formation of new skills, it became imperative.

In 2005, the Republic of Moldova joined the Bologna Process. This fact led to radical changes in the conceptualization and organization of the professional training process. The event coincided with the shift from the designing of the discipline to the standards, the curriculum approach, focusing on objective formulation. As a theoretical reference, B. Bloom's taxonomy was adapted to the peculiarities of higher education. The 6 levels of complexity of learning behaviour presented by B. Bloom have been integrated into 3 levels of complexity of learning outcomes: knowledge and understanding, application, integration. The conceptualization of study disciplines from the curricular perspective has fundamentally changed the teaching-learning-evaluation process. The need to have the competence to formulate study objectives, assessment tasks, tests has emerged. This context created the need for massive pedagogical training of various categories of employees on the following issues:

- Developing the curriculum to discipline;
- Formulating objectives of different level of complexity;
- Developing evaluation tests according to the curriculum theory.

As a methodical support, the paper: Evaluation of Academic Outcomes, CEP USM, Chisinau, 2004, was elaborated. It was and is also used in training sessions and self-training sessions.

Beginning with 2006, the Ministry of Education initiates the process of developing professional qualifications. The SUM is designated as a responsible institution for the developing the National Qualifications Framework for 32 professional training areas, fact that generated the need for pedagogical training of the teaching staff, mostly experienced employees in the field, holders of scientific and scientific-didactic degrees. In this context, the psycho-pedagogical training was oriented towards the problems of the finalities of studies and skills formulation. Methodological Bulletin "Elaboration of the National Qualifications Framework", by Dandara O., Spinei A., Chisinau, CEP USM, 2006, was used in the process of developing and finalizing the National Qualifications Framework during the years: 2006-2009; 2011 - 2013.

During the period 2010 - to date, the development of professional skills has been focused on skills formulation. Based on the emphasis of European policies and leadership lines of higher education evolution, the SUM academic community attempted to adapt study programs to economic realities. The Study programs and curriculum disciplines have been improved from the perspective of reflecting professional skills in the learning outcomes. In complexity another important element in the didactic design of the USM has appeared - the use of electronic platforms in the professional

training process. During that period (2012-2017), about 400 university courses in electronic version were developed, updated and implemented. In order to achieve this, about 300 teachers were formed to be able to conceptualize, use and evaluate through the Moodle platform the disciplines within the study program.

From the above we conclude that psycho-pedagogical training is determined by two defining aspects of didactic activity: a) the tendencies of the evolution and modernization of the higher education, according to which the pedagogical training is focused on the key elements of the didactic process, approached from a constructive perspective and has, in principle, a planned and well-structured character; b) the SUM priorities, which lead to ad-hoc training activities, with the involvement of different target groups, with a diverse, less standardized theme, adapted to the needs of teacher training, through a variety of forms of training.

4.2 ANALYSIS OF HUMAN RESOURCES OF THE SUM FROM THE PERSPECTIVE OF PSYCHO-PEDAGOGICAL TRAINING

At the moment, the psycho-pedagogical training of the scientific-teaching staff involved in the SUM is different and can be conventionally classified into three categories. There is a direct link between the employee's age, employment time and the level and form of psycho-pedagogical training.

a) Teachers who started their activity before the 90's and obtained scientific degree and scientific-didactic title until 2011;
b) Teachers who started their activity in the 90's and obtained the degree and the scientific-didactic title by 2011;
c) Teachers who started their activity in the 90s or later and in 2011 did not have a scientific degree and a didactic-scientific title.

The course of professional development of these three categories, three generations of teachers, has been configured differently in terms of psycho-pedagogical acquisitions, depending on the context and the conditions of professional activity.

The first category of teachers formed their teaching skills, mainly by imitating the predecessors' model. The acquisition of knowledge and skills had more a context character than a normative one. The new curricular approach, focused on learning outcomes, was mainly implied by the modernization of the curriculum of the discipline, which led to a series of changes in the teaching-learning-evaluation strategy. At the same time they benefited from methodical seminars organized within the university, through which the new curricular ideas were promoted.

The second category of employees, those who became teachers in the 1990s or especially in the early 2000s, acquired psycho-pedagogical skills from the professional position of a young specialist. The didactic training had for this category of employees an organized character, subordinated to the basic principles of training, by providing an organized training according to the internal logic of the education sciences and oriented towards the systemic training of the activity skills in the classroom. The strategy of training the psycho-pedagogical skills was determined by the strategy for the development of the teaching staff within the SUM and resulted from the need to

develop human resources. Under the regulatory relation, at level system, there was no mechanism for monitoring and imposing / compelling the training of psycho-pedagogical skills.

The third category of employees has formed its psycho-pedagogical skills both under the influence of the existing regulatory framework and under the influence of the academic / institutional development strategy of the teaching staff. This category of employees is trained in the formative activities, after a predetermined program and have the obligation to form the psycho-pedagogical skills necessary for the positions they have.

4.3 DECISIONAL IMPLICATIONS AT INSTITUTIONAL LEVEL

As a result of the concerns about the quality of professional training and the correct organization of the teaching process in accordance with the new trends, SUM promotes a policy of developing psycho-pedagogical skills at the institutional level.

The development strategies of the university contain provisions aimed at training and enhancing the professional skills of the teaching staff, and the consistent presence of these concerns is a proof of the University's priorities.

- *Strategic Development Plan of the State University of Moldova in the years 2002 - 2007,* approved by the Senate decision, minute no. 8 of 26 March 2002.

According to this strategic document, one of the priority activities was:

Curricular development and enhancing the quality of university education, focusing on concrete activities such as:

- ✓ Continuously connection of the curriculum to European standards
- ✓ Academic and educational standards developing in the European and international coordinates
- ✓ Full implementation of the academic credit system
- ✓ Application of information technologies in the university education process

- *Strategic Development Plan of the State University of Moldova for 2009-2014*, approved by the Senate Decision no. December 5, highlights the activity of the SUM rector focused on five fundamental principles, the first of which is to ensure creativity and quality in education and were to be achieved through:

- ✓ Modernizing and ensuring the quality of university education.
  - ❖ Use of modern teaching-learning-evaluation technologies (including electronic platforms);
  - ❖ Enhancing the concept of evaluating educational outcomes
- ✓ Developing the professional skills of SUM employees, turning them into agents of changing and enhancing the quality of the educational process.
  - ❖ Creating the conditions for professional development;
  - ❖ Training the university continuous training structures;
  - ❖ Continuous professional training according to needs;

Through *the Strategic Plan* (2009-2014), the State University of Moldova designed some actions for a period of five years, which allowed achieving one of the basic strategic objectives: Transforming SUM employees into agents of change, increasing the quality of the educational process, investing in the development of professional skills.

- *Strategic Plan* 2016-2020, approved by Senate Decision no. 4 of December 22, 2015 provided some strategic development priorities, the first being formulated by the strategic objective: Developing and enhancing the quality of the educational offer that was to be materialized through strategic actions: Ensuring the professional training process with highly competent scientific and teaching staff through continuous training.

In order to maintain a high level of quality, the SUM elaborated the Personnel Policy Strategy at the State University of Moldova, approved by the Senate, through Minutes no. 623 of March 28, 2014. In Point 3. *The mission and purpose of SUM staff* it is stipulated: The SUM staff aims to ensuring their own professional qualitative dynamic development through the development, enhancing, amplification and promotion of ideas, theories, modern scientific concepts, thus contributing to the formation of a elitist university college that assures the dynamics of the SUM.

Point 8. *Strategic objectives for the development of USM staff*; strategic objective II *Improving the Motivation Mechanisms of SUM Staff*: It will provide a balance between individual motivation and collective effective performance to create conditions that would correlate personal and university interests, oriented to get the most effective results in teaching and research.

The strategic SUM provisions on development directions and goals have become the conceptual landmark of SUM management at all levels and leadership principles of the academic community. An element of the organizational culture of the SUM is the sessions of the Board of Administration and the Senate, at the beginning of the academic year where take place debates and decisions are taken on the priorities of the academic year in progress. Analyzing the decisions of the last years of the SUM, we find that:

a) In the academic year 2014-2015, the first two priorities were in an interdependent relationship and referred to: maintaining and enhancing the teaching process and promoting an effective staff policy;
b) In the academic year 2015 - 2016, the first priority became the staff policy, which was to focus on the continuous education of professional skills in response to the needs of the beneficiaries;
c) In the academic year 2016-2017, the staff policy is the second priority;
d) In the academic year 2017 - 2018, the staff policy becomes once again the first priority of the university, stipulating the need for a clear strategy of professional development at the faculty / department level;

Starting from the fact that the methodical and technological dimension of the activity of the university professor has become, in the last decades, a topical one, the development of the professional skills of the teachers in the SUM focuses mainly on the psycho-pedagogical training.

4.4 TRAINING STRATEGIES OF PROFESSIONAL SKILLS

a) Teacher training directions of SUM teachers

The content of professional training of SUM teachers is determined by the skills they need to have a in order to get a quality higher education. The skills system of a university professor can be conventionally divided into three categories:

- General skills;
- Specialized skills;
- Psycho-pedagogical skills.

The general skills, the key ones, which ensure the personality and professional development of the personality, are dictated by the requirements of time, and at the moment we can mention communication skills in a foreign language (mainly English); digital skills; communication and interdisciplinary skills. The level of these skills directly influences the quality of the functioning of a university environment. Under the current conditions, it contributes to the organization of the teaching process in a foreign language, which raises the attractiveness of the studies in the university and offers the graduates an increased chance of employment. Knowledge of foreign languages creates favourable conditions for internationalization, which makes it possible for the university to be visible internationally and to enhance the research opportunities. Digital skills, communication facility with beneficiaries make it possible to diversify the way of teaching, including the way through the use of electronic platforms. Communication and inter-relational skills generate a favourable environment for professional training and maintain a true academic climate. The SUM encourages the formation and enhancing of these skills through the normative provisions developed at institutional level and the actions taken to motivate teachers for training activities.

By the institutional Regulation on the determination of the scientific and didactic activity, adopted on 27.06.2016, the USM provides the coefficient 2 for the didactic activities in the foreign language.

By decision of the Senate, university professors benefit from English language courses in order to teach subjects in this language. Starting with 2011, the E-Learning Center was created, a education and consulting center, offered free of charge to teachers and students in order to use the Moodle Platform in professional Training.

Specialized skills are formed primarily within faculties and specialized departments. For this purpose, scientific activities are used, such as: the scientific conferences for teachers and students; the scientific journals defence, presenting the best practices in the field and the achievements of the teachers; the relevant scientific seminars; doctor's and doctor's habilitate theses defence sessions; roundtables with specialists from abroad; activities carried out within national and international projects, summer / winter schools for young specialists. This variety of activities contributes to informing about the latest developments in the field, taking good practice, and acquiring specialized technologies.

In recent years, SUM teachers have an effective way of professional training such as teaching and research mobility offered by various programs: Erasmus +, AUF, Jean Monet, etc.

b) Ways and contents of psycho-pedagogical training of USM staff

Psycho-pedagogical training within the SUM is based on several strategic considerations: a) the formation of critical mass of employees to accept the change and to promote new ideas. For this purpose, within the SUM training was mainly focused on two categories of middle management staff: heads of department and faculty deans; b) professionalisation of SUM employees in terms of training and development of pedagogical skills, by completing staff with persons holding psycho-pedagogical skills. For this purpose, master students who wish to pursue a university career in the future are trained; c) valorisation of the degree of openness and receptivity of young teachers through involvement in training courses for young specialists.

The heads of department (as the case may be, deans) are mainly trained by working sessions, usually organized at the beginning of the academic year and at the end of the semester. During these sessions a problem related to the organization of the study process is under discussion, the pedagogical landmarks are presented and the ways of acting at the department level are determined. Another method of pedagogical training is the methodical seminars, the themes of which are influenced by the USM priorities, but also by the training needs of staff (final formulation, task elaboration for electronic tests, monitoring of individual work, etc.). These activities are collective, conducted through interactive training methods. A specific way of training the heads of departments on pedagogical aspects is the monitoring visits of the departments at the beginning of the academic year, when the employees of the Quality Management Department analyze and evaluate the quality of the curriculum packages of the study programs and each head of the department is evaluated and implicitly consulted, on the pedagogical aspect of his / her work within the department.

Another category of employees involved in the development of psycho-pedagogical skills are the young specialists. From 2004 to 2010, young specialists (those under SUM with a duration of less than 3 years) were involved in psycho-pedagogical training during the winter and spring holidays of the students. The 2-3 day training included the following topics:

1. Didactic communication: styles of communication, ways to prevent and overcome conflicts;
2. Design in higher education: ways of organizing the university course and the university seminar from the perspective of the peculiarities of the field of study;
3. Interactive teaching methods and techniques (adapted to the field of professional training);
4. Evaluation of academic performance: functions and types of evaluation;
5. Elaboration of tests (test construction, formulation of tasks of various level of complexity).

