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Opracowanie i upowszechnienie
krajowych standardów kwalifikacji zawodowych

**SELECTED AREAS OF APPLICATION OF NATIONAL
PROFESSIONAL QUALIFICATION STANDARDS**

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Introduction

The article presents the general description of results of the project, “Development and popularization of national professional qualifications standards”, as well as the possibilities for using the standards for the purpose of confirmation and recognition of qualification standards, in the context of the European Qualification Framework. The project was carried out at the initiative of the Labor Market Department at the Ministry of Labor and Social Policy, which promoted it and was also the recipient of work and results.

In order to solve problems associated with the historically conditioned nature of national vocational education systems, instruments are introduced to facilitate the comparison of certificates or diplomas, and the recognition of qualifications of migrating employees. The professional qualification standards, due to their ties to the labor market and the economy, can contribute to assuring the quality of vocational education, and help in the comparison and assessment of qualifications obtained in various countries, under differing education systems.

1. Development and popularization of national professional qualifications standards

The date of the first public discussion in Poland on the professional qualification standards is year 1993,—and specifically 10-11 December, when the international conference "System of professional qualification standards" was held, organized by the Task Force for Training and Human Resources (BKKK). However, the first project work was conducted only in the years 1998-2000, under the PHARE'98 project “Training needs analysis”, carried out at the initiative of the Ministry of Labor and Social Policy, the Ministry of National Education, and with the support of the European Training Foundation from Torino. The work resulted in establishing the methodology for researching the requirements of employers and defining qualification standards, as well as in the development of professional qualification standards for 8 professions. The subsequent 40 standards were created in the course of the project PHARE 2000 – “National vocational training system”, which has been supervised by the

Ministry of Economy and Labor in the years 2002-2004. Under the PHARE 2002 project led by the Ministry of Economy and Labor, “Development of the skills of public employment services in the area of implementing the European Employment Strategy and participation in the EURES system”, 7 standards were prepared for the professions and job descriptions found in labor offices.

The largest so far project on qualification standards was the project of the Ministry of Labor and Social Policy, “Development and popularization of national professional qualifications standards”. This contract was carried out in the years 2006-2007, financed with the funds of the European Social Fund, under the Sectoral Operational Program – Development of Human Resources 2004-2006, Action 1.1., Development and modernization of the labor market instruments and institutions, Scheme a) “Strengthening the potential of public employment services”. The project was developed for the beneficiaries representing on one hand the world of business and the labor market, and on the other hand, the world of vocational education. It fits into the activities for the development of instruments and institutions of the labor market, conducted by the Ministry of Labor and Social Policy.

The overall purpose of the project was to develop tools that would be useful for:

- improvement of the decision-making process in the area of employment and educational policy;
- assuring high quality of continuous education, in particular in the extra-scholar forms,
- increase of vocational mobility of adults, by improving the transparency of qualifications, and their flexible adaptation to the demands of the labor market.

These goals are concurrent with the priorities of the *Strategy for the development of continuous training by the year 2010*, adopted by the Council of Ministers in July 2003.¹ The professional qualifications standards are included in this strategy as the basis for establishing educational standards, and as a factor for quality assurance in vocational and continuous education.

Under the project, three actions have been carried out, together with associated tasks:

1. Development of descriptions for 200 national professional qualification standards, which covered:
 - *Task 1.1.* Carrying out an information campaign, determination of needs in the area of standards development.

¹ Strategy for the development of continuous training by the year 2010, Ministry of National Education, Warsaw 2003.

- *Task 1.2.* Preparing and conducting research at enterprises (for 200 selected professions/ specializations);
 - *Task 1.3.* Preparing the descriptions of 200 professional qualifications standards for selected professions/specializations.
2. Dissemination of information on professional qualifications standards, which covered:
- *Task 2.1.* Publication, in the form of brochures, the 240 descriptions of national professional qualifications standards and their distribution (200 newly developed standards, and 40 standards developed under PHARE 2000 project).
 - *Task 2.2.* Preparation and publication of press articles and books on the issue of professional qualifications standards.
 - *Task 2.3.* Organization of two conferences promoting the issues of professional qualifications standards and the project's achievements, with the participation of international experts.
3. Conducting research on the use of professional qualifications standards by their potential users, which covered:
- *Task 3.1.* Development of methods and tools to analyze the usage of professional qualifications standards, and their evaluation.
 - *Task 3.2.* Conducting the research of usage of professional qualifications standards (in two parts – at the start and end of the project).

The contractor for the project was a Consortium consisting of four entities: Doradca Consultants Ltd. from Gdynia (which was the project leader), the Institute for Sustainable Technologies – State Research Institute from Radom, Demos Polska Sp. z o.o., from Warsaw, the Center for Teachers' Development and Practical Training from Łódź, and sub-contractors: the Institute for Educational Research from Warsaw, the Institute of Labor and Social Studies in Warsaw, Pracownia Badań Społecznych (the Social Research Institute) in Sopot.

For the purpose of delivery of this work, 200 authors' teams were created. Research, concluded in December 2006, covered 2865 enterprises and institutions, where the requirements of about 11,460 work positions were analyzed. The number of persons involved in the delivery of the project's tasks exceeded 10 thousand. The broad-ranging and active participation of employers and employees, and their organizations, should be particularly stressed. This offers hope that the professional qualification standards developed with their participation would contribute to quality improvement of vocational education, and would

become a tool used in the labor market for the processes of employee recruitment and selection, job valuation and grading, employee evaluations and career planning.

The successively developed set of national professional qualification standards is made available in the Internet database, set up on the server of the Ministry of Labor and Social Policy, under the following address: <http://www.standardyiszkolenia.praca.gov.pl>.

2. Structure and methodology for defining the national professional qualification standards

The national professional qualifications standards are developed for professions and specializations included in the Classification of Professions and Specializations; they organize the qualifications associated with work according to groups of qualifications and levels of qualifications. The national professional qualification standard is developed on the basis of analysis of the profession, which includes isolation of the **scopes of work** in the given profession, and typical **professional tasks** T-n ($n = 1, 2, 3 \dots$). It has been decided that the scope of work is meant to correspond to labor market needs, that is, it should be possible to hire the employee under a given scope of work, on one or several positions. The scopes of work are matched to the so-called **constituents of professional qualifications** Q-i ($i = 1, 2, 3 \dots$). Each constituent of professional qualification is tied to at least one (usually several) professional tasks. The correlation between occupational tasks and constituents of professional qualifications is presented in the appropriate table contained in the standard's description.

In the subsequent phase of analysis, every professional task is broken down into the sets of skills, knowledge and psychophysical properties. In the group of qualifications basic for the given profession, and specialist ones, the individual skills, elements of knowledge and psychophysical features are allocated the designates of those constituents of professional qualifications Q-i where the given skill, element of knowledge and feature is used. In the group of general professional and extra-professional qualifications, the skills, knowledge and psychophysical features are not indexed with the Q-i symbols, as these are by definition allocated to all constituents of professional qualifications Q-i.

Figure 1 presents the phases of a profession's analysis.

