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The Methodologies of the National Occupational Standard

The scientific research executed by ***Institute of Labour and Social Research***

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Introduction

The National Occupational Standard is defined as the description of the specific occupational activities (occupations) of a certain sector of economic activities, the tasks and conditions, necessary for implementation of such occupational activities (occupations) as well as the qualifications, necessary for the purpose of performing of the activities. The basis of the National Occupational Standard is formed by the definition of the competences, necessary in order to achieve qualifications of a certain level in the specific activities and perform the activities. The National Occupational Standard is an important tool for acquisition, assessment and recognition of qualifications.

Approvals and legitimation of occupational standards is the final phase of formation of qualifications and drafting of occupational standards, the success of which becomes a prerequisite for further functional existence of the formed qualifications and the prepared and legitimated occupational standards.

The aspect of functional purpose of standards – to be an intermediary in coordination of the qualification and educational guidelines' needs of the human resources/labour force in the world of activities – is the most important purpose of development of standards. Therefore the main criterion of the quality an expected functioning efficiency of occupational standards is the recognition of their significance, correspondence to the real situation on the labour market and expedience by the world of economic activities and their correspondence to the expectations of the educational system to have a basic – really existing and long-term guidelines for training programmes, oriented to a targeted and viable development of human resources.

This report presents the description of the procedure of development of the National Occupational Standard, listing the names of the institutions, developing occupational standards and their functions, as well as the procedure of planning of drafting, development, approval and legitimation of occupational standards. The procedure of designing and coding of qualifications is presented separately.

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1. PARTICULARITIES OF THE STRUCTURE OF THE PROCEDURE OF DEVELOPMENT OF THE NATIONAL OCCUPATIONAL STANDARD

The structural parts of the procedure of development of the National Occupational Standard correspond to the logics and phases of development of the Standard itself. Apart from the said phases the following two supplementary documents, describing and substantiating the main actions are composite parts of the procedure of development of the Standard: descriptions of the procedures of formation of units of competences and coding of competences.

Therefore the main parts of the Occupational Standard correspond to the logical sequence of the activities within the process: they are the phases of planning, organization, legitimation and publication (presentation for use):

1. Planning of preparation of the Occupational Standard:

- The planning activities of the institutions, responsible for preparation of standards (provision of information to the public, legal documents (resolutions, etc.), arrangement of tenders, etc);
- Selection of the drafters of the Occupational Standard (or the activities of the standards group of the qualifications authority when forming the standards preparation group (training representatives from vocational training up to the higher education institutions, social partners) according to the “Recommendations with regard to the institutions, developing the National Occupational Standard and their Functions“ and conclusion of the corresponding agreements.

2. Organization of preparation of the Occupational Standard:

- Organization of studies of occupational activities;
- Systematization of the data, achieved in the studies of occupational activities (“purification” of the list of competences);
- Formation of units of competence;

- Formation of qualifications;
- Coding of qualifications and units of competence according to the approved procedure;
- Drafting of the Occupational Standard.

The main parts of the Standard:

1. Descriptions of the sector and sub-sector of activities;
2. The occupations, existing within the sub-sector;
3. The qualifications, attributed to levels of qualifications according to the national system of qualifications;
4. Units of competence and their contents
5. Other information

3. Legitimation of the Occupational Standard;

4. Publication of the Occupational Standard.

The following two supplementary documents are composite parts of the description of the procedure of development of the Standard:

The procedure of formation of qualifications;

The procedure of coding.

2. PROCEDURE OF DEVELOPMENT OF THE NATIONAL OCCUPATIONAL STANDARD

2.1. Institutions, developing occupational standards and their functions

2.1.1. The provisions of the Law on Vocational Education and Training and the procedure, foreseen in the Concept of the National System of Qualifications

The institutions, developing occupational standards and their functions are established by the Law on Vocational Education and Training. The said law foresees that the following institutions participate in development of standards:

The Ministry of Social Security and Labour, the main functions of which in development of standards are the following:

1. Establishment of the requirements for standards;
2. Establishment of the procedure for formation and financing of sectors' occupational committees.