According to the provisions of the Education Code (2014), young specialists and new employees who do not have psycho-pedagogical training are involved in a program of 60 credits. These modules, fully or partially, can be requested by any employee.

1. PSYCHOLOGY Module - 9 credits

Nr. d/o	Content units	
1.	Personal development of the academic staff/ Problems of psychological adaptation in upper school.	
2.	Teacher / Student Relationship: Conscious / Unconscious Dimensions / Impact of Cognitive Style on Educational Practices.	
3.	Persuasion Strategies in the university environment / Nonverbal communication - a factor for the efficiency of didactic activity.	
4.	Stress Management in Teacher / Student Relationship / Conflict Management in Educational Institutions.	
5.	Methods and techniques of psychological evaluation in the university environment.	
6.	Dimensions of university teacher evaluation.	
7.	Psychological evaluation in the university environment.	
8.	Psychological Aspects of Teaching Communication.	
9.	Learning students styles	
10.	Development of critical thinking and creativity in high school.	
11.	Motivation of learning to students: theoretical and practical aspects.	
	Total number of hours	
	Evaluation form	**Portfolio**

2. PEDAGOGY Module – 9 credits

Nr. d/o	Content units	
1.	University pedagogy in the context of curricular reform	
2.	Educational policies in higher education	
3.	Theories and paradigms in higher education	
4.	Elaboration of normative and regulatory documents. Structure of the curriculum package. Practical Implications of the University Professor.	
5.	Curriculum based on competences and reported to the qualifications framework: formulation of the studies finalities at the discipline based on the professional skills system.	
6.	Teaching technologies and strategies in higher education: adapting to the particularities of the study program.	
7.	Teaching/didactic communication.	
8.	Student-centered teaching process: ways to achieve	
9.	Individual learning and self-training.	
10.	Didactic design within the university: course, seminar, laboratory.	

11.	Evaluation of students' academic results	
	Total number of hours	
	Evaluation form	**Portfolio**

3. THE UNIVERSITARY DIDACTICS Module - 9 credits

Nr. d/o	Content units	
1.	Peculiarities of the discipline / course teaching.	
2.	Formulation of the learning outcomes	
3.	Disciplinary curriculum design	
4.	Organization of didactic activity: type and structure of different forms of organization.	
5.	Methodology of monitoring students' individual work	
6.	Tests Elaboration	
7.	Moodle Platform Use in the university education process	
	Total number of hours	
	Evaluation form	**Portfolio**

In addition to basic themes, the beneficiaries can also require tackling some aspects of the issues addressed.

4. The use of electronic learning platforms 3 credits

5. Portfolio of practical activity 30 credits

With the adherence of the Republic of Moldova to the Bologna Process and the establishment of a cycle-based higher education, USM has capitalized this concept for psycho-pedagogical training. Beginning with 2005, within the master studies, optionally, from the perspective of setting up an university career, students can choose the psycho-pedagogical module consisting of 5 and 10 ECTS credits, respectively. The volume of the training module is influenced by the psycho pedagogical training of the master student: those who have undergone psycho-pedagogical training during undergraduate studies, have a module of 5 credits; those who did not benefit from psycho-pedagogical training, have a module of 10 ECTS credits. The disciplines of Higher Education Psychology, University Pedagogy and University Didactics are optional courses offered by the University in the second and third semesters of the master studies.

Psychology of Higher Education focuses on the following topics:

Nr. d/o	Content units
1.	Conceptual Fundamentals of University Psychology
2.	The specific of cognitive development in the university study process
3.	Personality system. Student personality - an important factor in university studies
4.	Psychological Aspects of Communication in Higher Education

University Pedagogy deals with the following issues

Nr. d/o	Topic
1.	The status and subject of university pedagogy. University pedagogy in the context of education sciences.
2.	Higher Education System of the Republic of Moldova in the context of the Bologna Process. Aspects of the reform of higher education.
3.	University: meanings of the university concept. Current and prospective retrospective approaches.
4.	University curriculum: conceptual and methodological approaches.
5.	Qualifications framework.
6.	Curriculum content and curriculum products.
7.	Forms of organizing the educational process, pedagogical and investigative technologies.
8.	Didactic projection in higher education.
9.	Strategies for the evaluation of academic results.
10.	University Management and Quality Management.
11.	Professional development of the academic staff: functions, competences, social status.
12.	Students: self-management, participation, self-evaluation, career guidance: autonomous activity.
13.	Communication, didactic and intercultural communication.
14.	Education outcomes and the labour market.

University Didactics

Nr. d/o	Topic
1.	Didactics of university education. Theoretical landmarks
2.	Outcomes of initial training. Nomenclature of Professional Training Areas. CNC.
3.	Peculiarities of University curriculum: curriculum content and products.
4.	The university curriculum: forms of organizing the educational process, pedagogical and investigative technologies.
5.	University curriculum: Evaluation strategies of academic results.
6.	Didactic design in higher education.

4.5 UNIVERSITY STRUCTURES INVOLVED IN PEDAGOGICAL SKILLS TRAINING

Several structures / subdivisions of the USM are involved in the process of training the psycho-pedagogical skills:

1. **Psychology and Education Sciences Department**. These departments constitute the conceptual core of pedagogical activities. Teachers, specialists in the field, are responsible for the Master's program, but they are also involved as trainers in training modules for young specialists and new employees. The teaching staff of these departments is the group of trainers for the professional training seminars in conceptual aspects regarding curriculum development / modernization; formulating the finality of study disciplines; developing exam tests; organizing individual work.
2. **Continuous Training Department**. This subdivision has the direct responsibility to organize psycho-pedagogical training sessions of young specialists and new employees, as well as to solve the logistical aspects of continuous training for other categories of beneficiaries.
3. **Quality Management, Curricular Development and Evaluation Department**. This subdivision aims to promote the change in the curriculum and implicitly pedagogical training of employees from the perspective of these issues. Employees of this subdivision organize the training sessions / methodological seminars. The subdivision monitors the implementation of innovative elements and evaluates the results.
4. **The Quality Council**, which includes the heads of the Quality Assurance Commissions within the faculties. They promote the pedagogical landmarks of the professional training process within the faculties; engage themselves in the development of psycho-pedagogical competences, by reviewing and appreciating the methodical works, attending classes, evaluating examination tests for exams, etc.
5. The specialized departments, based on the Annual Activity Plan, determine the problems and priorities of training the psycho-pedagogical competencies in correlation with the curricular priorities of the university. The professional training within the specialized departments takes place through methodological seminars organized by the members of the department in order to disseminate good practices, or with the involvement of specialists within the university structures.

4.6 PHYSICAL CONDITIONS FOR THE FORMATION OF PROFESSIONAL SKILLS

SUM offers its employees favourable conditions for continuous professional training. In addition to the centers and subdivisions specialized in training and professional development such as Continuing Training Department, Quality Management Section, the university professors have the opportunity to benefit from the Career Guidance Center; Center for Psychological Counselling; Reading Room, which provides the beneficiaries with computers and Internet connection, free access to SCOPUS databases and others sources to get latest information, the use of language study laboratories, which are equipped with specialized softwares, the use of information technology laboratories.

5 CONCLUSIONS

The training of teaching staff is an integral part of professional formation and professional development. The peculiarities of career development of a university professor impose the necessity to acquire knowledge in the field of education sciences, psychology and didactics, in spite of their activity and position: conceptualizing a discipline, curriculum design, developing methodological support for students, developing and applying assessment tools.

Throughout the evolution of universities there has been a certain correlation between the aspect of specialized training, which assures the teaching of the content of a professional training area (What content do I transmit to the disciples) and the technological / psycho-pedagogical aspect (How do I organize, realize and evaluate the professional training process). The content aspect was also enhanced by the teacher's research component. The pedagogical aspect, in a traditional sense of university career development, was developed preponderantly, implicitly by taking models and capitalizing on the experience of the university environment.

The correlation between specialized and pedagogical competences has undergone radical change in the context of changing the education paradigm and consequently the change of the concept of higher education. The new curricular approach imposed the higher education system in the Republic of Moldova and the institutions (in the case of Moldovan State University) to develop a new vision on the quality of education, staff policy and psycho-pedagogical training.

Pedagogical training has moved from the positions of an informal education, made implicitly by the university environment (we do not deny the formal and non-formal presence, but to a lesser extent), to the positions of a formal education, in whose context, the employees of the university, regardless of the scientific performance and didactic positions, have been put in the situation to learn pedagogical concepts through new approaches.

The current reality shows that at this time only good knowledge of a field is not enough to achieve an effective didactic process in the context of higher education massification, diversity of student training, diversity of motivation, complex and often uncertain relationships between the university and the labour market.

For these reasons, in recent years, the professional development of teachers in the SUM has been mainly centered on pedagogical training. The aspect of specialized content is not to be neglected too, but it has become a concern of the research segment.

In order to develop and maintain a positive attitude towards the change, to ensure the presence of critical mass for the modernization of higher education, SUM offers a wide range of pedagogical training methods, which include various categories of employees. The conceptualization and the logistic aspect are ensured by the specialized subdivisions of the university.

The Analysis of the development perspectives of higher education and the good practices of renowned universities show that living in a period of consumption, the consumption of education takes place according to some defining features of the time. The pragmatism of the education consumer, the impossibility of the beneficiary of the educational services to "wait" for the completion of the training of the specialist, impose the opulent capitalization of the dimension of

the didactic technology in order to achieve the outcomes of the professional training. In this situation, the continuous training and development of the pedagogical skills of the university professor become an imperative.

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Pedagogical Training Program

State University of Medicine and Pharmacy "Nicolae Testemitanu"

Work Package 3

Prepared by: Gavriliuc Michael Rector, Professor, Project Coordinator
Vovc Victor, Professor, Team Leader
Babuc Angela, Dean, Assistant Prof.
Cemortan Igor, Dean, Assoc. Prof.
Bugai Rodica, Assistant Prof.
Rotaru Victoria, Assoc. Prof.
Mînăscurtă Nicoleta, Project Assistant

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1.1 INTRODUCTION

In accordance with the requirements of the project "Introduction of problem- based methods: Increasing competitiveness and employability of students (*"Introducing Problem Based Learning in Moldova: Toward Enhancing Students' Competitiveness and Employability"),* funded by the European Commission under the European Union Erasmus + , we submit for review the compartment Work Package 3 on training and develpment of teachers at the State University of Medicine and Pharmacy "Nicolae Testemitanu" of the Republic of Moldova.

In accordance with the goal of the project, which aimed to strengthen the institutional capacity of six higher educational institutions in the Republic of Moldova and based on the experience of European Union partner institutions, the State University of Medicine and Pharmacy "Nicolae Testemitanu" is focused on continuous quality improvement of teacher training programs, which is a key objective for the successful implementation of the model PBL at SUMPh/ Medical University "Nicolae Testemitanu".

Alignment to the Development Strategy objectives of Medical SUMPh *"Nicolae Testemitanu*" for 2011-2020 and Quality Management System, requires teacher training activities reconciliation to national and international standards and it forms the underlying pillars of the academic staff training activity in the University.

Initial and continuous teacher training for preparing physicians and pharmacists in Moldova is done both in the State University of Medicine and Pharmacy "Nicolae Testemitanu" and in collaboration with other universities and medical institutions in the country and abroad.

SUMPh "Nicolae Testemitanu" is recognized as a scientific, curative and cultural centre of undergraduate and postgraduate education, which plays an important role not only in training health professionals and teachers but in reforming the higher medical education and health system in the country.

Alignment to international standards and updated requirements in university education, development and deepening of research and innovation in medicine, balanced clinical work are the three components that determine the current image of the University.

The objective of this report is to elucidate the activites of continuous teacher training activities in higher medical education in Moldova at the system level, university faculties and the university subdivisions assigned to the training of students.

Table 1. Working Team on Report

Surname, Name	Title, Position SUMPh "Nicolae Testemitanu"	Team Position
Gavriliuc Mihail	Vice Rector, Professor	Project coordinator
Vovc Victor	University Professor,	Team leader
Babuci Angela	Vice Dean, Assistant Professor	Team member
Cemortan Igor	Vice Dean, Associate Professor	Team member
Bugai Rodica	University Assistant	Team member
Rotaru Victoria	Associate Professor	Team member

2 METHODOLOGY

2.1 METHODOLOGICAL FRAMEWORK

The existing situation analysis in student-centered teaching in SUMPh "Nicolae Testemitanu" of the Republic of Moldova was conducted in accordance with the standard methodology developed in the project and presented in the Report on Work Package 2. It aims to explore the relationship between internal university structures and study programs, including the way in which the study program development and support are integrated throughout the university. The cohesion of study program development with its support will be considered at different levels of organization: the level of system, the university governing, faculty and the Study Program.