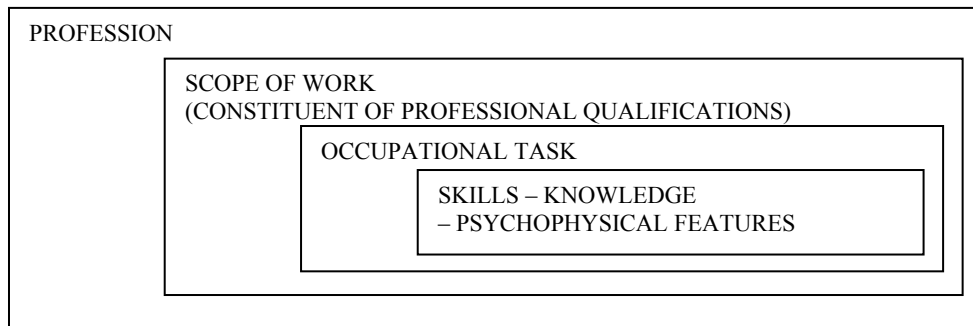


Figure 1. Phases of a profession's analysis.

Four groups of professional qualifications are isolated under the standard's structure : extra-professional, general professional, occupational and specialist.

The **extra-professional qualifications** are described with the sets of skills, knowledge and psychophysical features common for the sector in which the given profession functions. We can also speak of the "family of professions" concept, or of the common "profession core", for which the extra-professional qualifications were isolated. The extra-professional qualifications are very close to the concept of "key qualifications" - the latter ones are understood rather as common for all professions, and not only for a given sector.

General professional qualifications are in turn common for the so-called "constituents of professional qualifications", isolated under the National Professional Qualification Standard. The concept of "constituents of professional qualifications" is a new element of the Polish system of professions, and requires a few words of explanations. This concept was introduced under the implementation of the concept to break down the broad-profile professions - typical for school-taught professions - into smaller elements. Those smaller areas of professions are described by the "constituents of professional qualifications" – constituents, because their sum constitutes the whole profession. One constituent of professional qualifications is developed by linking several related professional tasks. The linking of professional tasks is subordinated to the main idea – the group of tasks known as the "constituent of professional qualifications" is to give a person the opportunity of employment in a position found in the economy. This means that after the change of educational legislation, it will be possible to offer training in "professional skills modules". This means that training would not have to apply to the whole profession, as it is under the current system of professional education, but it could be broken down into parts known as modules. As a result of "modular training", the vocational education – both school-based and occurring outside schools - would become more flexible. The modules could be delivered both under the scholar system, and in courses offered outside schools.

The next group of professional qualifications, isolated under the National Professional Qualifications Standard, are the **occupational qualifications**. They are characteristic for one or several (but not for all) constituents of professional qualifications.

The last, fourth group are **specialist qualifications**. They are defined as the less frequently found skills, knowledge and psychophysical features, associated with less typical professional tasks performed by a relatively small population employed in the given profession, specializing in a rather narrow field. Nevertheless, this specialization is necessary to properly perform specific work.

The organization of qualifications according to qualifications levels is meant to illustrate the complexity of work, degree of difficulty and assumed responsibility. The main rule was not to separate two issues: education associated with the acquisition of professional qualifications in the school system, confirmed with diplomas and certificates, and the skills required to perform work at typical and real positions found at workplaces. It was decided that requirements posed to employees in actual jobs would be superior to the requirements defined in the program core of vocational education (and to the resulting vocational education syllabuses and standards of examination requirements, which are the basis to conduct examinations confirming the professional qualifications).

Figure 2 presents the reach of the individual types of professional qualifications.

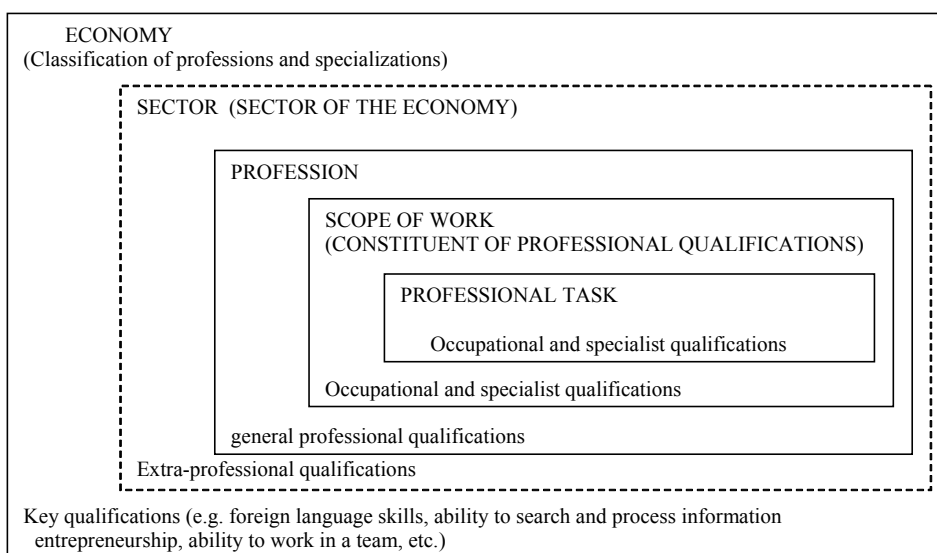


Figure 2. Scope of professional qualifications types.

Under the National Professional Qualification Standard, **five levels of qualifications** are defined.

The first level contains skills associated with works which are simple, routine, performed under the guidance and control of supervisor. Most often, this work is performed individually. Basic training is sufficient to perform work on the first level. The person performing the work bears individual responsibility for willful actions.

Second level requires self-reliance and self-control to perform typical vocational tasks. The employee must be able to work in a team supervised by a manager. He or she bears individual responsibility for willful actions.

Third level of professional qualifications involves the performance of complex professional tasks. Complexity of these tasks causes the need to possess the ability to solve non-typical problems, associated with work. The employee is able to lead a small team of employees, consisting of a few persons. He or she is responsible both for the outcomes of own actions, and for the actions of the supervised team.

Level four requires the employee to be able to perform numerous varied, often complex and usually problem-based professional tasks. Those tasks are of technical, organizational and specialist nature; they require the employee to be self-reliant and to accept high personal responsibility. The employee must also be able to lead medium-sized and large teams – from several to several dozens persons, broken down into sub-teams.

Employees from **level five** lead organizations and make decisions which are of strategic importance. They are able to diagnose, analyze and forecast the complex economic situation, and implement their ideas into the organizational and economic practice. They are fully independent, often work in difficult situations, and bear responsibility and risk resulting from their decisions and actions. These employees are responsible for the safety and professional development of their subordinates and of the whole organization.

Aside from organizing the professional qualifications, the standard contains a list of the fundamental legislation regulating work in the give profession, a synthetic description of the profession and a list of typical work positions, broken down per the five levels of vocational qualifications.

Figure 3 presents the model of Polish professional qualification standards.

It is expected that the development and dissemination of national professional qualifications standards would become the basis for an effectively functioning system of lifelong vocational education for adults, would bind the school-based system of vocational

education more strongly with the labor market, and would also increase the effectiveness of employment policy.