The Qualifications Authority, the main functions of which in development of standards are the following:

1. Establishment of the structure of standards;
2. Establishment of the procedure for preparation, amending and supplementing of standards;
3. Organization and financing of development of standards;
4. Accreditation and registration of standards in the Register of Occupational Standards and Qualifications:

Sectors' occupational committees, the main function of which in development of standards is preparation of standards.

The Central Occupational Committee also participates in development of standards, it coordinates the strategic issues of development of the system of qualifications, for instance, planning of development of standards.

However, according to the National Conception of the System of Qualifications, after the National System of Qualifications is legitimated in the Law on Qualifications, two institutions – the Qualifications Authority and the Qualifications Council should be launched. The Qualifications Council should take up the function of strategic management and supervision and the Qualifications Authority would take up the management functions. Therefore the functions, foreseen for the Ministry of Social Security and Labour in the presently valid Law on Vocational Education and Training should be delegated to the Qualifications Authority and the Qualifications Council. The provisions of the Law on Vocational Education and Training should be amended correspondingly.

State governance institutions, employers, trade unions and other social partners must participate in preparation of the National Occupational Standard. The said activities must be performed by representation of the Ministry of Social Security and Labour, the Ministry of Education and Science, as well as other ministries, employers, trade unions and other social partners, according to their competence, in the Qualifications Council.

After the Qualifications Authority takes up all the management functions it would become an institution, also responsible for occupational standards: arrangement of their development, preparation and legitimation. A special unit – **Standards Division** should be formed for execution of the said functions.

The national occupational standards should be developed by **sectors' occupational committees**, formed for development of a specific standard. The Standards Division of the Qualifications Authority would be responsible for formation of committees and arrangement of their activities.

Each committee would be formed of representatives of employers and employees, representing the corresponding sector of economic activities, occupational training specialists and vocational trainers

and teachers for development of a specific standard. The main tasks of the committees would be the following:

- Studies of occupational activities within the sector;
- Preparation of occupational standards within the sector, sub-sector or more narrow type of activities.

2.1.2. Brief description of the standards' development process

The standards' development process includes the establishment of the requirements for standards, standards' development planning, preparation of standards and legitimation of the prepared standards. The main phases are the following:

1. The Qualifications Authority approves the main standards' development provisions;
2. The Qualifications Authority prepares and approves the standards' development plan;
3. The Qualifications Authority forms sectors' occupational committees for preparation of standards;
4. The Standards Division of the Qualifications Authority arranges the activities of sectors' occupational committees;
5. The Standards Division of the Qualifications Authority arranges the legitimation of the prepared standards;
6. The compliance of the standards to the requirements is assessed by the sector's experts group, formed for the said purpose and the Standards Division of the Qualifications Authority;
7. The standard is approved by the Qualifications Council and the public;
8. The approved standard is legitimated by order of the Director of the Qualifications Authority;
9. The legitimated standard is registered in the Register of Occupational Standards and Qualifications.

2.1.3. The functions of the Qualifications Council

The Qualifications Council is an institution, approving the strategic decisions on the issues of functioning and development of the Qualifications System, performing the following functions:

- Consideration and assessment of the decisions on strategic issues, pertaining to the functioning of the Qualifications System, presented by the Qualifications Authority;
- Consideration and approval of the prepared occupational standards.

2.1.4. The functions of the Qualifications Authority

1. Formation of the general provisions for development of occupational standards

The general requirements for a standard and the standard preparation provisions, established by the Qualifications Authority should be coordinated with the general policy of development of human resources. For instance:

- Standards must be prepared for economic activity sub-sectors;
- A standard describes the qualifications, necessary for the activities, performed within the sub-sector of an economic activities sector and the most important parameters of acquisition and assessment of the qualifications;
- The qualifications must be relevant on the labour market;
- A standard must reflect the dynamics of development of qualifications and the specific qualification within the view of continuously changing labour market requirements, etc.