In developing the Pilot- Program it was taken into account the use of PBL method in different universities, which we visited, and the experience we studied.

2.2 DATA COLLECTION

Data collection was conducted in accordance with the methodology proposed by analyzing the laws and regulations that make the legal framework of higher educational institutions in Moldova and internal documents SUMPh "Nicolae Testemitanu" conducts its activity. Also, a substantial impact in gaining pedagogical skills and teaching experience, as well as staff and management experience and the staff management were the trips to academic partner Universities of the project located in European Union countries, as a result, project members had the opportunity to collect data and subsequently, it was elaborated the Report on the teacher training, according to the following pattern:

2.3 DATA ANALYSIS

In odrer to report data and prepare the report, we used cross-analysis, outlined in Table. 3 (cross-analysis). The description of each individual criterion allowed us to carry out cross-case analysis to identify common elements, but, particularly we focused on highlighting the differences between the systems of professors training at SUMPh "Nicolae Testemitanu" University KTH. This analysis represents the basis for the teacher training pilot- program.

Table 2. Cross - Analysis Template

Criteria properties, indicators	**SUMPh "*Nicolae Testemitanu*"**	**KTH**
L1 criterion etc.	Main elements by fields	Main elements by fields

2.4 SYSTEM LEVEL

Professional training is work mainly with information held in educational institutions to broaden and update knowledge, to develop and shape skills necessary by professors in order to

increase the quality of their professional activity, as increasing demand generated by social and scientific-technical progress.

Professional development policy aims to ensure systematic and planned nature of deepening and upgrading knowledge, of developing necessary skills in order to perform efficiently the professor's responsibilities.

Basic legislation that regulates professors' training in the Republic of Moldova is the Education Code of the Republic of Moldova of 07.17.2014 (published in the Official Gazette of the Republic of Moldova, nr.319-324 of 10.24.2014) and the Regulation on Continuous Professional Training (Gov. Reg. no. 1224 of 09.11.2004).

In accordance with Title IX, Chapter 1 of the Education Code of the Republic of Moldova "the teaching, scientific- teaching, scientific and management staff in education has the mission to ensure the implementation of state educational standards of general education initial and continuing training " [7].

Teaching and scientific- teaching staff can obtain academic and management degrees, scientific- teaching titles in accordance with the law.

Professional development of teaching and scientific-teaching staff is compulsory throughout the whole career and regulated by the Government, achieved in higher education institutions and continuous professional training institutions, by other providers of educational services, based on professional training programs accredited through professional trainings in educational and scientific institutions or organizations accredited in the country and abroad.

In order to apply for a scientific-teaching position in higher education, it is necessary to have a qualification of ISCED level 8 - Doctoral graduate studies.

For teaching positions, graduates of higher education nonpedagogical programs are required to attend a training course in pedagogy of 60 transferable study credits (Education Code of RM, Article 133).

Teacher training is accomplished through:

a) Traineeship in educational and research institutions or organizations accredited in the country and abroad;
b) Participation, as partners, in educational projects and / or national and international research;
c) Participation with presentations and / or papers at conferences, seminars, symposiums, international exhibitions.

During the professional training acheived in educational and research accredited institutions, teachers get professional development credits. The continuity of teacher training process is accomplished directly in the employee' s workplace by the institution they work at.

2.5 LEVEL OF UNIVERSITY

According to the Strategy of Development of the State University of Medicine and Pharmacy "Nicolae Testemitanu" of the Republic of Moldova for 2011-2020, the policy of the University on

the professor- teaching staff is oriented toward quality and increse of the professional level, by improving the courses for professors both within the University and their participation in scientific forums, trainings, internships, mobility projects and other activities organized at national and international level.

Strengthening the connection between education and research with the beneficial results on the current training process and preparing students for their effective involvement in scientific research, can be guided only by competent and highly –qualified teaching staff.

University mission is to achieve the integration of young professionals in a viable training, initial and continuous training of teachers. The quality of professional training in medicine area becomes a national priority. In this context, the joining of scientific pedagogical component becomes crucial, enabling the promotion of education focused on informational technology and continuous development.

In accordance with Education Code of RM and University Charter, the activity in the conditions of university autonomy and academic freedom and as required by law, the teaching staff motivated for continuous training have the opportunity to raise their professional and qualification level through active involvement in scientific work with national and international impact, the integration of scientific- teaching university staff in the activities of university clinics and the involvement in collaborative and consulting work with a number of state structures, medical and educational institutions within the country and abroad.

Organizing and conducting fundamental scientific research and clinical studies in accordance with national and international standards by supporting the link between education and research and implementing the results achieved in the training and healthcare practice, relieve the main objectives of the SUMPh "Nicolae Testemitanu", which derive from the University responsibilities towards the society.

The University cooperates in the process of health professional and pharmaceutical training, in the development of science and medical practice with over 70 medical universities from abroad, including faculties and clinics, libraries in over 20 countries.

International cooperation offers the opportunity to University teaching staff to share experiences, both in educational and medical research, as well as to provide specialized healthcare together with the teams of doctors and teaching staff from abroad to the patients from Moldova.

The process of continuous professional training is also included in the objectives of Development Strategy of State University of Medicine and Pharmacy "Nicolae Testemitanu" of the Republic of Moldova for 2011-2020 and is guided by the Department of Teaching and Academic Management in accordance with the annual requirement training planned by every university subdivision.

According to the present legislation, the University Senate, the Scientific Council and all committees of the University and Faculties consist mainly of teaching personal, thus, teaching staff carry out a number of requirements for teaching positions.

The University professors are required to achieve a minimum of research work, proportional to their title, area of department, current needs of medicine, the obtained results being ultimately

implemented in the curriculum. The research strategy is based on bottom-up information and considering the most recent trends in the fields. The results of research are objective in concepts, methodological guidelines, principles, models of action in the initial training. In most cases a connection is established between the results of scientific and professional development in the educational process.

Annually the teaching staff representatives of the University attend meetings of international scientific societies as members of national and international scientific bodies, members of the editorial boards of scientific editions from abroad, consultants or experts of international organizations. Teaching staff improve their teaching skills through the development of courses of lectures and participation in scientific conferences abroad, while over 150 scholars from abroad annually visit SUMPh "Nicolae Testemitanu".

In accordance with Education Code of the Republic of Moldova, the teaching staff of the University benefit from psycho-pedagogical internships held annually in the School of Public Health Management, thus teachers are trained to raise their professional level and apply new methods in higher education medical. Continuing professional development is oriented toward the alignment to national and international standards, and professional training is found in the basic components that characterize the pedagogical skills namely: specialized skills, psyco-pedagogical competence, psychosocial and management competence.

Many of university teaching staff have received training in applying new teaching techniques that comply with international requirements organized by the University in collaboration with Pro-Didactica Training Center.

Teachers' competences are found in a set of cognitive, affective, motivational and managerial skills which interact with professor’s personality traits, giving him/her the necessary qualities of a teaching performance and achieving designed objectives by students, while obtained performances to be as close as possible to the maximum level of everybody’s intellectual potential.

In order to implement modern training methods and in accordance with the needs of the teaching process, one of the University priorities is the continuing training of teachers who train international students, which in addition to the techniques and altitudes in training, require the knowledge of foreign languages, especially English. Thus, annually the University organizes language courses for professors that end with taking the examination and certifying their level of knowledge of foreign language requirements under the European Framework of Reference for Languages.

2.6 LEVEL OF FACULTY

At the faculty level major attention is given to scientific and didactic activities by updating and adjusting curricula and syllabi to appropriate curriculum requirements of the Bologna process, as well as by developing teaching materials for the subjects circumscribed to Faculty.

Faculty Governing Board ensures carrying out tasks that have an impact on the quality of education by competent personnel in terms of education, training, ability, and adequate experience.

Need for staff is determined by the Governing Board of SUMPh "Nicolae Testemitanu" reulting from the range of proposed educational programs and is reflected in the staff positions.

The faculty runs the activity of Departments and other subordinated subdivisions, while at the beginning of each academic year in collaboration and agreement with the Department of Teaching and Academic Management and Human Resources Department, each subdivision of the Faculty submit teacher training need for the current year.

Teacher training is organized in accordance with the regulations, so the Department of Teaching and Academic Management of the University in accordance with the Quality Management System ISO 9001-2015, at the end of each year, Heads of Departments present to the Department of Teaching and Academic Management the training needs for the next year. For each teacher the needs for training and specialization are analyzed in accordance with the requirements of the job and existing skills. When determining training needs it is also considered the achieved results of staff skill assessment.

In this context, the main concerns of teaching staff are:

- expanding the activity of development and publication of educational works (especially textbooks, stands, books, apps, etc) for coverage of taught subjects;
- extinding research efforts and using the results in order to raise level of teaching.

Teacher internships at the University shall be determined based on the training needs for each subdivision of the Faculty and according to available places for internships in universities with SUMPh "Nicolae Testemitanu" cooperates. The teaching staff of the University, benefit of our placements as follows:

- Traineeships in institutions from Romania, coordinated by the Department of Teaching and Academic Management in accordance with the Regulation on continuing professional training (Gov. Reg. no. 1224 of 09.11.2004);
- Traineeships in institutions of France, SUMPh "Nicolae Testemitanu" being a member of Filiere Francophonie, according to the Regulation on continuing professional training (Gov. Reg. no. 1224 of 09.11.2004);
- Traineeships in international education institutions (Regulation on continuing professional training (Gov. Reg no. 1224 of 09.11.2004));
- Scientific-methodological winter reading, coordinated by the Department of Teaching and Academic Management, Curative Work Division (Regulation on continuing professional training (Gov. Reg. no. 1224 of 09.11.2004));
- Participation in meetings of Scientific Society of Physicians in accordance with the plan approved by the Ministry of Health on Scientific Society of Physicians;
- Studying modern languages (Order no. 154 of 05.31.1993 of the Ministry of Science and Education of the Republic of Moldova);
- Participation in scientific research in accordance with the Code no. 259 of 15.07.2004 on science and innovation in the Republic of Moldova and the Plan of congresses, conferences and seminars;

- Doctorate and Post Doctorate Division and Master. (Gov. Reg. no. 173 of 18.02.2008), for the approval of Government Regulation on the organization of Doctoral and Postdoctoral Studies.
- According to the Concept of undergraduate and postgraduate training of teaching physicians and pharmacists SUMPh "Nicolae Testemitanu" approved by College Council of the Ministry of Health of RM 20.10.1998 and confirmed by Order no. 48 of 26.06.2000 of the Ministry of Health, the teaching staff is required to accumulate a total of 400 certified credit hours every 3-5 years, if not, the person can not pass the competition procedure for occupying the medical position and maintain the medical degree, for the teaching staff the competition is held every five years. For participating in traineeships abroad (with training languages French or English), there can apply only professor-teaching staff of SUMPh who are certified in English or French with the right to teach these disciplines in foreign languages authorized by the State University Committee of Moldova.

The assessement of staff involved in teaching and research work is part of the quality assurance and is done periodically in accordance with the institutional regulations. However, the assessment is carried out based on teaching and research performance of academic staff and other criteria set by the institutional rules.

Scientific and teaching staff assessement is performed by:

- University administration;
- Head of Department;
- quality assurance committee;
- colleagues and experts;
- other authorized structures;
- scientific and teaching staff assessement by students is compulsory.

Professional development policy aims to ensure systematic and planned nature of the deepening and updating knowledge, skills development and modeling skills required for the effective practice of the responsibilities of the positions they hold.

3 CROSS-CASE ANALYSIS

3.1 INTRODUCTION

In this chapter we will make a comparative study between the higher education system in Moldova and higher education system in Sweden, we will identify similarities and differences between the two systems of education, which will help us determine ways of improving the educational system in our country.

3.2 COMPARATIVE ANALYSIS: CRITERIA, PROPERTIES AND INDICATORS

For each level there were highlighted and formulated some criteria that enabled the organization and systematization of data collected . The highlighted criteria enabled us to have a vision of common points for each level in the two analyzed universities, but also to highlight some differences.