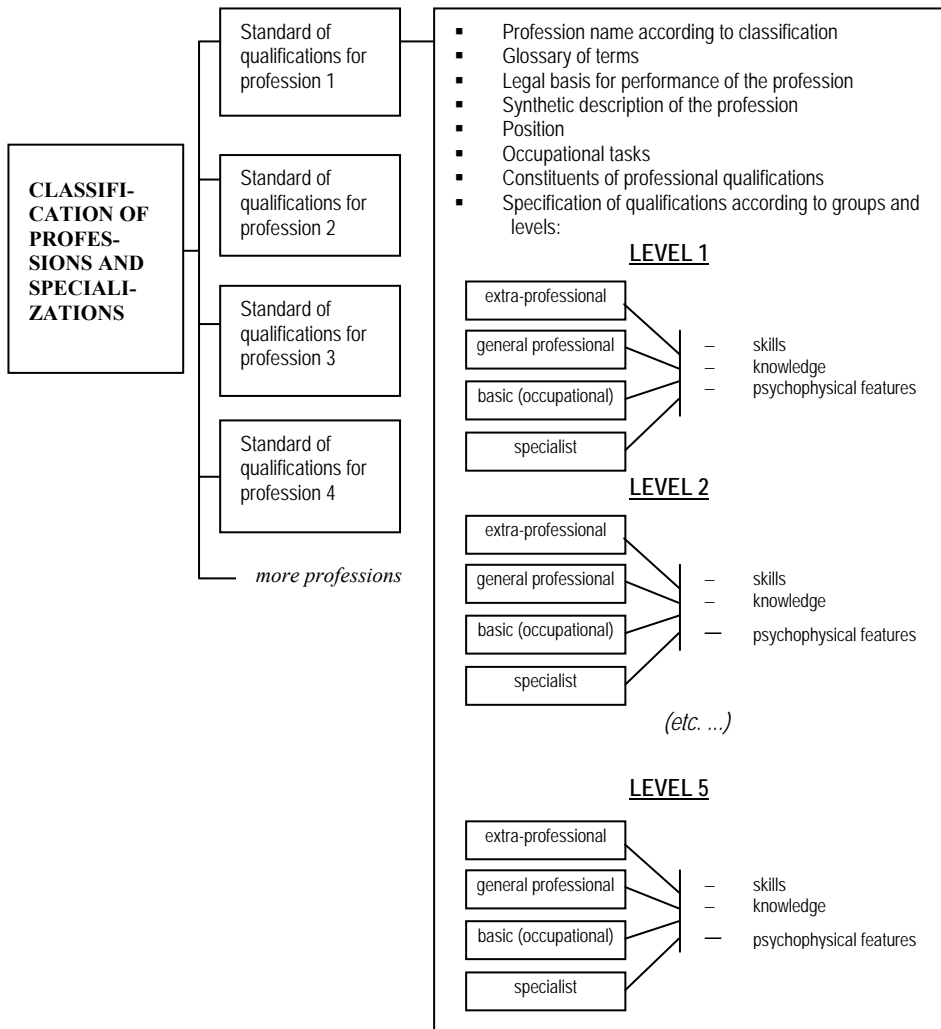


Figure 3. Model of Polish professional qualification standards.

According to the concept of building the professional qualification standards as documents reflecting actual job requirements, the design procedure consisted of two principal parts: conducting the research in enterprises, on qualification requirements for individual jobs, and next development of standards' descriptions in line with research results. Documents obtained in this manner act as primary sources of information on the profession, and can serve

various goals and social sub-systems (e.g. education, employment, counseling, transparency, comparability, mobility, safety etc.).

Research in enterprises used the expert method based on analysis of work, with the use of a questionnaire. The questionnaire contained lists of professional tasks, broken down into: technological, organizational, tied to management and cooperation, control and quality assessment. Each task has been sectioned in the questionnaire into the skills, knowledge and psychophysical features, necessary to perform it. The questionnaire contained also a list of typical positions in the given profession/ specialty. The proposed provisions were evaluated by respondents, who could include their comments and own proposals. The respondents included employees working in positions typical for the profession or specialization, and their supervisors. Development of standard's description entailed the transfer of the record of professional tasks determined in the course of the research to the model form of qualifications standard. After performing analysis of quantitative and qualitative results of the interview, constituents of qualifications were isolated and a synthetic description of the profession was drawn. Next, the table of correlation among occupational tasks and constituents of professional qualifications was constructed. In the subsequent step, members of the authors' team attributed the individual skills, elements of knowledge and psychophysical features to the five levels of qualifications and to four types of qualifications (extra-professional, general professional, occupational and specialist). Evaluation of standards' description took place during a seminar with the members of the authors' team and three external evaluators. After correcting the standard's contents in line with comments from the evaluators, the reviewers (two persons for each standard) included their own comment in order to improve the standard. The descriptions of standards, after the review, were sent for evaluation to the Committee on Standards appropriate for the given profession. The decision on approving the standard was made by the Committee during an open voting, with an ordinary majority of votes.

The list of professional qualifications standards developed under the project is presented in APPENDIX 1.

3. European Qualification Framework vs. the national professional qualification standards

The system for recognition and comparison of certificates, diplomas and qualifications has been enriched with a new support instrument. The European Parliament and the Council

of the European Union approved, on October 24, 2007 the Commission proposal on the establishment of European Qualifications Framework for lifelong learning, “ *as the reference instrument for the purpose of comparing qualification levels under various qualification systems*” (see: Box 1)² .

BOX 1.

The European Parliament and the Council of the European Union hereby recommend that Member States:

1. Use the European Qualifications Framework as a reference tool to compare the qualification levels of different qualifications systems within a lifelong learning perspective, and support both lifelong learning and equal opportunities in a knowledge-based society as well as further integration of the European labor market, having respect for the wealth of variety of national education systems.
2. Relate their national qualifications system to the European Qualifications Framework by 2010, in particular by referencing in a transparent manner their qualification levels to the levels set out in Annex II, and by developing a national qualifications framework, where appropriate according to national legislation and practice.
3. In the relevant cases, undertake measures meant to ensure that, by 2012, all new qualifications and “Europass” documents issued by the competent authorities contain a clear reference to the appropriate European Qualifications Framework level – through the national qualification systems.
4. Use an approach based on learning outcomes when defining and describing qualifications, and promote the validation of non-formal and informal learning according to the common European principles agreed in the Council conclusions of 28 May 2004, while paying special attention to citizens who are the most exposed to unemployment or uncertain forms of employment, for whom such approach may facilitate their participation in lifelong learning and access to the labor market.
5. Promote and apply the rules for assuring education and training quality, set forth in Annex III, while relating the qualifications obtained in higher learning institutions and the vocational education and training, being part of the national qualification systems, to the European qualification framework.
6. Designate national coordination centers, in each case tied to the specific structures and requirements of the Member States, to support and coordinate the relationship between the national qualifications system and the European Qualifications Framework and to manage them – together with the other relevant national bodies – in order to promote the quality and transparency of these relationships.

* * *

Fragment of legislative resolution of the European Parliament of 24 October 2007 regarding the Commission Motion on the Parliament and Council Recommendation for establishing European Qualifications Framework for lifelong learning.

In line with the above recommendation, the EU Member States shall develop by 2010 a system for comparing national qualifications with the adopted European model – the European Qualifications Framework. In this way, conditions were set up to commence work on the National Qualifications Framework and the National Qualifications System. In Poland, work on these issues is planned under the Operating Program – Human Capital, for the years 2007-2013. The focus of the activities is “lifelong learning”, therefore the National Qualifications Framework must include the broad spectrum of qualifications – outcomes, confirmed in the given country, of learning in the school and extra-scholar system, as well as of the formal, informal and non-formal (incidental) learning, including learning on academic level.

The development of the European Qualifications Framework imposes the need to collect and analyze specific information on learning outcomes. The model of European

² Legislative resolution of the European Parliament of 24 October 2007 regarding the Commission Motion on the Parliament and Council Recommendation for establishing European Qualifications Framework for lifelong learning (COM(2006)0479 – C6-0294/2006 – 2006/0163(COD)), <http://www.europarl.europa.eu>.