The Qualifications Authority coordinates the requirements and the general provisions for development of occupational standards with the Qualifications Council.

2. Setting the structure of occupational standards

According to the definition, provided in the Law on Vocational Education and Training an occupational standards is a description of qualifications and the competences, assessment criteria and methods. Therefore the structure of the standard must be appropriate for describing of qualifications, their structure and content. The general requirements for the structure of the standard are the following (note: the specific requirements are prepared by the Standards Division of the Qualifications Authority):

- The standard must be formed of units of competence;
- Each unit of competence must be related with the activity task, tackled with in the sector;
- Each activity task must include the requirements for its execution;
- A qualification level must be set with regards to each unit of competence;
- Each qualification can be formed of units of competence, a part of which are obligatory and the others specify the direction and character of the specialization;
- The level of qualification, corresponding to the criteria of qualification levels, defined in the National System of Qualifications must be specified. The level of qualification is determined by the levels of its units of competence.

3. Setting of the procedure for preparation, amending and supplementing of occupational standards

According to the concept of the National System of Qualifications, the procedure of amending and supplementing standards covers three main aspects of the corresponding activities:

- Performing of studies of occupational activities;
- Preparation of drafts of standards;
- Updating (amending and supplementing) of the standards, included into the Register of Occupational Standards and Qualifications;

The procedure for preparation, amending and supplementing of standards is established and approved by the Qualifications Authority.

The studies of occupational activities cover researches of sectors and functional analysis of occupational activities. During the sector studies the areas of activities, performed within the sector and the demand for the employees, holding different qualifications for performing such areas of activities are identified.

During the functional analysis the specific occupational activities, performed at present and foreseen to be performed in the future, their tasks, requirements for performance and the necessary competences are identified.

The standards, registered in the Register of Occupational Standards and Qualifications must be periodically analyzed within the view of their correspondence to the labour market needs and updated not less than frequently than once per five years. Standards can be updated to the minimum to or to a quite significant extent, depending on the occurred or foreseen changes within the economic activities and on the labour market. Standards are updated by sectors' occupational committees, formed for that purpose. Preparation and updating of standards is arranged by the Standards Division of the Qualifications Authority.

Supplementing standards with new units of competence and/or new qualifications should not be limited, however it should be strictly regulated. Supplementing of standards is performed by sectors' occupational committees according to a scheduled procedure or at a proposal by employees, hired employees' organizations, separate enterprises or organizations. The projects are assessed by the corresponding sectors' expert groups. New units of competence and qualifications are legitimated according to the general procedure.

4. Drafting of occupational standards preparation and updating plans.

The Qualifications Authority prepares long-term and annual occupational standards preparation plans. Strategic issues, pertaining to occupational standards preparation and updating plans are coordinated with the Qualifications Council.

5. Setting the functions, procedure of formation and financing of sectors' occupational committees

The Law on Vocational Education and Training, in effect at present and the concept of the National System of Qualifications foresee that occupational standards are prepared by sectors' occupational committees, formed by the Qualifications Authority. Therefore, taking into consideration the standards' preparation methodology, presented in the concept of development of the National System of Qualifications, the functions of a sector's occupational committee, the procedure of formation and financing of standards is established by the Qualifications Authority.

The main functions of sectors' occupational committees:

- Studies of occupational activities within the sector, sub-sector or a branch of economic activities;
- Preparation of descriptions of units of competence of a sector or sub-sector;
- Formation of the sector's qualifications.

If necessary, sectors' occupational committees update the existing standards when they are analyzed for compliance with the requirements of the labour market.

A sector's occupational committee is formed for a separate sector of economical activities by order of the Director of the Qualifications Authority. A Sector's committee includes not less than seven persons, who are occupational training specialists, employed in the sector. Not less than three fifths of the members and the chairperson of the committee must be employed in the sector. At least one member of the committee must be an employee – a methodologist of the Standards Division of the Qualifications Authority. He/she also is the secretary of the committee. The standards' preparation works are coordinated by the Standards Division of the Qualifications Authority. The main functions of the Division are the following:

- Formation of the occupational committees of the sector
- Planning of standards' preparation
- Arranging of standards' preparation

According to the presently valid Law on Vocational Education and Training and the concept of the National System of Qualifications, the funds for performing of the functions of sectors' occupational committees are allocated from the budget of the State according to investment programmes, approved in the State investment programme of the year.