Table 3. Cross-Analysis

Criteria properties, indicators	SUMPh "Nicolae Testemitanu"	KTH
Level of system		
Accreditation of study programs	In Moldova external evaluation process is conducted based on the criteria and methodology developed by ANACIP. The methodology for external evaluation of study programs was approved by Government Decision no. 616 of 18/05/16.	In Sweden the accreditation process is done for all higher education institutions simultaneously. Last Swedish system for the evaluation of higher education programs was finalized in October 2014. Currently Sweden is developing a new evaluation system.
The national system of quality assurance.	National Agency for Quality Assurance in Professional Education (ANACIP) is responsible for ensuring an integrated, reliable, objective and transparent external evaluation and accreditation of institutions and study programs.	The main responsibilities of the Authority on quality assurance in higher education refers to the recognition of new programs and the periodic evaluation of recognised programs. Both of these activities are the responsibility of the Department of Quality Assurance in the Swedish Higher Education Authority (SHEA).
Governing, Management and organizational Bodies of the university	Governing bodies of SUMPh "Nicolae Testemitanu" a) University Senate; b) Senate Office;	University Council and Rector. It is a unitary governing.

	c) Rector; d) Board of Directors; e) Council for institutional strategic development.	
University institutional strategy that incorporates curriculum strategy focused on student – centred learning	The development strategy of the State University of Medicine and Pharmacy "Nicolae Testemitanu" aims at ensuring the quality and performance of all activities - teaching, scientific, clinical and institutional management to successfully integrate into the Higher Education European Area. The values promoted by SUMPh are: 1. Quality through promoting a quality culture in all fields. 2. Excellence - as a reference element in all university activities. 3. Institutional performance by adhering to international standards. 4. Creativity and innovation in training activities, scientific research, health care and management. 5. Individual and institutional responsibility. 6. Motivation for the development of academic community and satisfaction of beneficiaries. 7. Teamwork and intra- and inter-communication. 8. Proactive partnership with academic institutions, governmental and nongovernmental organizations in the country and abroad.	In the strategic vision of KTH - by 2027 it is specified that "student centered learning will be at the base of KTH education". Each student at KTH will feel at home, although there will be an international study environment. KTH future success depends on the staff and students. **University strategy:** 1."Excellence requires extraordinary education: students deserve the best conditions in order to succeed in their studies. 2.KTH must raise the level of knowledge of all employees and students in order to get involved in the issues related to sustainable development of education. 3. Sustainable development of education should be integrated into all programs at all levels, so that students after graduation could contribute to the sustainable development of society. 4. Orientation to the practice of higher education. 5. Active cooperation with leading universities in the world.
Bodies if Quality Assurance at level of university	Quality Assurance in SUMPh is connected to performance indicators aligned to the Quality Management System ISO 9001: 2015. • Quality Management System is implemented in accordance with the	Quality policy, accepted on 06.01.2016 includes four basic elements: (Quality policy for KTH) •Education;

	requirements of this standard, documented, maintained and continually improved; • ensures compliance with quality policy; • provides consistently services that meet the beneficiaries' needs as well as current regulation requirements. • University subdivisions are subject to annual internal audit according to a preset program and later to external audit.	•Research; • Offer of skills; •Collaboration.
Teaching staff training and their continuing development	Teaching staff training and further development of academic potential is part of the key objectives of the SUMPh "Nicolae Testemitanu" and is found in Development Strategy of SUMPh "Nicolae Testemitanu" for 2011-2020 and Quality Management System ISO 9001: 2015, which provide reporting on training of teachers at national and international standards and constitute the pillars of the training activity of academic staff in the University as follows: 1.Psyco-pedagogical courses organized annually in the School of Public Health Management and in collaboration with Pro-Didactica Educational Center; 2. Traineeships in abroad schools based on agreements of cooperation; 3. Winter readings on various clinical areas; 4. Courses of modern languages; 5. Practice of tutoring and training of new hired teachers; 6. Organizing workshops with partners from abroad in order to raise professional and pedagogical competences.	University itself under the Swedish Association of Higher Education Study supports the organization of university laboratories and university teaching Centers (some have them both) and recommends at least 15 ECTS points, ie at least 10 weeks of teaching training for new professors employed at university. 1. Define the overall results of learning; 2. Systemize relevant courses and programs; 3. Guide teachers and program directors, store contact information about resource teachers; 4. Organize educational courses for acquiring the principles of sustainable development; 5. Implementation of working tools for teachers, such as "Toolbox" on the website of the University; 6. Organize module courses; 7. Hold workshops and skill development activity "networking"

Structure of the body responsible for education	Department of Teaching and Academic Management (DTAM) is a subdivision with the mission of assurance and efficiency of the teaching process, organization of quality educational services, implementation of academic performance management based on reference standards of quality through professional competitive training in accordance with the requirements imposed to medical and pharmaceutical university education. DTAM includes the following subdivisions: • Department of Education; • Academic Quality Management Department; • Evaluation Department.	
Analysis of evaluation practice	Assessement is a task of the Evaluation Department – a subdivision of DTAM: • prepares package of documents for testing students in informational system "TestEditor" • organizes and monitors the final assessment (summative) of students' knowledge computer assisted in theAcademic Evaluation Center; • monitors the quality assessment tests and their degree of complexity made by teachers. Current assessment is carried out during practical classes, laboratory sessions, seminars and intermediate sessions in various ways: tests, essays, individual works, portfolios, essays, case studies, etc. There may be proposed written, oral, and combined tests. Concrete forms of assessment are established by the	Student evaluation is made by using System Management Studies (SMS) to support the process of supervision and development of collaborative approaches. Although there is regular face to face meetings between student and teacher, online supervision is becoming more widespread for the purpose of: a) development of partnerships between students and supervisor; b) creation of community spirit; c) communication skills training, d) generating of ideas and themes, and their testing; e) promoting free dialogue, writing and argumentative skills and social development skills in a distance learning environment. All partners assist professors in using IT teaching skills. For this purpose there are used different tools such as multimedia, video and other information technology-based

	departments at the start of studies. During the semester there are organized ongoing evaluation, distributed proportionally throughout the semester / module, totalizing the intermediate situation of student's performance. The results of the current evaluation sessions are included in Management Information System at University (SIMU) and discipline register and taken into account in final term evaluations with an average share of 50 percent. Final semester evaluations can be taken orally, in writing, computer assisted combined tests. The exam form is determined by the dean, according to the proposal of discipline department and students are announced at the beginning of the semester. In the modular education, the final assessment will be made at the end of the module.	tools. There are distance learning, face to face and mixed study practices.
Way of developing a new education program	Bachelor (First cycle) 0914.4 Optometry Integrated higher degree (cycle I + II cycle) 0910.1 Preventive Medicine 0911.1 Dentistry 0912.1 Medicine 0916. Pharmacy Academic Quality Management Department subordinated to DTAM ellaborates, coordinates and develops new university programs and steps forward their accreditation to the Ministry of Education, Culture and Research and the Ministry of Health, Labor and Social Welfare.	Objectives for achieving courses at Undergraduate level: 1. The program includes 19 compulsory courses; 2. 3-4 mandatory courses prior conditioned; 3. 1 course freely selected

Involving students in curriculum development	Students are involved in developing curricula, being members and of the Association of Medical Students and Residents.	Students are actively involved in all governing bodies
Regular monitoring and analysis of programs	The programs are regularly reviewed and evaluated by the Commission of Quality Assurance and Curriculum Evaluation.	Program review is done each semester, for this purpose eight annual meetings are organized
The existence of a body that takes care of students with disabilities	The university students with disabilities and their problems dealing Vice Rector for Education and Social Affairs and the Association of Medical students and residents.	Funka is the body that handles problems of students with disabilities who receive: 1. A longer period of time at exams. 2. Using note-taking practice. A fellow student take notes and copies of notes for him. 3. Literature courses transferred to another medium by using MTM (Swedish Agency for Accessible Media). 4. Access to a study room where computers are equipped with different applications support. 5. Mentor. An experienced student helps the students with disabilities in planning and organizing of studies.
Providing facilities tailored to the needs of persons with disabilities	There is no infrastructure for this purpose.	There is infrastructure, providing access to education and provides learning opportunities for students with disabilities.
Student workload	The workload is calculated in ECTS: one academic semester - 30 ECTS; for one academic year - 60 ECTS. An academic ECTS equivalent to 30 hours.	In Sweden each year of study is equivalent to 60 ECTS or each semester, 30 ECTS. 1 ECTS equals 27 hours of work a student.
Student evaluation	Student evaluation is performed by using the Management Information System at University (MISU) through TestEditor, through written and oral exams, practical dexterities by testing practical dexterities. Final evaluations take place according to the schedule preset in 2 annual sessions, scheduled at the end of each semester.	A grade will be submitted on completion of a course. The grade is determined by a teacher specifically designated (the examiner). Higher education institution provides at least five examination sessions.

Involving teachers, students, graduates, employers in the design, management and improvement of program	The programs are developed, managed and improved by Teaching Department and Academic Management which includes subdivisions: • Quality Management Board; • Profile Methodical Committee; • Committee for quality assurance and curriculum evaluation.	In the design, development and improvement of a study program are involved multiple actors: teachers, students, employers, graduates both directly (through participation in various committees) and indirectly (through answers in questionnaires, feedback).
Avoiding and sanctioning cheating and plagiarism	In accordance with the Moral Code of SUMPh "Nicolae Testemitanu" of the Republic of Moldova, University activity requires an exquisite professional correctness involving intellectual property, this including copyright and the inventions for two different categories of works. Proper academic conduct supposes honesty in all its academic requirements. Any form of intellectual fraud: plagiarism or partially pseudo-authoring, cheating in exams or competitions, falsification of research results, substitution of works or identity of the examined persons, facilitating the cheat, taking colleagues or teachers'works, as well as attempts of corruption to fraud. According to the Regulation of organizing studies in higher education under the National Credit System Study in State University of Medicine and Pharmacy "Nicolae Testemitanu" of the Republic of Moldova, students are liable to be expelled for cheating on an examination (with irrefutable evidence) .	In the university there is a special platform -TURNITIN to test the level of plagiarism in all projects, bachelor's and master theses.
Students'complaints	According to the Regulation of organizing studies in higher education based on the National Credit System Study in State	Students have the right to challenge the grades by filling in a form to be reviewed by a special committee.

	University of Medicine and Pharmacy "Nicolae Testemitanu" of the Republic of Moldova, the grade submitted by the examiner may be challenged according to the procedures.The challenges shall be examined by the third person designated by the Dean with the Head of Department concerned in accordance with the procedure established by the University Senate within one working day from the announcement of exam results in the Management Information System at University (MISU). Changing of the appealed grade with the submitted grade after reviewing the appeal shall be made by increasing or decreasing, the decision shall be considered final.	
The current grading system	The evaluation of knowledge is assessed with grades from 10 to 1. Grades from "5" to "10" obtained after assessments, allow to gain credits, according to the curriculum.	Since 2001 the KTH grading is done on a scale from A to F cycles I and II and cycle III, Ph.D., provided qualifications pass / fail.
The role of external examiner	It is not practiced.	Examiners are people who teach at KTH at least 20% of the equivalent full position. The external examiner is involved in the evaluation of master graduate-program. This program includes two levels: Level I, students are evaluated compulsory and accepted by the internal examiners; Level II students are selected to compete with international students because this level is done for a year at a university abroad.
Employability of graduates	Higher education programs integrated in medical and pharmaceutical fields correspond to	Organizers of programs, university departments are aware of their postgraduates' work. At KTH there has

	level 7 ISCED and end with a final graduate examination and gain of the Diploma degree in medicine or pharmacy equivalent with Master university degree , which gives the right to participate in competition for admission to resident studies, enrollment in higher education doctoral programs and access to employment in the labor market accoding to the employment framework. Residency graduates are assigned to work by Ministry of Health, Labor and Welfare.	been established a culture that university graduates shall announce whether they are employed or not, where, what position etc.

4 ACTION PLAN/ROADMAP

4.1 FIT-FOR-PURPOSE

In order to implement the Pilot- Program there was developed an Action Plan/Roadmap. This includes several necessary activities to be implemented at the institutional level in order to achieve successfully the Pilot- Program.

I. *Teaching staff training* in order for them to use PBL method.
Teaching staff who teach / supervise PBL groups have participated in several trainings organized within the project at TUM or Medical University during the years of the project. Also, many teachers have benefitted of academic mobility to partner universities in the European Union, where they mastered this method through various attended activities.

II. *Develop educational documents:* curriculum (syllabus), guides, case studies, evaluation etc.

III. *Prepare the physical environment for* organizing the studies: Providing classrooms, literature, access to databases, WiFi free for students and teachers, etc. SUMPh Library received the books purchased within this project on problem-based learning, all interested parts have access.

IV. *Dissemination of good practices*. In this regard there will be used primarily the site www.usmf.md where we shall regularly publish information about this project, the project team shall develop scientific articles to be published in scientific journals in the country. (MEDICUS)

5 CONCLUDING REMARKS

Regardless of the training methodology and geographical location of the university, for a productive and appropriate activity corresponding to national and international standards, teaching staff are involved in a process of continuing professional training, without which there can not be conceived higher medical education.