Qualifications Framework isolates three sets of information (the so-called descriptors) which define each of the eight levels: ³

- knowledge,
- skills,
- personal and professional competences.

Among the personal and professional competencies, four groups are defined:

- autonomy and responsibility;
- learning competence,
- communication and social competence,
- professional and vocational competence.

The discussion on the framework qualification structure for the European Higher Education Area, held under the so-called Bologna Process, resulted in a proposal which identified four levels of qualifications corresponding to three cycles of higher education, with the additional so-called “short cycle” which means the completion of “short” higher studies, under 1st cycle or tied to the 1st cycle (such system functions in certain countries, but not in Poland). According to the general rule, the descriptors of the framework qualification structure for the European Higher Education Area describe the “resulting” qualifications of a student completing a specific cycle. ⁴

The concept of national professional qualification standards, developed in Poland, openly proposes and clearly defines five levels of professional qualifications. Professional qualification standards describe the requirements associated with work in specific professions and specialties, in typical positions; and the basis for describing these requirements – as mentioned earlier – is the research on professions conducted at workplaces.⁵

Table 1 presents the descriptors which define qualification levels and the proposal for matching the five levels of the Polish national professional qualification standards with the eight levels of European Qualifications Framework. The matching of qualifications corresponding to four learning cycles in the European Higher Education Area to the eight levels of European Qualifications Framework has been proposed in the document,

³ Commission of the European Communities: „Towards a European Qualifications Framework for Lifelong Learning”. Brussels, 8.7.2005, SEC(2005) 957.

⁴ Task Force of the Bologna Project for Framework Qualifications Structure: „Framework qualification structure for the European Higher Education Area”. Ministry of Science, Technology and Innovation, Denmark, February 2005 (Polish translation).

⁵ Bednarczyk H., Woźniak I., Kwiatkowski S.M. (eds.): „National professional qualification standards. Development and cooperation”. Ministry of Labor and Social Policy, Warsaw 2007.

“Recommendation of the European Parliament and the Council on the establishment of European Qualifications Framework for Lifelong Learning”.⁶

Table 1. Proposal for matching of descriptors which define qualifications levels (own study).

Qualification levels under the national professional qualifications standards	Qualification levels under the European Qualifications Framework	Qualification of learning cycles under the framework qualification structure for the European Higher Education Area
<p>1. Skills associated with works which are simple, routine, performed under the guidance and control of supervisor. Most often, this work is performed individually. Basic training is sufficient to perform work on the first level. The person performing the work bears individual responsibility for willful actions.</p>	<p>1.</p> <ul style="list-style-type: none"> – Basic general knowledge. – Basic skills required to carry out simple tasks. – Work or learning under direct supervision, in organized context. 	
<p>2. Required self-reliance and self-control to perform typical vocational tasks. The employee must be able to work in a team supervised by a manager. He or she bears individual responsibility for willful actions.</p>	<p>2.</p> <ul style="list-style-type: none"> – Basic factual knowledge on some area of work or learning. – Basic cognitive and practical skills, needed to use important information for the purpose of carrying out tasks and solving routine problems with the use of simple rules and tools. – Work or learning under supervision, with a certain degree of autonomy. 	
	<p>3.</p> <ul style="list-style-type: none"> – Knowledge of facts, rules, processes and general concepts in an area of work or learning. – Set of cognitive and practical skills needed to carry out tasks and solve problems through selecting and applying the basic methods, tools, materials and information. – Responsibility for completion of work or learning tasks, adapting own behavior to circumstances during problem solving. 	
<p>3. Skills associated with the performance of complex professional tasks. Complexity of these tasks causes the need to possess the ability to solve non-typical problems, associated with work. The employee is able to lead a small team of employees, consisting of a few persons. He or she is responsible both for the outcomes of own actions, and for the actions of the supervised team.</p>	<p>4.</p> <ul style="list-style-type: none"> – Factual and theoretical knowledge in the broader context of the given area of work or learning. – Set of cognitive and practical skills needed to generate solutions for specific problems in the given area of work or learning. – Self-management within guidelines referring to contexts associated with work or learning, usually predictable but subject to change. Supervising the routine work of others, bearing certain responsibility for the assessment and improvement of actions associated with work or learning. 	

⁶ Commission of the European Communities: “Recommendation of The European Parliament and of The Council on the establishment of the European Qualifications Framework for Lifelong Learning. Brussels, 5.9.2006, COM(2006) 479 final.

	<p>5.</p> <ul style="list-style-type: none"> – Exhaustive, specialist, factual and theoretical knowledge in the given area of work or learning, and awareness of the borders of this knowledge. – Exhaustive set of cognitive and practical skills, needed to develop creative solutions to abstract problems. – Management and supervision in work and study contexts that are subject to unpredictable changes, analyzing and developing own work and work of others. 	<p>Short-cycle qualification, meaning the completion of higher studies (under cycle I or in relation to cycle I) are granted to students who:</p> <ul style="list-style-type: none"> – demonstrate knowledge and understanding ability in the given area of studies, which is based on general secondary education, and which is usually on the level contained in advanced textbooks; such knowledge provides the basis to perform work in a specific area, or a specific profession, for individual development and further studies leading to the completion of cycle I; – are able to use their knowledge and understanding ability in the professional contexts; – can search for and use data to formulate responses to well-defined, concrete and abstract problems; – are able to present their point of view, their skills and actions in contacts with colleagues/ coworkers, supervisors and customers; – have learning skills, necessary to undertake further studies which require certain autonomy.
<p>4. Skills associated with the performance of numerous varied, often complex and usually problem-based professional tasks. Those tasks are of technical, organizational and specialist nature; they require the employee to be self-reliant and to accept high personal responsibility. The employee must also be able to lead medium-sized and large teams – from several to several dozens persons, broken down into sub-teams.</p>	<p>6.</p> <ul style="list-style-type: none"> – Advanced knowledge in the area of work and learning, covering critical understanding of theories and rules. – Advanced skills, demonstrating proficiency and innovation necessary to solve complex and unpredictable problems in a specialist area of work or learning. – Managing complex technical or professional activities or projects, bearing responsibility for decisions made in unpredictable contexts associated with work or learning, bearing responsibility for managing professional development of individuals and groups. 	<p>Qualifications of cycle I are granted to students, who:</p> <ul style="list-style-type: none"> – demonstrate knowledge and understanding ability in the given area of studies, which is based on general secondary education, and which is usually on the level contained in advanced textbooks, but covers also certain aspects formed under the influence of the latest achievements in the given field of studies; – are able to use their knowledge and understanding ability in a manner which proves their professional approach to work or profession, and have competencies which they demonstrate usually by constructing and upholding arguments and solving problems in their area of studies; – are able to collect and interpret the relevant data (usually in their field of studies) and use them to formulate judgments on important social, scientific or ethical issues; – are able to present information, concepts, problems and solutions both to specialists and to recipients who are not specialists; – have developed those learning skills that necessary to undertake further studies requiring significant autonomy.