Since financial and human resources, employed in development of standards are limited, a planning mechanism, ensuring that standards, relevant to the labour market are prepared must be developed. Long-term and annual plans are prepared by the Qualifications Authority.

Proposals with regard to inclusion of development of standards into the annual plan can be presented by organizations of employers and hired employees, separate enterprises and organizations. Development of the standards, which do not fall into the plan, can be financed by funds of different natural and legal persons.

6. Approval of occupational standards

The Qualifications Authority arranges discussions of drafts of prepared occupational standards. For this purpose a sectors' expert group is formed in order to perform a study of compliance of the standard with the raised requirements. A sector's expert group is formed for assessment of a specific occupational standard by order of the director of the Qualifications Authority, it includes no less than 9 persons, representing the sector's employers, organizations of hired employees and occupational training institutions. The main function of sectors' expert group is assessment of standards, prepared by the sector's occupational committee. The functions of the Standards' Division:

- Formation of sectors' expert groups
- Arranging of activities of sectors' expert groups
- Preliminary (technical) standards' expertise

After the sectors' expert group approves the draft standard, the standard is presented to the Qualifications Council and, upon approval by the Council, the draft is presented to the public.

7. Legitimation of occupational standards

Upon approval of a standard by the Standards Division of the Qualifications Authority, sector's expert group, the Qualifications Authority and taking into consideration the comments, expressed by the public, the standard is legitimated by order of the Director of the Qualifications Authority.

7. Registration of standards in the Register of Occupational Standards and Qualifications

By order of the Director of the Qualifications Authority a standard is included into the Register of Occupational Standards and Qualifications.

2.2. General standard development provisions

The requirements for standards are established by the Qualifications Authority.

The structure of a standard must be suitable for description of qualifications, their structure and content. The general requirements for the structure of a standard are the following:

- A standard must be formed of units of competence;
- Each unit of competence must be related with the activity task, executed in the sub-sector and the requirements for its execution;
- A level of qualification must be established with regard to each unit of competence (according to the national system of qualifications);
- Each qualification is formed of units of competence, a part of which are obligatory and others specify the character and direction of the specialization.
- Qualifications must be attributed to a level, determined by the levels of the units of competence, forming that qualification. Qualifications can have only the levels, corresponding to the National System of Qualifications.

The standards, registered in the Register of Occupational Standards and Qualifications must be periodically analyzed within the view of their correspondence to the labour market needs and updated not less than frequently than once per five years. Standards can be updated to the minimum to or to a quite significant extent, depending on the occurred or foreseen changes within the economic activities and on the labour market. Standards are updated by sectors' occupational committees, formed for that purpose. Preparation and updating of standards is arranged by the Standards Division of the Qualifications Authority.

Supplementing standards with new units of competence and/or new qualifications should not be limited, however it should be strictly regulated. Supplementing of standards is arranged by the Qualifications Authority according to a scheduled procedure or at a proposal by employees, hired employees' organizations, separate enterprises or organizations. New units of competence and qualifications are legitimated according to the general procedure.

2.3. Planning of development of an occupational standard

This phase of development of occupational standards includes the planning works, performed by all the responsible institutions:

The Qualifications Authority prepares the following:

The legal documents, regulating development of occupational standards, foresees the works on updating and amending of the said documents;