The policy of continuing teacher professional development and the process of teachers accreditation in the analyzed universities are stipulated in laws and governmental regulations at the ministry level, oriented towards continuous improvement in accordance with the requirements of the Accreditation Commission at the state, university and faculty level.

Training competent and highly qualified teachers, with a wide range of teaching skills occurs at all universities in accordance with the Development Strategies of the Universities for a pre-determined time and performance indicators of the Quality Management System, which determines the base course and development direction of each of the universities included in this report.

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Introducing Problem Based Learning in Moldova: Toward Enhancing Students' Competitiveness and Employability (PBLMD)

www.pblmd.aau.dk

Pedagogical Training Program

Technical University of Moldova

Work Package 3

Prepared by: Irina Cojuhari, PhD, Department of Software and Automatic Engineering, Faculty of Computer Science, Informatics and Microelectronics, Technical University of Moldova

Elena Gogoi, senior lecturer, Department of Software and Automatic Engineering, Faculty of Computer Science, Informatics and Microelectronics, Technical University of Moldova

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1 INTRODUCTION

The main purpose of modern pedagogies is to prepare students to study individually in accordance with the needs and requirements of the labour market, but not just to reproduce the information received from the teacher. This goal can be fully realized by creating a democratic educational system based on the freedom and responsibility of the individual. The student should be the one who decides what he / she is learning, how and when he / she is learning, but the teacher should become a facilitator to ensure the freedom to learn (Rogers 1969).

Today, higher education is profoundly different from what it was a few decades ago. The idea of placing the student at the center of the learning process brings enormous changes to the higher education system. The student in this case has an active role in the learning process. The adoption of student-centered learning changes the roles and responsibilities of the teacher and the student.

Changing the emphasis from teaching to learning can create a more interactive and engaging learning environment for teachers and students. This new environment also involves a change in the roles of both teachers and students. The role of teachers will change from a knowledge transmitter to a facilitator, a knowledge navigator, and sometimes a co-student.

Student centered teaching methods change the focus of activity from teacher to student. These methods include **active learning** where students solve problems, ask questions, formulate questions, discuss, explain, debate, or suggest brainstorming sessions during the lesson; **cooperative learning**, where students work in teams on issues and projects under conditions that ensure both positive interdependence and individual responsibility; **inductive teaching and learning**, where students are first presented with the challenges (questions or problems) and subsequently they have to learn the course material in the context of solving the challenges.

Student-centered learning is an educational conceptual framework that is currently actively promoted through the problem-based learning methodology (PBL). The main purpose of such an approach is not only to assimilate the content of the curriculum, but also to develop the professional skills required in the labour market. Thus, the students independently manage their learning process.

The purpose of the Report is to carry out an extensive analysis of the higher education system in the Republic of Moldova and, in particular, at the Technical University of Moldova, based on the methodology elaborated within the project. The methodology was also applied in Work Package 2 in order to develop a similar report for the Swedish and Danish universities, namely two universities in these countries: Sweden's Royal Technical University (KTH) and Aalborg University of Denmark (AAU). After comparing the elements of the methodology used in the European and Moldovan universities, it is subsequently suggested to develop a pedagogical curriculum plan for the development of teachers' competences to apply the PBL didactic strategy that will be applied in the teaching process within the study program "Software Engineering".

Table 1. Teamwork

Name, surname	Title, position in TUM	Position in the team
Irina Cojuhari	Assoc. Prof. dr.	Team member
Elena Gogoi	Senior Lecturer	Team member
Mariana Catruc	Senior Lecturer	Team member

2 METHODOLOGY

2.1 METHODOLOGICAL FRAMEWORK

When analyzing the existing situation in the field of student-centered learning at the Technical University of Moldova, we relied on the type structure developed in the project and presented in the Work Package 2 Report. This methodology aims at exploring the relationship between the internal structures of the university and pedagogical study programs, including how the design and support of the curriculum is integrated in the whole university. The cohesiveness of the study program development with its support will be examined at different levels of the institution, with possible overlapping levels: System Level, University Management Level, Faculty Level.

The subjects underlying this methodology are the benchmark for collecting data in order to prepare this Report and then to analyze it. We also guided on the criteria outlined in PL2, which made it easier for us to perform the cross-curricular analysis of the teaching program at UTM and similar programs from Sweden's Royal Technical University (KTH) and Aalborg University in Denmark (AAU) in the context of implementing problem-based learning.

2.2 DATA COLLECTION

For data collection, according to the methodology, the legislative and normative acts were analyzed the legislative and normative acts, which underlie the activity of Moldovan higher education institutions, especially in TUM. The information was collected according to the following model:

Table2. Data reporting model

Question / Problem	Source consulted	Finding	Reflections
L1: System level			
L2: University Management Level			
L3: Faculty / Department Level			
L4: Study Council level			
L5: Integration of disadvantaged students			
L6: Infrastructure (Physical Environment)			
L7: Study Program Level			

2.3 DATA ANALYSIS

In order to analyze the data, the work team used the proposed methodology, seeking answers to the asked questions and considering the way of action in the autochthonous universities, the impact of different phenomena on the activity of the institution.

The cross-case analysis, presented in table 3 (cross-sectional analysis) allowed the criteria, properties and indicators to be reformulated for each level, based on those criteria that were suggested in the development of the PL2 Report. Highlighting and taking into account these criteria allowed conducting cross-case analysis and point out some common elements, and largely the differences too.

Table 3. Template for cross-sectional analysis

Criteria, properties, indicators	TUM	KTH	AAU
L1 criterion, etc.	Main Elements by Domains/fields	Main Elements by Domains/fields	Main Elements by Domains/fields

2.4 SYSTEM LEVEL

2.4.1 Legal framework

The state policy in the sphere of education is determined by the Education Code of the Republic of Moldova no. 152 of 17.07.2014 (Monitorul Oficial, 24.10.2014, No. 319-324, art.63, art.624, art.539), which regulates the organization and functioning of the education system.

The general management of the education system at the central level is carried out by the Ministry of Education, Culture and Research of the Republic of Moldova.

Continuous Education as a component part of lifelong learning in the Republic of Moldova is regulated by the following normative acts:

- Constitution of the Republic of Moldova adopted on 29.07.1994, art. 35 - Right to education;
- Education Code of the Republic of Moldova no. 152 of 17.07.2014, Title VII - Lifelong Learning;
- Law "Labor Code of the Republic of Moldova" no. 154-XV of 28.03.2003 Title VIII - Continuous Education;
- Decision of the Government of the Republic of Moldova no. 1224 of 09.11.2004 Concerning the organization of continuous education;
- Government Decision of the Republic of Moldova no. 191 of 22.04.2015 Concerning the National Agency for Quality Assurance in Continuous Education.
- Government Decision of the Republic of Moldova no. 616 of 18.05.2016 Concerning the approval of the External Quality Assessment Methodology for Authorization of Provisional Operation and Accreditation of Education Programs and of Technical, Higher and Continuous Education Institutions.

- The METS Order of RM no. 549 of 16 November 2005 "Methodological norms for the development and application of the standards of continuous education programs".

2.4.2 State policies in the field

Based on the Education Code, Art. 4 state policy in the field of education implies that:

1) Education is a national priority and the primary factor of the sustainable development of a knowledge-based society.
2) By its education policy, the state ensures:
   a) fundamental right to education, indispensable for the exercise of other human rights;
   b) implementation of the basic mechanism of training and development of human capital;
   c) achievement of educational perfection and objectives, formation of consciousness and national identity, promotion of general values.

Education, in its turn, has as the mission:

a) meeting the educational needs of the individual and society;
b) developing human potential to ensure quality of life, sustainable growth of the economy and people's well-being;
c) development of national culture;
d) promoting intercultural dialogue, tolerance, non-discrimination and social inclusion;
e) promoting lifelong learning;
f) facilitating the reconciliation of work and family life for men and women.

Education development strategy 2014-2020 "Education-2020" is the main policy document in the field of education that sets medium-term objectives and tasks for the development of education and defines the guidelines and priority directions for the development of the education system in the Republic Moldova. The strategy is organized on the basis of three pillars: access, relevance, quality.

In the context of global change and increased population decline, the lifelong learning is becoming an important concern of the education system, where one of the objectives of *the Education Development Strategy 2014-2020* is to extend and diversify the adult education system throughout the live from the point of view of general training and continuous education, according to the needs of the individual in relation to socio-economic needs.

Adult Continuous Education programs are organized in continuous education institutions and other types of state / private institutions / organizations that undergone the authorization / accreditation and are empowered to do so in accordance with current legislation.

Adult Continuous Education is achieved through accredited training programs, which include all theoretical and / or practical training activities to achieve the competence-building objectives for a given field.

According to the Education Code, Art. 133 the professional development of the didactic, scientific, didactic-scientific, managerial staff is compulsory during the entire professional activity and is regulated by the Government and according to art. 132 for filling the teaching positions, the

graduates of non-pedagogical higher education programs will have to follow the psycho-pedagogical module corresponding to 60 transferable study credits.

The professional development of the didactic, scientific, didactic-scientific and management staff is carried out in higher education institutions and / or in continuous education institutions, by other providers of educational services, based on accredited continuous education programs, through:

a) training courses in educational and research institutions or accredited organizations in the country and abroad
b) participation, as partners, in national and international educational and / or research projects;
c) Participation with communications and / or works at conferences, seminars, symposiums, international exhibitions.

2.4.3 Occupational Standards

The education system is organized on levels and cycles according to the International Standard Classification of Education (ISCED-2011):

a) level 0 - early education:
   - ante preschool education
   - pre-school education;
b) level 1 - primary education
c) level 2 - secondary education, cycle I: gymnasium education;
d) level 3:
   - secondary education, cycle II: high school education
   - secondary technical professional education;
e) level 4 - post-secondary technical professional education
f) level 5 - post-secondary technical professional non-tertiary education;
g) Level 6 - Higher Education, Cycle I: Bachelor Higher Education;
h) Level 7 - Higher Education, Cycle II: Master of Higher Education
i) Level 8 - Higher Education, Cycle III: Higher Doctoral Education.

Adult Continuous Education is achieved by:

1) thematic training / specialization courses up to 150 hours (up to 5 credits);
2) short-term training / specialization / poly-qualification courses up to 1 200 hours (up to 40 credits);
3) additional training courses and programs based on studies
   a) secondary technical education (ISCED level 3) up to 900 hours (up to 30 credits);
   b) post-secondary and non-tertiary technical professional education (ISCED 4-5) up to 1800 hours (up to 60 credits);
   c) higher education (ISCED level 6) up to 2 400 hours (up to 80 credits);
4) continuous re-education courses and programs for obtaining a new qualification based on

studies:

a) secondary technical education (ISCED level 3) up to 900 hours (up to 30 credits);
b) post-secondary and non-tertiary technical professional education (ISCED 4-5) with a duration of more than 1 800 hours (minimum 60 credits)
c) higher education (ISCED level 6) with a duration of more than 2 700 hours (minimum 90 credits for the same field).

After completing the thematic training / specialization / poly-qualification courses, the providers issue training / qualification / attestation of professional skills.

2.4.4 Responsible structures

Developing, promoting, monitoring implementation and assessing the impact of national education policy is the competence of the Ministry of Education, Culture and Research.

The Ministry of Education, Culture and Research may have deconcentrated organs in the territory with administrative management functions/positions of education.

The local specialized bodies in the field of education are created by the local public administration authorities of level 2 in the organizational form of internal subdivisions, subordinated to the rayon / municipal councils. The title, structure and operating regulations of the local specialized bodies in the field of education are established by the rayon / municipal councils

Quality management of education is ensured:

a) in general education:

- at the national level - by the Ministry of Education, Culture and Research and the National Agency for Quality Assurance in Education and Research;
- at local level - by the local specialized body in the field of education;
- at the institutional level - by the managers of the general education institutions;

b) in technical professional education and higher education:

- at national level - by the Ministry of Education, Culture and Research, line ministries and the National Agency for Quality Assurance in Education and Research;
- at the institutional level - by the respective quality assurance structures in education.

The external quality evaluation methodology for authorization of provisional functioning and the accreditation of study programs and technical, higher education and continuous education institutions from the Republic of Moldova is elaborated by the National Agency for Quality Assurance in Vocational Education and Training in accordance with the following national and European regulatory framework (international recommendations) in the field:

- The Education Code of the Republic of Moldova no. 152 of July 17, 2014;
- The Regulation on the Organization and Functioning of the National Agency for Quality Assurance in Professional Education, approved by the Government Decision no. 191 of April 22, 2015;

- Nomenclatures of professional education areas, specialities and qualifications, professions / professions for the training of teachers in higher education institutions, technical and continuous education;
- European Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG 2015), developed by the European Association for Quality Assurance in Higher Education (ENQA);
- Recommendation of the European Parliament and of the Council of 18 June 2009 on the establishment of a European Quality Assurance Reference Framework for Vocational Education and Training (2009 / C 155/01);
- European Quality Assurance Framework for Education and Training (EQAVET Framework), developed by the European Quality Assurance in Vocational Education and Training (EQAVET).