	<p>7.</p> <ul style="list-style-type: none"> – Highly specialized knowledge, whose part constitutes the latest developments in the given area of work or science, which is the basis for original thinking. Critical awareness of issues in the given field of knowledge, and relations among various areas. – Specialist problem solving skills, needed for research and/or innovation in order to develop new knowledge and procedures, and to integrate knowledge from various areas. – Management and transformation of contexts associated with professional or scientific work, which are complex, unpredictable and require new strategic approaches. Bearing responsibility for contributing to the development of knowledge and professional practice, and/or for reviewing the strategic results of teams. 	<p>Qualifications of cycle II are granted to students, who:</p> <ul style="list-style-type: none"> – have demonstrated knowledge and understanding ability, which is based on knowledge associated usually with the first cycle, and constitutes its extension and/or deepening, and which gives grounds to demonstrate one’s abilities or allows to demonstrate originality in the development and/or application of the concepts, often in the course of research; – are able to use their knowledge and understanding ability, as well as the problem solving skills, in new or unknown environment within broader (or multi-disciplinary) contexts associated with their area of study; – can merge their knowledge into a cohesive whole, and formulate judgments on the basis of incomplete or limited information, but taking into account the reflections on social and ethical responsibility associated with the practical application of their knowledge or judgments; – can clearly and precisely present their conclusions, knowledge and rational premises which were their basis to specialists and non-specialist recipients; – have learning skills that allow them to continue studies in a manner that may require significant autonomy in directing the learning, and in the learning process itself.
<p>5. Skills associated with leading organizations and making decisions of strategic importance. The employees are able to diagnose, analyze and forecast the complex economic situation, and implement their ideas into the organizational and economic practice. They are fully independent, often work in difficult situations, and bear responsibility and risk resulting from their decisions and actions. These employees are responsible for the safety and professional development of their subordinates and of the whole organization.</p>	<p>8.</p> <ul style="list-style-type: none"> – Knowledge on the most advanced level in the given area of work or science, and at the borderline between different areas. – The most advanced and specialized skills and techniques, including synthesis and evaluation needed to solve critical problems in research and/r innovations, and to extend and redefine the existing knowledge or professional practice. – Demonstrating significant authority, innovation, autonomy, academic and professional ethics, and permanent involvement into the development of new ideas and leading processes in the context of professional work or science, including research. 	<p>Qualifications of cycle III are granted to students, who:</p> <ul style="list-style-type: none"> – demonstrate having systematized knowledge in the given area of studies, and mastered the skills and research methods associated with this area; – demonstrate the ability for concept development, design, execution and adaptation of concepts for extensive research, in line with the rule of scientific integrity; – have made their own contribution in the form of original research which extends the borders of knowledge, by developing an extensive material which deserves to be published and reviewed in the home country or abroad; – have the ability to critically analyze, evaluate and synthesize new and complex concepts; – are able to present their professional knowledge and skills to colleagues / coworkers, a broader group of scientists and the general public; – should be able to contribute, as part of their scientific and professional activity, to technical, social or cultural progress in a knowledge-based society.

Figure 4 presents a graphic interpretation of the contents of table 1.

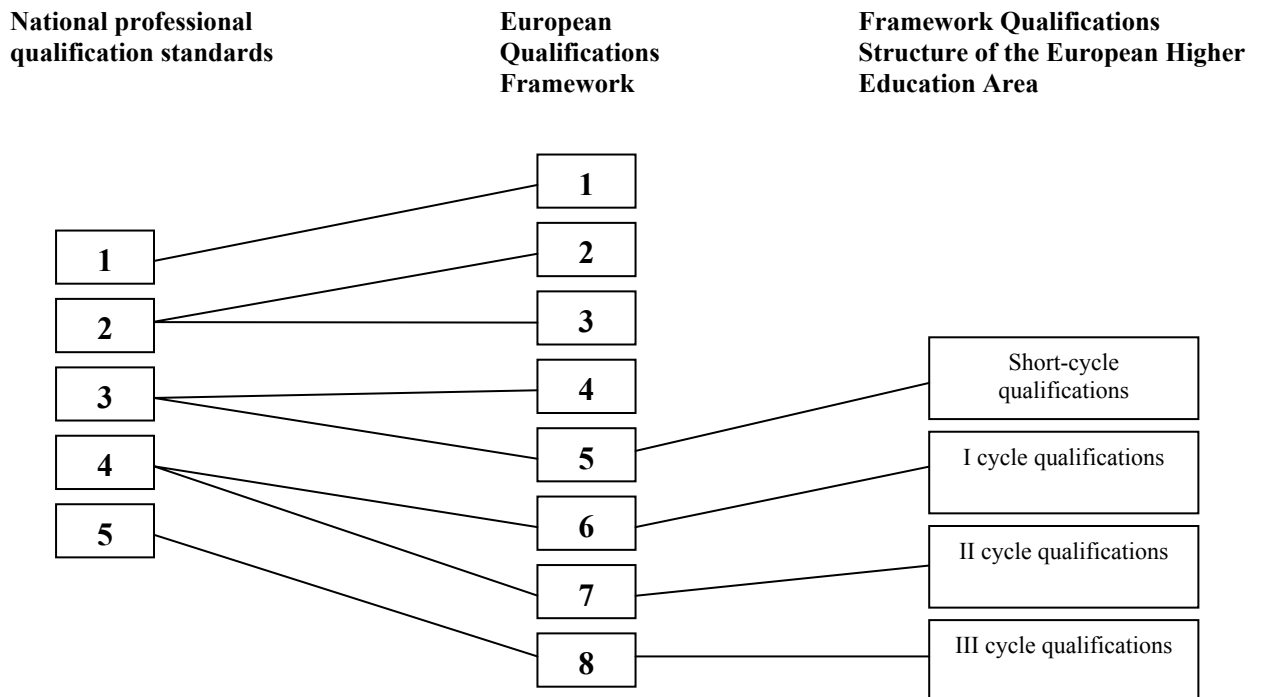


Figure 4. Equality of qualifications levels (own study)

The key, presented in figure 1, for switching from the five-level structure of national professional qualification standards to the eight levels of the European Qualifications Framework is a voice in the discussion on the shape of the National Qualifications Framework and using the professional qualification standards in that structure. The future of the standards depends on demand for such documents. For example, the Institute for Sustainable Technologies – National Research Institute in Radom uses the developed qualification standards in the process of designing modular teaching curricula, and in the system for monitoring and evaluation of employee competencies, developed under the Multi-Annual Program PW-004, “Improvement of the systems for development of innovation in production and maintenance in the years 2004-2008”. The implementation of the Operational Program – Human Capital 2007-2013 commences, which is an opportunity to use the national professional qualification standards in the basic areas of education for the labor market, and development of personnel for the modern economy.

4. Validation of informal and non-formal (incidental) education, with the use of national professional qualifications standards

The reflections on the quality, mobility, transparency and recognition of professional qualifications must not omit the issue of overcoming the barrier that separates **formal education** from the **informal and non-formal (incidental) education** – and in consequence, the problem arises of recognizing professional qualifications acquired in forms other than the education in formal, school and extra-scholar system. The useful instruments in that case include: **validation of professional qualifications** and **the national professional qualification standards**.

According to the dictionary of the European Centre for the Development of Vocational Training (CEDEFOP), **validation** is defined as the process of identification, evaluation and recognition of a broad range of skills and competencies that people develop in the course of their lives in various manners, e.g. through self-learning, work, leisure⁷. In the informal continuous learning, validation is an element for assuring transparency and comparability of the skills and qualifications by allocating them appropriate value and confirming the outcomes of learning occurring in many locations and at various stages of the individual's life.

In order to effectively validate professional qualifications acquired in the course of the individual's life, it is necessary to have a norm describing the level of skills and competencies required to perform specific work. Such a norm is the professional qualification standard, which enumerates the features of employee, associated with the described scope of work. From among the many potential applications of professional qualification standards, enabling the validation of qualifications is one of the most important, as in practice it places the formal, informal and non-formal (incidental) education on one level.