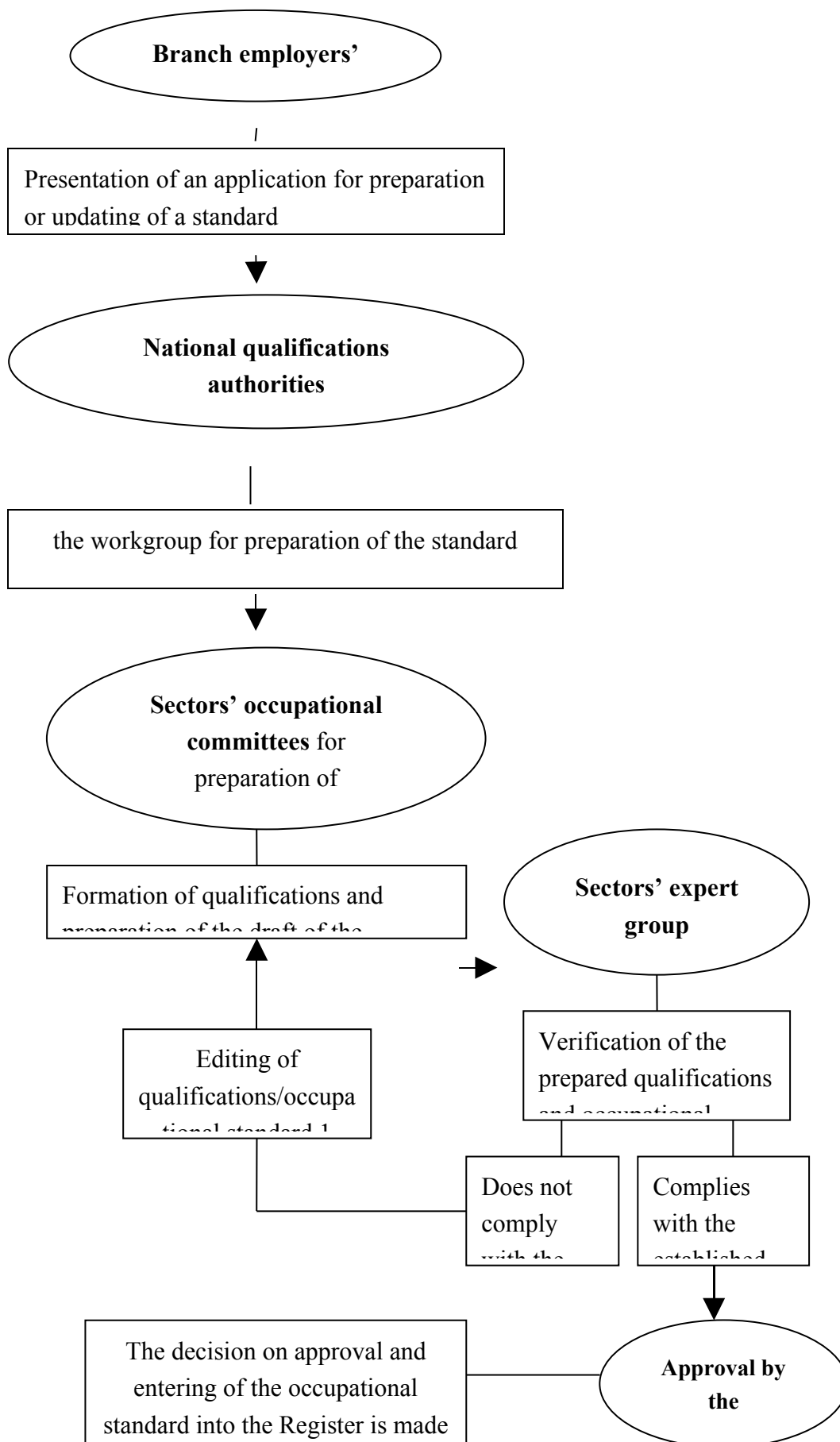
Long-term plans for preparation, updating and amending of occupational standards, coordinated with the Qualifications Council;

Annual plans for preparation, updating and amending of occupational standards, reflecting the schedule for performance of the specific works.

The Standards Division of the Qualifications Authority:

Arranges preparation of occupational standards (prepares tender documents, etc.).