Continuous Education programs in lifelong learning are evaluated in order to accredit or authorize the provisional operation, under the terms of the law.

The decision on provisional authorization, accreditation, non-accreditation or withdrawal of the right to organize a continuous education program is adopted by the Ministry of Education, Culture and Research based on the results of the evaluation carried out by the National Agency for Quality Assurance in Education and Research.

2.5 UNIVERSITY MANAGEMENT LEVEL

The continuous teacher training is a functional obligation determined by the Law on Education of the Republic of Moldova and the University Charter.

The continuous education of the teachers is a directed process of psycho-pedagogical education, continuous education in the respective field of pedagogical and scientific activity during the entire professional career.

According to the University Charter, the teaching and scientific staffs are obliged to permanently improve their professional and cultural level, where the continuous education of the teachers is regulated by the following normative acts:

1. Education Code of the Republic of Moldova, no. 152 of 17.07.2014, Title VII - Lifelong Learning;
2. Charter of the Technical University of Moldova.
3. Regulation on the Organization and Functioning of the Continuous Training University Center at the Technical University of Moldova of 27.12.2016.
4. Regulation on the organization and conduct of admission to continuous education at the Technical University of Moldova of 27.12.2016.
5. Regulation on the elaboration and implementation of the continuous education programs at the Technical University of Moldova of 27.12.2016.
6. Regulation on the issuance of the study acts/documents at the graduation of the continuous education programs at the Technical University of Moldova of 27.12.2016.

7. Regulation on the activity of the Coordinating Council for Continuous Education at the Technical University of Moldova of 27.12.2016.
8. GUIDE: Organizing and conducting traineeships in enterprises (continuous education).

The periodicity of teacher training is determined by the Rector of the University on the basis of the proposals of the heads of departments (or other subdivisions), taking into account the specifics of the field of activity of the teachers and the possibilities of carrying out the continuous education programs.

The teacher training includes initial and periodic psycho-pedagogical training, improvement of pedagogical skills, improvement, recycling and, if necessary, professional re-qualification.

The methods of teacher training include: psycho-pedagogical master studies and professional masters studies, training courses for pedagogical and didactic craftsmanship, i continuous education in enterprises, educational and research institutions in the country and abroad. The participation of teachers with reports or exhibits at exhibitions, conferences, seminars, national and international symposia is considered as an additional form of improvement/training.

The results of continuous education are taken into account when choosing, re-selecting teachers through the competition, taking up a higher position, and setting basic salary supplements.

According to the University Charter, the teaching and scientific staffs are obliged to permanently improve their professional and cultural level. Within the Technical University of Moldova, the Continuous Education Center (CFC) of the Technical University of Moldova is responsible for continuous education which:

1. Ensures the continuous education of the teaching and managerial staff from the technical professional education institutions corresponding to the fields of activity of the Technical University of Moldova.
2. Provides educational services for continuous education to the requests of enterprises, specialists from the national economy, interested individuals.

The CFC's supreme governing body is the Coordinating Council for Continuous Education of the University. The organizational structure of CFC includes:

- Department of Teacher Training;
- Department of Continuous Education of National Economy which includes:
  - specialized vocational training centers at faculties and departments;
  - Institute for Continuous Education in Water Supply and Sewerage field;
  - Design School;
  - Continuous education courses at departments and faculties.

The Department of Teacher Training is a specialized structure of continuous training of the teachers. The main activities of the Department of Teacher Training are:

- Initial training and continuous psycho-pedagogical training of the teachers at the technical disciplines of the technical vocational training institutions (secondary professional colleges) and of the teaching staff of the University according to the provisions of the Education Code and the normative acts of the Ministry of Education;

- Continuous Education of the teaching staff in the technical disciplines in the professional secondary education institutions (it is organized together with the specialized centers of continuous education at the faculties and departments of the University);
- training courses, thematic seminars for managers of secondary teacher training;
- training of trainers for participation as formers / trainers in training courses;
- conducting scientific researches in the field of technical vocational training;
- consultancy (in common with the academic departments of the University) in developing the curriculum for secondary technical professional training.

The evidence of continuous professional training of teachers is done by the HR department for Teachers.

2.6 FACULTY LEVEL

The organization of the education process for the continuous training is carried out in accordance with the curricula, the normative acts in force of the Ministry of Education, Culture and Research, the Regulations for organizing and carrying out the didactic process at the University and includes: lectures, practical and laboratory workshops, seminars, thematic discussions, exchange of experience, thematic excursions to enterprises and exhibitions, didactic games, internships at companies and institutions in the country and abroad, course works, year projects, diploma projects / theses.

According to the Charter of the Technical University of Moldova, the teaching and scientific staffs is obliged to permanently improve their professional and cultural level. In-service teacher training activities are included in the individual plans and departmental work plans. The reports of the heads of departments, faculties and university include the respective departments of teacher training.

Within the faculties, the responsible for monitoring the process of continuous staff education is the Specialized Training Center of the faculty, department (CSFC), which is a subdivision of the Continuous Education Center of the Technical University of Moldova.

Responsible for the CSFC activity is the CSFC director appointed by order of the rector of the University.

The responsibilities of the CSFC Director and the person in charge of Continuous Education at the faculty are:

- organizing the study of the continuous education needs of the staff in the respective fields;
- organizing the elaboration and coordination of the curricula and the programs of the continuous education courses with the ministries, departments, professional associations / employers' associations and presenting them for examination to the Coordinating Council with their presentation for approval by the Senate, the Ministry of Education, Culture and Research or, if necessary, for accreditation by ANACIP;
- submitting proposals for the publicity of the continuous education activities;
- training of trainees;
- selecting the trainers, elaborating course materials and necessary teaching materials;

- elaborating the proposals for the expenditure estimates with their approval in the established way;
- enhancing the technical/material basis and its use in agreement with the faculty and departments management, ensuring the necessary conditions for carrying out the training process at the continuous education courses;
- drawing up the training schedule and ensuring its execution;
- performing the operational management of the training process;
- organizing the academic evaluation of the students according to the curriculum;
- presenting the materials for the Continuous Education of the National Economy staf Department of the graduation order;
- collecting payment requests for teachers in education courses.

Responsibilities of the CSFC Director and the person in charge of Continuous Education at college:

- ensuring the quality of the training process according to the norms and educational standards of the national system of Continuous Education;
- preparing correctly the didactic-methodical and evidence-based documentations.

2.7 LEVEL STUDY PROGRAM

Types of Continuous Education programs are set out in the Regulation on the organization of Continuous Education approved by Government Decision no. 1224 of 09.11.2004:

- short thematic training courses (up to 72 hours);
- multidisciplinary training / specialization courses (72-500 hours);
- re-qualification programs based on advanced or medium-level studies for new professional activities with a duration of 500 to 1000 hours;
- Professional re-training programs based on higher or secondary specialist qualifications to obtain a new qualification with a duration of more than 1000 hours.

The normative acts that regulate the continuous education, the elaboration of the continuous education programs:

- Education Code of the Republic of Moldova no. 152 of 17.07.2014 Title VII. Lifelong learning;
- Regulation on organizing continuous education, approved by the Government Decision no. 1224 of 09.11.2004;
- Order of the Ministry of Education no. 549 of 16.11.2005 "Methodological norms for the elaboration and application of standards of continuous professional education programs";
- Nomenclature of professional education areas and specialties to train the teachers in higher education institutions;
- "Methodology of external quality evaluation to authorize provisional functioning and accredit study programs and technical, higher education and continuous education institutions", approved by Annex no. 1 to Government Decision no. 616 of May 18, 2016.
- Classification of occupations in the Republic of Moldova (CORM 006-14).

The post-graduate lifelong learning sections monitor the co-ordination of continuous education programs and external evaluation guidance for the provisional authorization or accreditation of training programs.

Adult Continuous Education is achieved through accredited education programs, which include all theoretical and / or practical training activities to achieve the competence-building objectives for a given field.

Continuous Education programs are organized by training providers and for:

1) developing key skills;
2) enhancing professional skills common to many occupations;
3) using cross-sectional skills.

When enrolling for continuous education programs, the previously studied subjects in secondary, post-secondary or post-secondary non-tertiary technical and higher education institutions are taken into account, as well as the qualification standard in that field.

Continuous Education is based on special programs developed and organized by institutions and organizations active in the field, using interactive methods focusing on multimedia approaches.

Continuous Education programs by field of activity are developed by adult education providers and coordinated with line ministries and the Ministry of Education, Culture and Research, in accordance with the methodological norms approved by order of the minister of education.

Curricular processes in adult continuous education are based on the principle of professional skills training developed on the basis of occupational standards and the National Qualifications Framework.

Continuous Education programs may be structured on modules or disciplines or tailored to individual needs so as to ensure equal and non-discriminatory access to continuous education according to quality assurance standards.

Continuous Education programs ensure acquiring some profession skills in accordance with occupational standards or nationally recognized qualifications.

Adult Continuous Education through additional education courses and retraining programs is organized on the basis of the National Qualifications Framework and external evaluation and accreditation standards.

The procedure for elaborating, coordinating and approving the curricula and continuous education programs organized at the Technical University of Moldova is regulated in the Regulation on the elaboration and implementation of the programs of continuous education at the Technical University of Moldova of 27.12.16.

The Standard of the Continuous Education Program establishes the professional skills, the training conditions of the specialist, the norms and the outcomes of the training process related to the qualification standards of the specialties and specializations included in the occupational classifier and the Nomenclature of the professional education fields.

The Standard of Continuous Education Program includes the following compartments:

- The general characteristic of the Continuous Education Program based on higher education;
- Specification of the level of training required for admission to the Continuous Education Program;
- Structure of the Continuous Education Program:
    - *minimum requirements for the content of the Continuous Education Program;*
    - *the curriculum: the general curriculum, the list of course units / modules, the timetable of the study process, the internship, the assignment of classes by course units / modules.*
- The conditions for the implementation of the Continuous Education Program (didactic basis, duration, form and language of instruction, conditions in which the training process takes place);
- The level of training at the completion of the Continuous Education Program evaluated on the basis of knowledge, skills and aptitudes;
- Final assessment (exam / graduation test, project / diploma test).

Continuous Education programs are developed, taking into account the level of training, professional grounding of specialists applying for training.

The curriculum reflects:

- purpose of the training;
- profile, specialty, qualification;
- basis of admission;
- duration of the Program (hours, ECTS credits);
- the form of organization of education (full time and part-time studies, e-studies on modules);
- regime of studies (number of hours per day);
- list of course units/modules;
- number of hours according to course units/modules;
- types of training hours (lectures, seminars, practical/laboratory work) etc.,
- training period distribution;
- evaluation forms.

Curriculum of Course/Models Unit contains:

- Objectives of the course unit/module;
- -introduction;
- totality and list of themes;
- the basic subjects of each topic exposed in the consecutive sequence;
- the names of the types of activities foreseen for the teaching-learning of the respective subject;
- methodical recommendations for the achievement of the curriculum;
- evaluation forms;
- list of literature and other types of instructional-methodical materials necessary for training.

Teacher training is carried out throughout the entire professional activity. Training through various lifelong learning programs is carried out if necessary, but not more than once in five years. According to art. 132 of the Education Code for occupying teaching positions, the graduates of the non-pedagogical higher education programs must follow the psycho-pedagogical module.

Continuous Education is carried out by:

- *qualification* - acquiring a set of professional skills, that allow the person concerned to carry out activities specific to an occupation or profession;
- *training* - developing professional skills within the same qualification;
- *specialization* - acquiring knowledge and skills in a restricted area from the sphere of occupation;
- *obtaining an additional qualification* - acquiring special knowledge and acquiring skills specific to a new occupation or profession related to the previous one;
- *re-qualification* - obtaining the necessary skills for a new occupation or profession, different from the one previously acquired.

The Center for Continuous Education of the Technical University of Moldova offers continuous education according to the Regulation on the organization of Continuous Education, approved by the Government Decision no. 1224 of November 9, 2004 to the following programs:

- short thematic training courses up to 72 hours;
- multidisciplinary training / specialization courses with a duration of 72 - 500 hours;
- re-qualification programs based on higher education for new professional activity (500-1000 hours);
- re-qualification programs based on higher education to obtain a new qualification (over 1000 hours).