It is clear that the **training standards** and **examination standards** are always a function of the professional qualification standards, which describe the performance of work. According to the rule for recognition of skills obtained in various informal and incidental forms, the process of validation of professional qualifications does not need the training standards (e.g. teaching curricula, standards for didactic equipment) – only the professional qualification standards and the resulting examination standards.

Looking at the farther perspective, the linking of formal, informal and incidental education into a single system, with the use of the national professional qualification

⁷ Bjornavold J. (2000) Making learning visible, Luxembourg, CEDEFOP, Office for Official Publications of the European Communities.

standards and the validation process, is the first and decisive step to the development of **lifelong education** and supporting in this way the employees of the modern **knowledge-based economy**⁸.

Certain starting conditions for the system are contained in the regulations of the Ministry of National Education (e.g. Regulation of the Minister of National Education of September 18, 2007 on exams for extramural learning), and the plans for changes in the model of examination confirming the professional qualifications that are included in the Operational Program Human Capital 2007-2013.

An example of the good practices for validation of qualifications with the use of national professional qualification standards, developed under the project of the Ministry of Labor and Social Policy, are the partnership projects under the EQUAL program: „Let’s Build Together” (the project leader is the Warmia and Mazury Center for Vocational Development), which tests the model for validation of professional competencies in construction professions; and the "Model system for adapting enterprise employees to structural changes in the economy” (the project leader is the Polish Craft Association), under which the actual employee qualifications are evaluated and confirmed.

5. Recognition of qualifications under the point-based system (ECVET) versus the national professional qualification standards and modular training

The issue of transfer of professional qualifications and competencies among various countries and their education systems is one of the key for the development of international cooperation in the area of vocational education and continuous education. Without solving this problem there can be no discussion on the development of mobility and executing the right of citizens to move freely in the internal labor market of the European Union. The mechanism for transfer of professional qualifications and competencies should effectively overcome barriers referring to: type of training (formal, informal and incidental), barriers resulting from the level of education (primary, secondary, higher and continuous education), as well as the barriers resulting from the administrative and geographical location of the education systems (national and sectoral system, regional and local). A good model is the European Credit Transfer and Accumulation System (ECTS), developed for the purposes of higher education, which has been tested in practice.

⁸ Kwiatkowski S.M., Woźniak I. (2005) “National professional qualification standards – new dimension of preparing employees for the modern economy, in: *Edukacja Ustawiczna Dorosłych*, no.3

The *First Report of the Technical Working Group on Credit Transfer in VET*, covering the period of work from November 2002 to December 2003⁹, presents the concept of the **European Credit System for Vocational Education and Training ECVET**. It has been decided that the ECVET should have the following functions:

- facilitate the transfer of learning outcomes both within the national education system, and among the systems of vocational and continuous education in various countries, including between the formal and informal education;
- facilitate the acquisition and validation of experiences associated with the completed forms of training, including certificates of completed modules, units and programs of vocational training meant to acquire partial or complete vocational qualifications, through contributing to the definition, evaluation and certification of each of the partial qualifications;
- improve the transparency of education processes and teaching outcomes;
- improve the mobility associated with the process of vocational training and the professional mobility associated with employment, by improving the description of acquired professional qualifications.

In higher schools, the ECTS points are allocated to units and modules constituting the course that the student has to complete. They reflect the required volume of student's work in the given academic year, measured with the hours of completed lectures, practical classes, seminars, internships, field research and self-learning at home and at the library, as well as exams and credits. In vocational education and development, the basis for the system of ECVET points will be the list of modular units, modules and curricula, together with credit points allocated to them. It should be remembered that the teaching curriculum is the broadest concept which encompasses several modules of vocational education or development. Each module consists of several, or even several dozens of, modular units. The ECVET system is based on four assumptions:

1. The teaching curriculum is oriented on learning outcomes obtained through the correlated modules and modular units constituting that curriculum.
2. Organization of the process of vocational education and development is based on paths designated by the modules and modular units, arranged in their logical sequence.

⁹ The European Commission, Directorate-General for Education and Culture (2003) *First Report of the Technical Working Group on Credit Transfer in VET*, Brussels, http://europa.eu.int/comm/education/policies/2010/doc/twg_on_credit_transfer_progress_en.pdf

3. The paths of vocational education and development and the modules and modular units which comprise them have allocated credit point values.
4. There exist procedures for certification of the outcomes of vocational education and development, by the appropriate institutions, and these procedures take into account the allocated credit points.

In addition, the ECVET system should fit within the eight levels of the European Qualifications Framework, and also take into account the existing international classifications of professions and education levels, such as the recently developed International Standard Classification of Occupations (ISCO-08) of the International Labor Organization¹⁰ and the International Standard Classification of Education ISCED-97 which is being developed by UNESCO.

In the qualifications system that is being built in Poland, a method can be found to relate the three concepts/descriptions which reflect:

- requirements of the labor market and the economy (national professional qualifications standards);
- needs of vocational education (modular programs for vocational education and development);
- conditions for recognizing the outcomes of lifelong learning (the ECVET points).

The starting point is the model of the Polish national professional qualification standard which contains the element called “constituents of professional qualifications”. This element makes the standard have the features of a modular entity (see fig. 5). The „building bricks” of this structure are the qualification constituents Q-1, Q-2, Q3 Q-n.

¹⁰ Report from meeting organized on December 3-6, 2007 by the ILO and dedicated to the new classification of professions ISCO-08 can be found at the website www.ilo.org