2.4. Preparation of occupational standards



The diagram of the procedure of preparation of occupational standards

A national occupational standard is a regulated document, specifying the qualifications, necessary for a specific sector of economic activities or a part thereof, including the structure, content as well as the possible ways for acquisition and assessment of the said qualifications.

Occupational standards can be defined as a tool, belonging to the world of activities, needed for training and ensuring of quality of human resources.

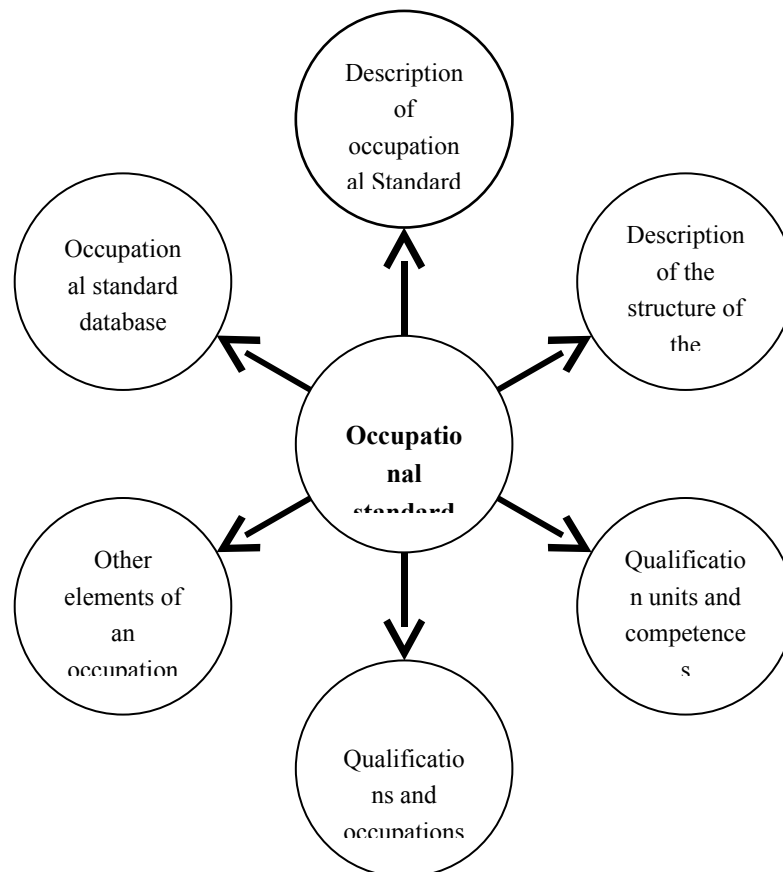
The occupational standards, established on the state level are most frequently called national standards in order to stress that they are one throughout the whole country and are coordinated with the national employers' organizations and trade unions, approved by an authorized state institution and used at all the institutions, assessing and recognizing training and qualifications. However occupational standard can also be sector, enterprise standards, etc.

When developing occupational standards the following principles are important:

1. *Transparency and comprehensibility of national occupational standards.* An occupational standard must give clear, sufficient and comprehensible information to everybody, striving for acquisition or improvement of a qualification of a certain level within a specific area of activities.
2. *Reference to the data of activity studies and functional analysis of activities.* The data, acquired during activity studies are the main source of information for development of national occupational standards.
3. *A balanced regard to the significance and influence of cognitive and functional competences to the occupational activities.* Occupational standards must clearly specify the functional, cognitive and general competences, necessary for the purpose of a competent execution of activities and define their interaction.
4. *Congeniality of the occupational standard to the realities of the activity system, and authenticity of the occupational standard,* giving the preconditions for legitimation and recognition of the standard in the areas of education and vocational training.

5. *Continuous updating and application to the changing activity system requirements*, according to the continuously performed competence demand studies by surveying employers, employees or *activity experts*. Prognostic and forward-looking view and orientation to the future demands for qualifications and competences, based on different prognostic studies and forecasts of the activities' or activity sector's development.

The system of an occupational standard is shown on the diagram below.