The compulsory psycho-pedagogical module includes the following teaching activities:

Table 4. Didactic activities within the psycho-pedagogical module.

No.	Title of the teaching activity	Total hours	Form of assessment	Nr. of credit points
1	Pedagogy of Continuous Education	90	Test	3
2	Didactics of technical disciplines	90	Test	3
3	Modern teaching techniques	60	Test	2
4	Personality Psychology	60	Test	2
5	Communication Psychology	60	Test	2
6	Engineering Psychology	30	Test	1
7	Didactic Deontology	30	Test	1
8	Developmental Psychology	60	Test	2

9	Information and communication technologies in education	120	Test	4
10	Graduation thesis. Portfolio presentation	100	Final exam	10
11	Internship	200		
Total		**900**		30

Enrolment in continuous education courses is based on the learner's personal request and the contract on providing training services signed by the vice-rector for continuous education and partnerships and the beneficiaries of the continuous education services (economic agents, ministries, departments, individuals).

The continuous education of the teaching staff in the specialty field uses the technical-material basis of the specialized training centers of the University, the laboratories and the faculty courses, the university technical-scientific library.

Continuous education programs are developed by specialized departments / chairs in accordance with the Methodological Norms established by the Ministry of Education, Culture and Research, according with the beneficiaries' requests with competent ministries, professional associations, and beneficiary enterprises.

Curricula and programs are developed by the University's teaching staff, the CFC trainers. It is coordinated with the beneficiaries of the continuous education services, examined by the Coordinating Council for Continuous Education of the University and approved according to the Regulation approved by the University Senate. Education plans for continuous education through further qualification and re-training, based on higher education, finalizing with the release of the graduation diplomas of the Ministry of Education, Culture and Research, are elaborated on the basis of the curricula for the bachelor studies approved by the Ministry of Education, Culture and Research and accredited by ANACIP.

3 CROSS-CASE ANALYSIS

3.1 INTRODUCTION

In the given section, a comparative study is made between the Moldovan higher education system and the education systems in the European states: Sweden and Denmark, highlighting both the similarities and the main differences, thus trying to highlight the gaps and the pluses of the native system, but also the ways that can improve and streamline Moldovan education.

3.2 COMPARATIVE ANALYSIS: CRITERIA, PROPERTIES AND INDICATORS

Below, the indicators and criteria are presented at each level, the comparative situation in 3 universities: Technical University of Moldova (TUM), Sweden Royal Technical University (KTH) and Aalborg University of Denmark (AAU).

Table 5. Cross-sectional analysis

Criteria, Properties and Indicators	UTM	KTH	AAU
SYSTEM LEVEL 1. 1. Legal framework 2. State policies in the field 3. Occupational Standards 4. Responsible structures 5. Content / training programs	1. Continuous Education as a component of lifelong learning in the Republic of Moldova is regulated by the following normative acts: - Constitution of the Republic of Moldova adopted on 29.07.1994, art. 35 - Right to Teaching; - Education Code of the Republic of Moldova no. 152 of 17.07.2014, Title VII - Lifelong learning; - Law "Labour Code of the Republic of Moldova" no. 154-XV of 28.03.2003 Title VIII - Professional Education; - Decision of the Government of the Republic of Moldova no. 1224 of 09.11.2004	1. In Sweden, Parliament's (Riksdag) and Government are responsible for legislation on education and training. The Swedish Education System is regulated by the Education Law, while the institutions enjoy a great degree of freedom. The Swedish system includes not only traditional university studies, but also teacher training, health training, technical training, etc. In 2011, Sweden initiated new teacher training programs, structured in four main qualifications: pre-school, primary, secondary and professional education (Bäst i klassen - en ny lärarutbildning OBS Prop. 2009/10: 89).	1. Ministry of Education and the Ministry of Higher Education and Science in Denmark are mainly responsable for Education. The Danish educational system is governed by national legislation, which covers the objectives and framework of education, funding and, in some cases, programs, exams and teaching staff. 2. "Economic growth Strategy: The Development Plan Agreement presumes for adult education with the following approach: "More and better education for adults".

	Regarding the organization of continuous education; - Decision of the Government of the Republic of Moldova no. 191 of 22.04.2015 Regarding the National Agency for Quality Assurance in Continuous Education. - Decision of the Government of the Republic of Moldova no. 616 of 18.05.2016 Concerning the approval of the External Quality Assessment Methodology for Authorization of Provisional Operation and Accreditation of Education Programs and of Technical, Higher and Continuous Education Institutions. - METS Order of RM no. 549 of 16 November 2005 "Methodological norms for the development and application of the standards of continuous continuous education programs". 2. State policy in the sphere of education is determined by the Education Code of the Republic of Moldova no. 152 of 17.07.2014 (Monitorul Oficial, 24.10.2014, No. 319-324, art.63, art.624, art.539), which regulates the organization and functioning of the education system. Education Developing Strategy for the period 2014-2020	1. The International Standard Classification of Education (ISCED), developed by UNESCO serves as basis for Standard occupational standards. 2. The ministry of Education and Research (Utbildningsdepartementet) in Sweden is responsible for education and training, including pre-school education, school education, upper secondary education, adult education, research and higher education (1st, 2nd and 3rd cycle); Higher professional education. The Government sets the national development goals and strategy that are being developed and administered by the Swedish School Inspectorate (Skolinspektionen) and the National Education Agency (Skolverket). The Swedish National Agency for Higher Professional Education is responsible for continuous education. 3. Higher professional education in Sweden is adapted to the current labor market, but the training courses are offered in specific areas where there is an explicit skill necessity. The National Agency for Higher Professional Education analyzes the requirements of the labour market and decides which	3. In 2009, the Qualifications Framework for Lifelong Learning (NQF) was approved. The Danish qualification framework has an 8 levels structure. Starting in 2011, each level in the Danish Qualifications Framework is related to a level of the European Qualifications Framework for Lifelong Learning (EQF). 4. In Denmark, the main responsibility for education is shared between three ministries: - The Ministry of Education is responsible for developing education policies at ISCED level 1, 2 and 3, along with adult education and lifelong learning. The Ministry has overall responsibility for managing these levels of education and for ensuring the best realization of the government's educational policies. - The Danish Ministry of Higher Education and Science, which is responsible for the field of higher education and adult education and training (VET). The Ministry deals with policy, administration,

	"Education-2020" is the main policy document in the field of education that sets medium-term objectives and tasks for the development of education and sets the guidelines and priority directions for the development of the education system in the Republic Moldova. The strategy is organized on the basis of three pillars: access, relevance, quality. 3. Continuing adult education is done by: 1) thematic training courses / specialization up to 150 hours (up to 5 credits); 2) short training / specialization / short-term multiple qualifications courses up to 1 200 hours (up to 40 credits); 3) additional training courses and programs based on studies: a) secondary technical education (ISCED level 3) up to 900 hours (up to 30 credits); b) post-secondary and non-tertiary technical vocational training (ISCED 4-5) up to 1800 hours (up to 60 credits); c) higher education (ISCED level 6) up to 2 400 hours (up to 80 credits); 4) courses and re-training programs for obtaining a new qualification based on studies: a) secondary technical	educational programs will be provided.	functioning, coordination and interaction tasks in this area. - The Danish Ministry of Culture is responsible for higher education and training in arts, music and theatre. 5. Adult education and training is divided into the following programs: 1. General Adult Education: - Preparatory Adult Education (FVU). - Adult General Education (AVU). - Courses of a specialized discipline (HF enkeltfag). 2. Adult Continuous Education: - Adult Education Programs (AMU). -Adult Basic Education (GVU). 3. Adult Higher Education - Advanced Adult Education (VVU). - Bachelor programs. - Master Programs. 4. Non-formal adult education - Evening schools. - Additional university courses. etc

	education (ISCED level 3) up to 900 hours (up to 30 credits); b) post-secondary and non-tertiary technical professional education (ISCED 4-5) with a duration of more than 1 800 hours (minimum 60 credits); c) higher education (ISCED level 6) with a duration of more than 2 700 hours (minimum 90 credits for the same field). 4. Quality management of education is ensured: a) in general education: – at the national level - by the Ministry of Education, Culture and Research and the National Agency for Quality Assurance in Education and Research; – at local level - by the local specialized body in the field of education; – at the institutional level - by the managers of the general education institutions; b) in technical professional education and higher education: – at the national level - by the Ministry of Education, Culture and Research, concerned ministries and the National Agency for Quality Assurance in Education and Research; – at the institutional level - by the respective quality assurance structures in		

	education. 5. Types of continuous education programs are set out in the Regulation on the organization of continuous education approved by Government Decision no. 1224 of 09.11.2004: - thematic short-term training courses (up to 72 hours); - multidisciplinary training / specialization courses (72-500 hours); - re-qualification programs based on higher or secondary specialized studies for a new professional activity lasting from 500 to 1000 hours; - professional re-qualification programs based on higher or secondary specialised studies in order to obtain a new qualification of more than 1000 hours. The normative acts that regulate the continuous education, the elaboration of the continuous education programs: - Education Code of the Republic of Moldova no. 152 of 17.07.2014 Title VII. Lifelong learning; - Regulation on the organization of continuous education, approved by the Government Decision no. 1224 of 09.11.2004; - Order of the Ministry of Education no. 549 of 16.11.2005 "Methodological norms for		

	the elaboration and application of standards of continuous education programs"; - Nomenclature of professional education areas and specialties for the teaching staff training in higher education institutions; - "External quality assessment methodology for authorization of provisional functioning and accreditation of study programs and of technical, higher education and continuous education institutions", approved by Annex no. 1 to Government Decision no. 616 of May 18, 2016. - Classifier of occupations in the Republic of Moldova (CORM 006-14).		
UNIVERSITY LEVEL 1. Strategies / policies 2. Institutional structures 3. Education content / programs 4. Ways of training	1. According to the University Charter, the teaching and scientific staff are obliged to permanently improve their professional and cultural level, where the continuous education of the teachers is regulated by the following normative acts: 1. Education Code of the Republic of Moldova, no. 152 of 17.07.2014, Title VII - Lifelong Learning; 2. Charter of the Technical University of Moldova. 3. Regulation on the organization and functioning of the Continuous Education University Center at the	1. - Vision 2027 document, which sets out the target objectives for the next 10 years. - KTH Development Plan 2013-2017. - Education Law. 2. KTH is headed by the President, who reports to the University Council. KTH is organized in ten schools, each of which consists of a number of departments. The School of Information and Communication	3. Development Strategy 2016-2021 "Knowledge to the World", which defines the mission and general vision of university development, from the point of view of: research; problem-based learning; education and collaboration. The given document provides teachers and students Education in PBL. 4. AAU Council consists of 11 members; six of them

	Technical University of Moldova of 27.12.2016. 4. Regulation on the organization and conducting the admission to continuous professional education at the Technical University of Moldova of 27.12.2016. 5. Regulation regarding the elaboration and implementation of the programs of continuous education at the Technical University of Moldova of 27.12.2016. 6. Regulation on the issuance of the documents on completion of professional education programs at the Technical University of Moldova from 12.27.2016. 7. Regulation on the activity of the Coordinating Council for Continuous Education at the Technical University of Moldova of 27.12.2016. 8. GUIDE: Organizing and conducting traineeships for enterprises (continuous education). 2. Within the Technical University of Moldova, the Continuous Education Center (CFC) of the Technical University of Moldova is responsible for continuous education. 3. The procedure for elaborating, coordinating and approving the curricula and continuing professional education programs organized at the Technical University of Moldova is	Technology offers specialized courses for students, teacher training courses and complementary courses for different areas. The Center for Development and Research in Higher Education activates within the School of Education and Communication in Engineering, the Learning Department. (The Unit of Higher Education Research and Development (HERD)), responsible for the development and implementation of courses for the continuous education of teachers in higher education. 3. Courses offered by the Center for Development and Research in Higher Education and the School of Information Technology are placed alongside the discipline sheet on the universities' website. The Center for Development and Research in Higher Education offers three categories of courses: 1. Basic courses in teaching and learning in higher education. 2. Additional courses in teaching and learning in higher education 3. Education course for supervisors in research. The School of Information Technology offers evening classes, distance learning, evening courses, distance	are from outside the university. The rector, vice-rector and director (management and development activities) are non-voting members of the council. The Rector is responsible for the daily management of the university. The Learning Lab Center is responsible for the continuous education of teachers. It offers a number of training courses, but the PBL Academy is responsible at departments and faculties level for the continuous implementation and development of the PBL. 5. Aalborg University in Denmark offers a wide range of adult, starting with Master programs (Systems Engineering-Based Learning (MPBL), Information and Communication Technologies (MICT)) and finalizing with private courses for different academic fields 6. The Development Strategy of the AAU 2016-2021 "Knowledge to the World" states that