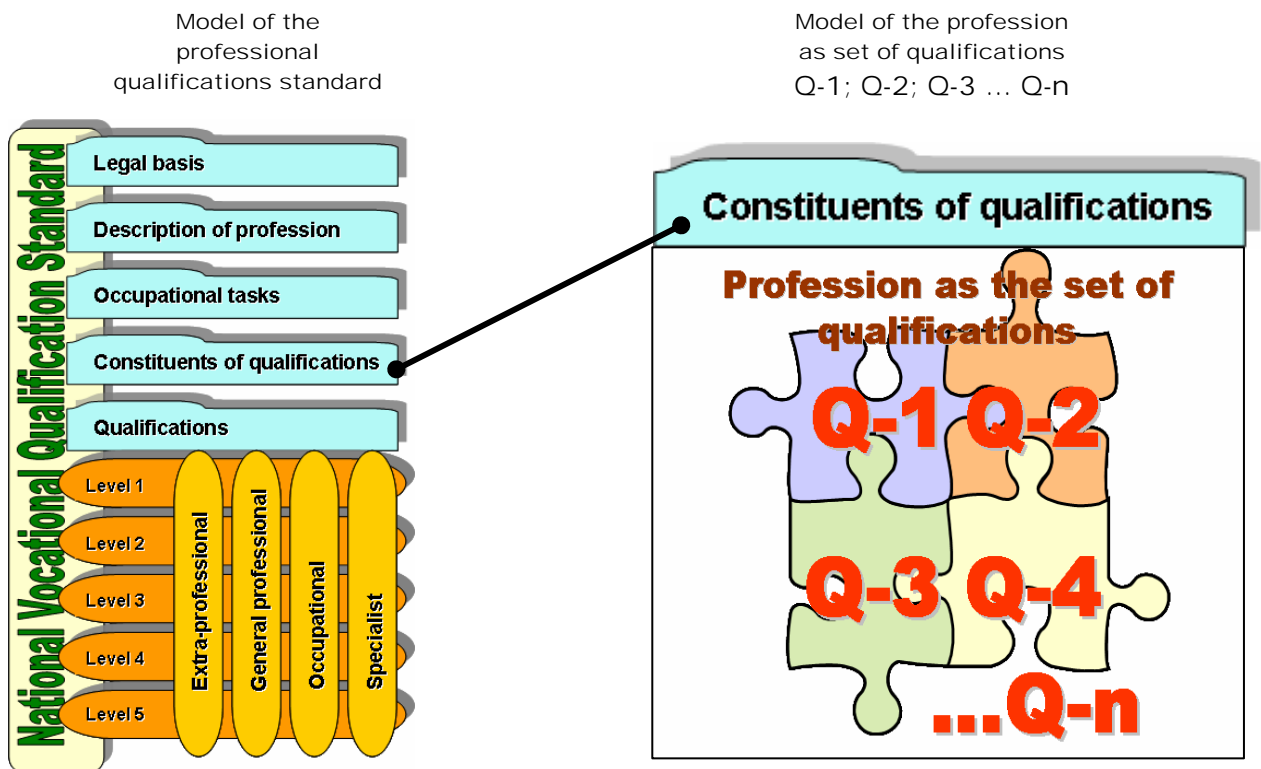


Figure 5. Profession as the set of constituents of qualifications, defined under the national professional qualification standard.

Thanks to the constituents of professional qualifications, the qualification standard can be easily tied to modular education. The basic for the curricula of modular vocational education and development programs are the so-called „modules of professional skills” which correspond to the „scope of work” under the given profession. Similarly, one constituent of professional qualifications, isolated under the qualification standard, represents the scope of work in the given profession. It is worth to quote the definition:

CONSTITUENT OF PROFESSIONAL QUALIFICATIONS - set of skills, knowledge, and psychophysical features necessary to perform the professional tasks which constitute the single scope of work isolated under the given profession¹¹.

¹¹ Appendix 1. Glossary of the professional qualification standards. [IN:] Bednarczyk H., Woźniak I., Kwiatkowski S.M. (eds.): „National professional qualification standards. Development and cooperation”. Ministry of Labor and Social Policy, Warsaw 2007.

If, during the design of modular programs for vocational education and development, the authors use the constituents of qualifications as names of modules of professional skills, the resulting correlation would be: Q-1:M-1; Q-2:M-2; Q-3:M-3 ... Q-n:M-n (figure 6).

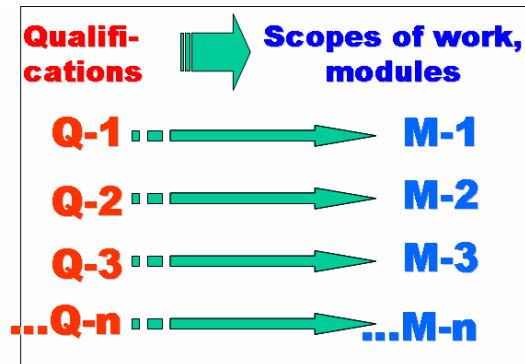


Figure 6. The correlation between constituents of professional qualifications and modules of vocational skills

According to the rules of modular education, each module of vocational skills is broken down into a number of “modular units”, each representing a “vocational task”. In order to implement the European Credit System for Vocational Education and Training (ECVET) it is important to use the so-called „learning units” which can be measured, during the validation process, in the ECVET points. The „modular unit” corresponds naturally to the „learning unit” which is illustrated in figure 7.

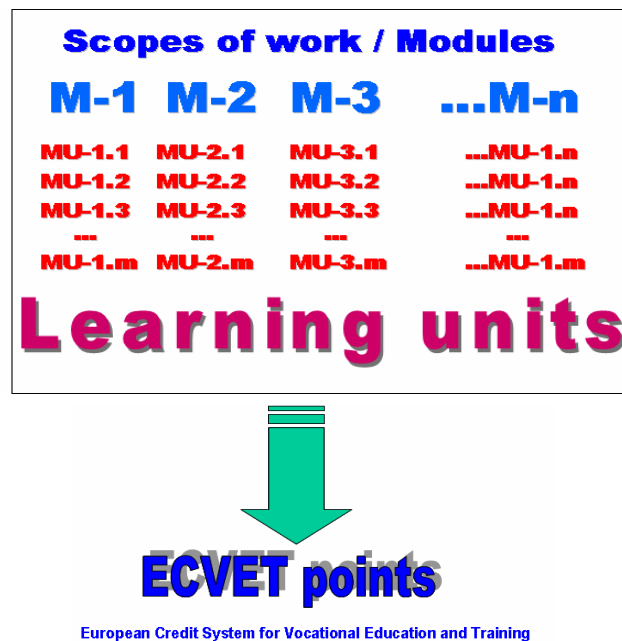


Figure 7. Modular units as „learning units” under the ECVET points system.

The above demonstrated usefulness of national professional qualification standards for the purpose of qualifications recognition under the ECVET systems is an expression of an idea and a concept which requires more detailed development and testing under a pilot implementation. Nevertheless, it appears that the future National Qualifications System would assimilate, to its benefit, the national professional qualification standards and the National Qualifications Framework. This concept deserves attention due to the relationship among qualification standards, the labor market and the economy, which translates into the system for recognition of formal, informal and non-formal (incidental) qualifications, and into the support for educational and professional mobility.

Summary

The project of the Ministry of Labor and Social Policy, “Development and popularization of national professional qualifications standards”, and the earlier projects on the qualification standards, introduce a new quality to the Polish qualification system. Descriptions of more than 250 national professional qualification standards have been developed, in the form of documents recommended by the Ministry of Labor and Social Policy, closely related to the requirements of the labor market and the economy. Procedures were applied to assure the quality of standards’ content” a positive influence was exerted by the cooperation of experts under the inter-disciplinary authors’ teams, the assessment made by evaluators, reviewers, members of Committees on Standards, and the acceptance of the final version made by employees of the Labor Market Department of the Ministry of Labor and Social Policy. Documents of national rank were developed and their application is recommended in all those instances where it is necessary to supervise the qualifications quality of the hired employees, or of persons graduating from schools or completing various forms of vocational training and development.

A relatively new, but extremely important and future-oriented field for the application of professional qualification standards is the recognition of qualifications acquired in the informal and non-formal (incidental) manner. In this system, the standard shall have the function of a norm which is the basis to validate qualifications. In the international dimension, the standards shall be applied to develop professional mobility. The so-called instruments for qualifications recognition, in the form of European or National Qualifications Framework, or the ECVET points, should be based on reliable descriptions of work requirements, provided in the qualifications standards. The list of possible applications of professional qualification standards in the national and international dimension can be very long, and depends only on the needs and imagination of the interested parties.

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Appendix No. 1

national professional qualifications standards developed in the years 2006-2007, under the project carried out by the Ministry of Labor and Social Policy, "Development and popularization of the national professional qualification standards", European Social Fund, Sectoral **Operational Program Human Resources Development**.

