Work Package 3

Study programme of Pedagogical training Consolidated Report

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First draft: January 2019

Revised: Revised Mar

Final draft: May 2019

Chisinau, 2019

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CONTENT

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**

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1. METHODOLOGY
1.1 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.

1.2 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			

1.3 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

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

2.1. 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.

2.2. 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.

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

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 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	Deans, heads of departments /	Regulations on the organization of adult education

		chairs	
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.

2.3.   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;

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[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

- 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.

2.4. 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.

2.5. 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.

3. CROSS-CASE ANALYSIS
3.1. 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 training of pedagogical competences. – Higher Education Law (2011), compulsory training of pedagogical competences, 15 ECTS. – Training period 5-10 weeks.	– Recommendations on the general learning outcomes for the teaching qualifications required for employment as a university staff, revised in 2016.	– Swedish Higher Education Association	– At the discretion of universities	– At the discretion of universities
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	– The Society for Didactics in German Higher education responsible at the country level for the training	– Five modules: compulsory and at free choice: problematic, curriculum, elaboration of learning outcomes,	– Workshops/seminars/trainings on the general approaches of didactics, and with reference to the specific field of training.

Country					
		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.	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	assessment, teaching methods	
Great Britain	– Act on continuous and higher education of 1992	– The UK Professional Standards Framework for teaching and supporting learning in higher education: the scientific title, of teaching excellence.	– Academy of Higher Education – Professional Associations	– Enhancing the dynamic approaches of the teaching-learning process through the perspective of creativity, innovation and continuous development in various professional situations; – Manifestation in front of students	– Teaching courses; – Organizing seminars (for all categories of teachers) – Evaluation and attestation of pedagogical competences for employment and promotion in office; – Mobility – Mentoring.

				and various beneficiaries of professionalism in academic activity; – Learning the various student-centred learning, teaching and assessment practices – Obtaining quality in teaching and research;	
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.

3.2. 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 Glochestershire
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 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.	*- **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. *- **Specialised structures*** PBL Academy; The Learning laboratory that provides training activities and performs research on teaching-assessment.	*- **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 formation. *- **Specialised structures*** Quality Management Structures	*- **Institutional policies*** KTH Development Plan, Human resources policy at KTH *- **Specialised structures*** School of Education and Communication in Engineering, Department of Learning, Centre for Development and Research	*- **Institutional policies*** Training of academic staff from the perspective of strengthening students' learning capacities. Facilitating the approach-centering on the student. *- **Specialised structures*** Teacher Training Center
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);				

	- *Content of training:*	- *Content of training:*	- *Content of training:*	- *Content of training:*
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			in Higher Education School of Information Technology	
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.	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.;	Five modules: compulsory and at free choice: *Problematics, curriculum, elaboration of learning outcomes, assessment, teaching methods*	- 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	- 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*
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.			education. Training course for supervisors in research;	*strengthening students' capacities to learn; Professional development planning*
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	- *Methods* trainings; on-demand training laboratory: specialised workshops or seminars, individualised training for polishing and/or strengthening	- *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	- *Methods* Teaching courses and organizing informative seminars for teachers (not only for young specialists but also for more experienced teachers); Evaluation and

	basic skills, assisting in auditorium hours (video recorded - on demand), mutual assistance in class.		continuous teacher training	attestation of pedagogical competences for employment and promotion in office; Mobility; Informative seminars
STATE UNIVERSITY "BOGDAN PETRICEICU HAȘDEU", 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.

4. 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;	Methodic seminars; Traineeships/trainings;

	• 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.	Employees of the Quality Management Department; Heads of department; Teachers.	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	Teachers	Trainings within the project; Academic mobilities in EU universities; Trainings for teachers

	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 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 Testemiţeanu"		Teachers	Trainings performed within the project; Academic mobilities of the project team,
State University	• Rethinking the curriculum and the content of the disciplines taught in PBL;	Teachers	

"Bogdan Petriceicu Hașdeu", Cahul	• 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.		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)*
	Learning outcomes. In this offer/continuous training course, emphasis is placed on the training of pedagogical competences for beneficiaries, through 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
		Teachers	Trainings performed within the project; Academic mobilities of the project team, Traineeships/trainings in the institution.

	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.		

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.