	regulated in the Regulation on the elaboration and implementation of the programs of continuous education at the Technical University of Moldova of 27.12.16. 4. Teacher training is carried out throughout the entire professional activity. Education through various lifelong learning programs is carried out when necessary, but not more than once in five years. According to art. 132 of the Education Code for occupying teaching positions, the graduates of non-pedagogical higher education programs must follow the psycho-pedagogical module.	IT education courses, summer courses and teacher training courses. 4. Teacher training courses are tailored for KTH teachers. These include course offers that meet the KTH requirement of 15 credits in education.	all newly recruited teachers must pass the introductory course in the PBL teaching methodology. In turn, assistant professors who want to get associate professor or university professor position must take AAU's Learning Labs education courses.
FACULTY LEVEL 1. Strategies / policies 2. Responsible structures 3. Training contents / programs 4. Ways of teacher training	1. According to the Charter of the Technical University of Moldova, the teaching and scientific staffs are obliged to permanently improve their professional and cultural level. Teacher training activities are included in the individual plans and departmental work plans. The organization of the education process to the continuous education is carried out in accordance with the curricula, the normative acts of the Ministry of Education, Culture and Research in force, the Regulation for organizing and carrying out the didactic process at the University.	1. Each School offers study programs for the Ist and 2nd cycles of studies. The school activity is governed by the KTH Development Plan. In turn, every hired professor has to undergo continuous 15-day ECTS education courses. 7. KTH is made up of ten schools, the school leadership consists of the Dean, Deputy Dean, Administrative Coordinator, Chief of Finance, Research Manager, responsible for I, II and III Cycles studies. In turn, each school is made up of departments. The Faculty's Board is responsible for issues related to the quality of education, research and	1. The mission and general vision of faculty development is governed by the 2016-2021 "Knowledge to the World" strategy. 2. The responsible structures for teacher training and introducing new staff into the PBL methodology are: Deans, heads of departments, Schools, Learning Lab. 3. Lifelong learning programs are provided by the Learning Lab. 4. The employees listen to the introductory course in the PBL, in addition to it, when

	2. Within the faculties, responsible for monitoring the process of staff training is the Specialized Continuous Education Center at the faculty, department (CSFC), which is a subdivision of the University of Continuous Education Center of the Technical University of Moldova. 3. Continuous Education programs are developed by specialized departments / chairs in accordance with the Methodological Norms established by the Ministry of Education, Culture and Research, at the beneficiaries' requests coordinated with the concerned ministries, professional associations, and beneficiary enterprises. 4. Continuous professional forms of training: - courses organized within their own enterprise or by institutions specialized in professional education - training and re-qualification courses and programs; - internships and specializations in enterprises, national and abroad institutions; - seminars, conferences, roundtables, workshops; - distance learning courses.	interaction with the community. 8. The KTH learning / teaching process, including the multitude of methods / techniques, is determined by the CDIO initiative. The information on continuous education courses is placed alongside the discipline sheet on the university website. 4. When hiring or moving from one position to another, each employee must submit documents that he has completed 15 ECTS of continuous education.	moving from one position to another; the teacher should complete continuous education courses. Learning Lab organizes the Teaching Day periodically, which provides a presentation of the PBL teaching approach from different perspectives.

Speaking from a historical point of view, most of the universities in the Republic of Moldova focused on a long period of time, mainly on teaching and learning. We can say that universities that have carried out visible research activities at national or international level are missing at the moment.

In universities, the classical system of focusing on teacher activities prevails, although we consider it outdated, at least from the fact that it was designed to integrate graduates into a stable and inflexible labour market for changing society, especially in relation to international influences. However, considering the speed at which changes are being made today, the flexibility of the labour market, it is clear that a student-centered education offers more benefits to society, offers the possibility of training specialists who would have the skills that employers require. *The change from teacher-centered to student-centered education involves a cultural transformation, and therefore behavioural and attitude changes, both from the part of the students and the teachers, as well as the institution in general. The lack of involvement of one of these factors makes impossible to implement this method.*

Following the study of student-centered teaching methods in several universities in the European Union, we aim to introduce these methods into the teaching program at TUM.

4 THE ROAD MAP

	Implementation actions	Person in charge	Implementation deadline	Resources
1.	Assessment of the necessity and opportunity of elaboration / modification of the study program at: • The Psycho-pedagogic Module, • Education - Learning based on PBL.		Spring 2017	FR: within the approved budget limits HR: deans, department heads, teachers
2.	Setting up the Working Group and nominating the person responsible for drafting / modifying the study program	Ciorbă D.	Spring 2017	HR: Academic staff
3.	Teachers assessing on the skills expected to be followed by the program	Team members	Summer 2017	Teachers
4.	Analysis of similar national, European and international programs	UTM Administration Ciorbă D. Team members	2017 - 2018	FR: within the approved budget limits HR: Academic staff
5.	Assessing the necessary and existing resources	UTM Administration	2017-2018	HR: Academic staff
6.	Program Elaboration. Discussion within the Working Group	Team members	2017-2018	HR: Academic staff
7.	Mobility of academic staff	Ciorbă D. Cojuhari I. Gogoi E. Catruc M. Cojuhari E. Melnic R.	November 2016 – January 2018	FR: within the approved budget limits HR: External Relations Service, Academic Staff, Partner universities
8.	Education of academic staff in the field of PBL	Team members	During the project period	FR: within the approved budget limits

				HR: Studies and Quality Management Department; the academic staff involved in the mobility program
9.	Elaboration of educational documents: curriculum by subjects (analytical programs), guides, case studies, evaluation etc.	Ciorbă D. The teachers involved	February - June 2017	FR: within the approved budget limits HR: Studies Department, Quality Management Department; academic staff; TUM Scientific Library;
10.	Campaign to promote the program: - production of advertising leaflets; - visits to high schools, - site: www.utm.md, - radio shows.	Department head, deans, Responsible for the program	February – September 2017	FR: within the approved budget limits HR: academic cadres, TUM Public Relations Service, Anglophone Line
11.	Preparing 3 study rooms and recreation areas for teamwork Initiating the Pilot Program	Turcanu D., Head of ICT direction	May - August 2017	FR: within the approved budget limits HR: Technical Service
12.	Initiating the Pilot Program	Ciorbă D.	1 September 2017	
13.	Running the study program	Ciorbă D. The teachers involved	September 2017 – June 2018	RF: within the approved budget limits RU: academic staff

14.	Monitoring and ongoing evaluation of the program	Ciorbă D. The teachers involved European evaluators	2017	

4.1 INTRODUCTION

The Roadmap is a consolidated list of measures, commitments and timelines for implementing actions to overcome the challenges identified in the Pilot Program for the Implementation of Problem Based Learning.

Its immediate purpose is to establish an institutional foundation to overcome certain barriers or certain threats to the implementation of the project in question.

As far as the implementation period, it must be taken into account that some new elements that will be implemented can be included in the existing regulatory framework, while the others require some changes in the existing regulatory acts.

4.2 FIT-FOR-PURPOSE

In order to implement the Teacher Education Program, several activities at the institutional level need to be implemented in order to successfully implement the Pilot Program. These activities could be divided into the following steps:

I. Activities related to the elaboration of the educational offer (psycho-pedagogical module, training) for the teachers who will teach by applying the PBL. The elaboration of these will take into account the experience seen and studied in the partner Universities of the European Union, by the legislative and normative acts regulating the activity in higher education in the Republic of Moldova.

II. Activities related to *the teaching staff education* in order to use the PBL teaching methodology. In this respect, the teachers who participated in various kinds of training, organized within the project at TUM during the years 2016-2018, will be involved in the teaching process at the "Software Engineering" specialty. As well, more teachers will benefit from academic mobility at partner universities in the European Union, where they will be able to get acquainted with the method in question.

III. *Elaboration of educational documents*: curriculum by subjects (analytical programs).

IV. Preparing *the physical environment* for organizing studies. In this regard, we can mention that TUM is equipped with the necessary equipment, including PBL study rooms, literature, access to databases, free WI-FI for students and teachers, etc.

V. Activities related to *the dissemination of good practice*. In this respect, the TUM Messenger will be used first, where the information about the project is published regularly (this is already done), the members of the project team will participate with communications at various conferences, workshops.

VI. *Extending the project* to other specialties within TUM.

All these activities will require some resources. The necessary financial resources will be covered from the project (mobility of teachers and students, procurement of equipment, etc.), with the support of TUM.

4.3 CONTENT CHANGE

The implementation of the PBL teaching methodology involves revising the content of the programs, and namely:

- reorienting from student training to a process of guiding them in creating additional academic value;
- from the way of thinking about academic value as being produced and taught by teachers, to the thinking about value as co-created one with students and other partners in the training process;
- from treating students as isolated entities to their understanding in the context of their own social networks;
- from the development of tangible resources (such as material resources) of the educational institution, to the prior development of intangible resources (such as human capital);
- from clients' way of treating the educational institutions as targets, to treating them as partners and resource providers pertinent to training programs;
- from highlighting the effectiveness of didactic activity, to efficiency through efficiency increase as a result of students training *social and professional skills demanded by society and the labour market*;

5 FINAL REMARKS

The room-based student-centered learning maximizes student engagement in learning. At a lesson based on PBL methodology, students will be able to use the interdisciplinary knowledge they have and apply them to a significant problem. Students begin to see how their knowledge helps them solve the problems in life, thus giving them a learning pathway and turning them into students throughout their lives. As education teaches to use this new type of teaching, professors will have to learn to teach students the problem. They must take on a new role in the audience; they, themselves must become part of the learning process, acting as a guide or resource for students. Once a teacher learns to become part of the learning process and students are involved in solving the problem through experimentation, they will learn to apply their knowledge in meaningful and productive ways.

So, the main focus to be put is to prepare teachers to apply the PBL teaching methodology and motivate them to use PBL.

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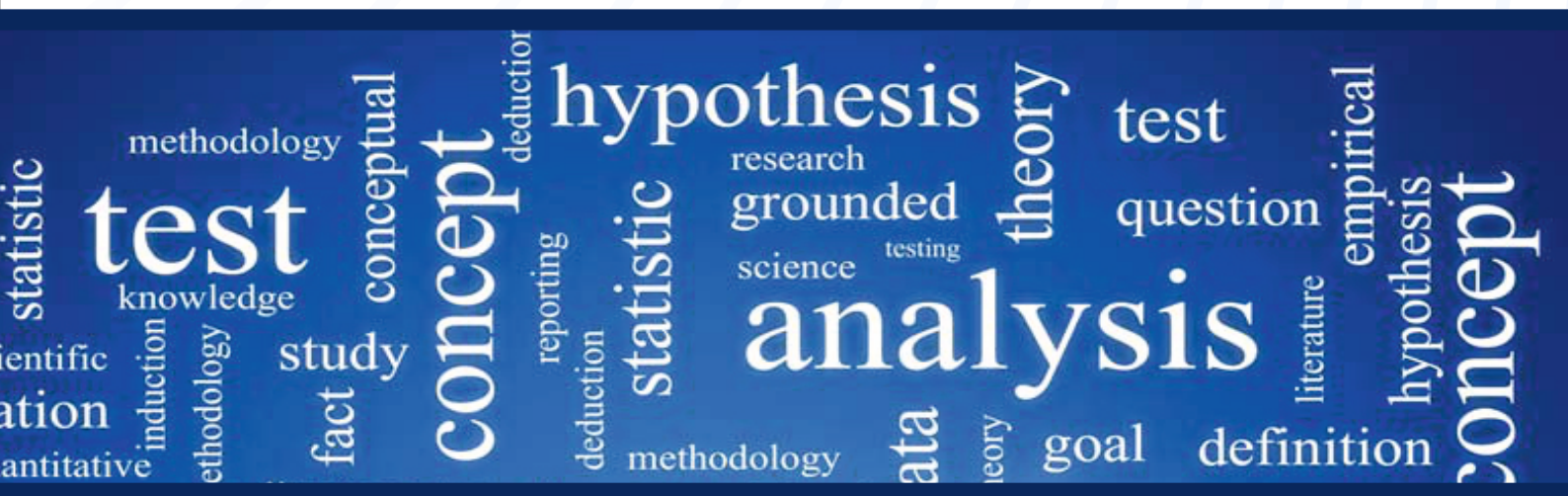
Tell me and I forget,
Teach me and I may remember,
Involve me and I learn.

Folklore



CONTACT INFORMATION

Larisa Bugaian
National Coordinator
Technical University of Moldova
Stefan cel Mare 168
Chisinau, MD-2004, Moldova
Tel: (+373) 22 23 37 05
E-mail: larisa.bugaian@adm.utm.md
www.pblmd.aau.dk