Item	Number in classification	Name of profession / specialty
1	213101	Computer database administrator
2	213102	Computer systems administrator
3	213103	Computer systems analyst
4	213105	Designer of computer systems
5	213201	Programmer
6	213202	Website designer (webmaster)
7	213901	IT network administrator
8	214211	Environmental engineer – water supply and sewage systems
9	214906	Quality control specialist
10	214917	Transport engineer (logistics specialist)
11	214919	Textile engineer
12	221201	Biotechnology specialist
13	222101	Agricultural advisor
14	222108	Environment protection specialist
15	222203	Dietician specialist
16	223903	Physiotherapist
17	223912	Cosmetologist
18	224102	Nurse specializing in anesthesiology nursing and intensive care
19	224103	Nurse specializing in surgical care
20	224104	Nurse specializing in diabetology care
21	224105	Nurse specializing in epidemiology nursing
22	224106	Nurse specializing in geriatric care
23	224107	Nurse specializing in heart diseases care
24	224108	Nurse specializing in nephrological care
25	224109	Nurse specializing in neo-natology nursing
26	224110	Nurse specializing in neurology care
27	224111	Nurse specializing in oncology nursing
28	224112	Nurse – specialist in surgical nursing
29	224113	Nurse specializing in long-term care
30	224114	Nurse specializing in palliative nursing
31	224115	Nurse specializing in pediatric nursing
32	224116	Nurse specializing in psychiatric care
33	224117	Nurse specializing in emergency nursing
34	224118	Nurse specializing in family care
35	224119	Nurse specializing in education and teaching environment
36	224120	Nurse – specialist in occupational health protection
37	224121	Nurse – specialist in preventive nursing
38	224122	Nurse - specialists in organization and management
39	224123	Nurse – specialist in health promotion and education
40	224201	Midwife
41	232110	Mathematics teacher
42	232119	Entrepreneurship teacher
43	241203	Banking specialist
44	241204	Financial specialist (financial analyst)
45	241205	Accounting specialist
46	241206	Specialist in property and personal insurance
47	241302	Human resource advisor
48	241304	Recruitment specialist
49	241903	Tax advisor
50	241910	Market analysis specialist
51	241915	Specialist for the organization of gastronomy, hotel and tourism services
52	241917	Advertising specialist
53	244403	Psychotherapist
54	244502	Social work specialist
55	311103	Technician analyst
56	311209	Environment protection technician
57	311210	Sanitary equipment technician
58	311302	Electricity technician
59	311401	Electronics technician
60	311603	Chemical technology technician
61	311907	Footwear technician
62	311909	Printing technician

63	311911	Wood technology technician
64	311913	Clothing technology technician
65	311918	Textile technician
66	312101	Maintenance technician of computer systems and networks
67	312201	Computer equipment operator
68	312202	Telecommunication technician
69	313104	Photographer
70	315101	Construction inspector
71	315201	Car diagnostics specialist
72	321205	Forestry technician
73	321401	Dietetician
74	322201	Optician (school profession: optical technician)
75	322303	Dental technician
76	322401	Masseur (school profession: massage technician)
77	322402	Physiotherapy technician
78	322404	Occupational therapist
79	322601	Pharmaceutical technician
80	322703	Medical electronics technician
81	322905	Paramedic (medical rescuer)
82	341201	Insurance agent
83	341202	Reinsurance broker
84	341203	Insurance broker
85	341402	Organizer of catering services
86	341403	Organizer of gastronomy services (school profession: gastronomy services organization technician)
87	341501	Trader (school profession: trade technician)
88	341502	Organizer of internet sales services
89	341504	Telemarketing specialist
90	342204	Freight forwarder (school profession: freight forwarding technician)
91	342205	Logistics technician
92	342901	Advertising agent (school profession: advertising organization technician)
93	343101	Administration employee (school profession: administration technician)
94	343102	Medical secretary
95	343201	Accountant (independent)
96	344101	Customs officer
97	346101	Assistant of a disabled person
98	346102	Care provider in a nursing home
99	346103	Community social worker
100	347101	Florist
101	347601	Animator of cultural events
102	348201	Scientific information assistant (school profession: scientific information technician)
103	348202	Librarian
104	411101	Secretary
105	411301	Data entry operator
106	412102	Accounting assistant (school profession: accounting technician)
107	413102	Inventory specialist
108	413103	Storeman
109	413104	Employee of a purchasing center
110	414201	Poller
111	419101	Office clerk (school profession: office work technician)
112	419102	Census clerk
113	421102	Cashier in a store
114	422104	Employee of tourist information center
115	422201	Receptionist
116	511301	Tour guide
117	512104	Manager of a hotel/ restaurant / gastronomy outlet
118	512201	Cook
119	512202	Short-order cook
120	512203	Chef
121	512301	Bartender
122	512302	Waiter
123	513102	Child care provider
124	513103	Home-based child care provider
125	513202	Dentist's assistant
126	513301	Home-based care provider
127	514102	Hairdresser (school professions: hairdresser, hairdressing services technician)
128	514108	Makeup artist
129	515903	Mountain rescuer
130	515908	Municipal guard
131	522102	Flower arranger
132	522105	Shipping agent in mail order/Internet sales
133	522107	Salesperson
134	613101	Farmer specializing in plant and animal production (school profession: Farmer)

135	631101	Lumberjack
136	711301	Stonemason
137	712202	Concrete placer/ reinforcement fitter
138	712301	Carpenter
139	712302	Construction joiner
140	712401	Paver
141	713101	Roofer
142	713201	Tile layer
143	713202	Floor layer
144	713302	Plasterer
145	714101	Construction painter
146	714201	Car varnisher
147	714303	Chimney sweep
148	7213	Sheet metal workers (school profession: Sheet metal worker - covering elementary group 7213)
149	721303	Car body worker
150	722102	Blacksmith
151	722205	Locksmith - metal fancy goods
152	722301	Milling machine operator
153	722304	Turner
154	7231	Vehicle mechanics (school profession: vehicle mechanic - covering elementary group 7231)
155	723307	Mechanic – internal combustion engines
156	723309	Mechanic – air conditioning devices
157	724102	Vehicle electro-mechanical technician
158	724103	Electro-mechanical technician of household appliances
159	724201	In-company power specialist (electrician)
160	724301	Fitter of electric installations
161	724302	Fitter – electrician of luminous advertising
162	724404	Electrician-wireman in a power emergency unit
163	7251	Assembler-electronics (school profession: Assembler – electronic - covering elementary group 7251)
164	725301	Assembler – mechatronics specialist
165	731102	Mechanic of automatic control engineering and precise tools
166	731103	Optician mechanic
167	731105	Watchmaker
168	731306	Goldsmith – jeweler
169	734502	Bookbinder
170	741102	Fish processing specialist
171	741104	Butcher
172	741201	Pastry chef
173	741203	Baker
174	742205	Carpenter – small objects
175	742207	Furniture carpenter
176	742401	Basket maker - weaver
177	743203	Lace maker
178	743304	Tailor
179	743402	Furrier
180	743604	Seamstress
181	743702	Upholsterer
182	744202	Purse- and bag-maker
183	744305	Shoemaker (shoe repairs)
184	814101	Operator of machines producing boards
185	823205	Operator of devices for plastic forming
186	823206	Operator of devices for plastic foaming
187	825102	Operator of offset printing machines
188	825105	Copying machine operator
189	826301	Operator of sewing machines
190	828403	Assembler of plastic products
191	832101	Car driver
192	832201	Bus driver
193	832302	Truck driver
194	833202	Operator of roadbuilding machines (school profession: mechanic of roadbuilding machinery and equipment)
195	833204	Operator of earthworks equipment
196	833401	Driver – operator of forklift trucks
197	913203	Chambermaid (in hotel)
198	913206	Orderly
199	913210	Assistant worker in hotel services
200	914101	Concierge (janitor)