The structure of an occupational standard

The structure of an occupational standard can change depending on the user group, for which the standard is intended: students, employed, teachers, etc. However the following basic elements and formation principles must remain the same for each occupational standard:

1. Competences (cognitive, general and functional), joined into units of competence and the latter – into qualifications, attributable to sub-sector occupations;
2. Description of the sector and sub-sector of the activities;

3. The occupations/occupational activities in the sub-sector;
4. Units of competence, attributed to the qualifications;
5. The qualifications and their level according to the National System of Qualifications.

According to the examples of foreign occupational standards and taking into consideration the purpose and role of the developed occupational standards in the National System of Qualifications, apart from the aforementioned aspects certain additional information is recommended to be specified in the occupational standards: the peculiarities of working environment/conditions, the working tools, devices, equipment and technologies, used in the activities, the character of arrangement of labour (individual, group work, etc.), the special health requirements (if any; if none – mark n/a); the institutions, granting the qualification (references to the websites of educational institutions, providing the possibilities for acquisition and development of the qualification, assessment guidelines (including the guidelines for independently acquired qualifications).

Preparation of an occupational standard – the final phase of the qualifications designing process. Designing of qualifications is a process within the National System of Qualifications, covering studies of occupational activities, formation of the qualifications, necessary for the system of activities and preparation of occupational standards. The main purpose of the said process (sub-system) of the National System of Qualifications is formation of the qualifications, corresponding to the needs of Lithuania's system of activities and labour market within the framework of the requirements of the National System of Qualifications, which gives the preconditions for development of the content of vocational training and higher education studies, as well as informal and independent learning, assessment and recognition of the acquired qualifications.

Qualifications designing tasks:

- Labour market and occupational activity studies with the purpose of obtaining comprehensive information on the qualifications and competences, necessary for performing of the occupational activities, activity conditions and requirements and demand for the qualifications on the labour market;

- Formation of qualifications by using the information, obtained during the studies of the labour market and professional activities;
- Development of national occupational standards – normative documents, the content of which includes the systematically presented qualifications, units of competence and competences and other important information, relevant for the activity sector.

The data of professional activity studies form the basis for development of occupational standards. Qualifications can be formed and national occupational standards can be developed only in case of availability of comprehensive information on the competences within the sectors and sub-sectors of the professional activities, necessary for performing of the activity tasks.

2.5. Legitimation of an occupational standard

The Qualifications Authority arranges discussions of drafts of prepared occupational standards. For this purpose a sectors' expert group is formed in order to perform a study of compliance of the standard with the raised requirements. A sector's expert group is formed for assessment of a specific occupational standard by order of the director of the Qualifications Authority, it includes no less than 9 persons, representing the sector's employers, organizations of hired employees and occupational training institutions. The main function of sectors' expert group is assessment of standards, prepared by the sector's occupational committee. The functions of the Standards' Division:

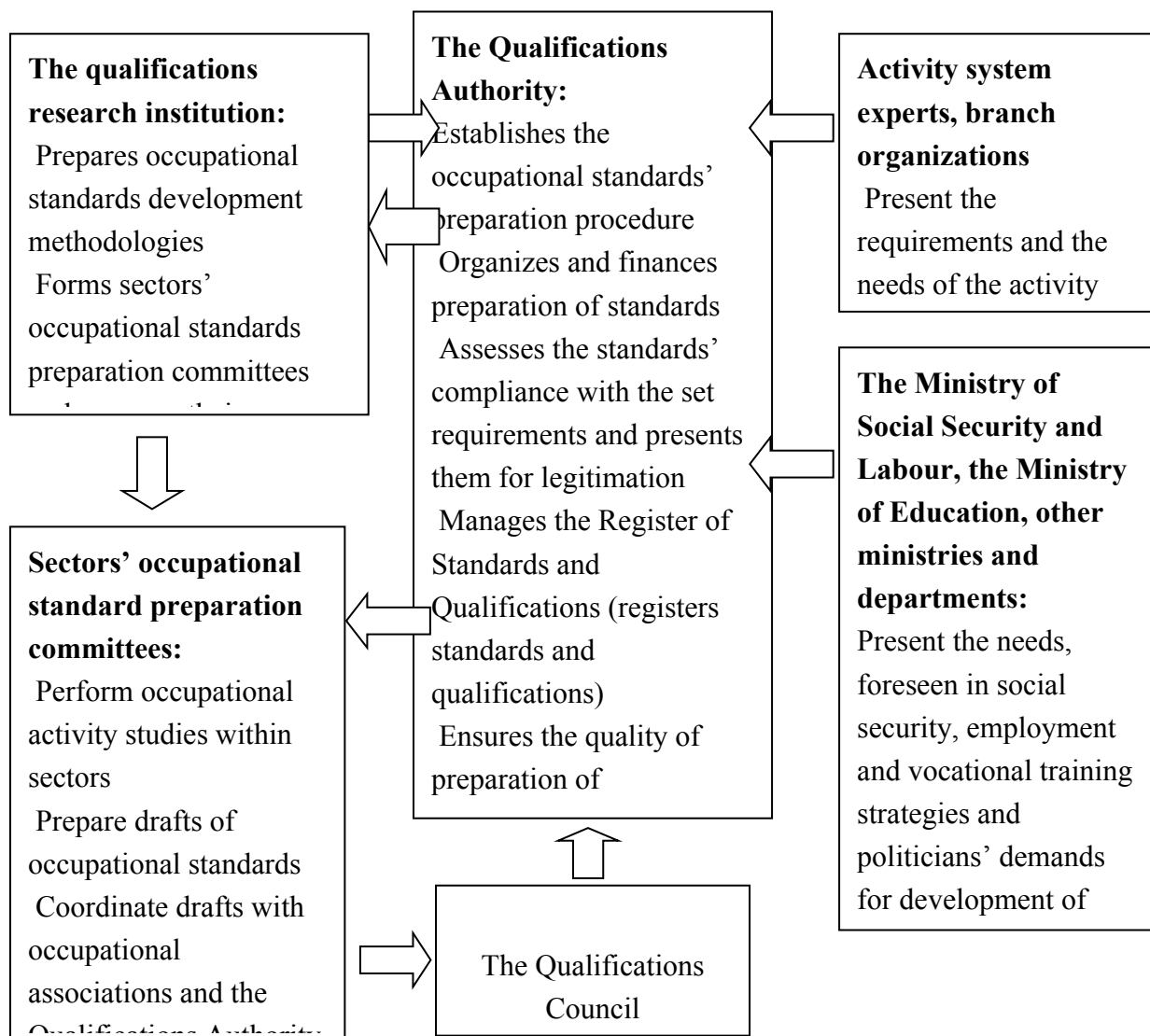
- Formation of sectors' expert groups
- Arranging of activities of sectors' expert groups
- Preliminary (technical) standards' expertise

After the sectors' expert group approves the draft standard, the standard is presented to the Qualifications Council and, upon approval by the Council, the draft is presented to the public.

Upon approval of a standard by the Standards Division of the Qualifications Authority, sector's expert group, the Qualifications Authority and taking into consideration the comments, expressed by the public, the standard is legitimated by order of the Director of the Qualifications Authority.

A specific national occupational standard is intended for a defined type, sector or sub-sector of economic activities. The scope of the standard to a greater extent depends on the needs of the world of activities. It can include all the activities, occupations or qualifications of the sector or a smaller part of the sector.

The diagram below shows the steps of the institutions, responsible for preparation and legitimation of national occupational standards, which characterize by cooperation and viable distribution of functions according to the activity competences of the institutions. It should be emphasized that the requirements for development of occupational standards come from the needs of the activity system, the State's social security, employment and vocational training strategies and politicians' demands.



The scheme of legitimation of national occupational standards

National occupational standards are one of the main sources of information for elaboration of vocational training standards and the education directions regulations. Taking that into consideration it is important to ensure that the changes in content of national occupational standards influence corresponding changes in the vocational training standards and the education directions regulations.

Description of the procedure for legitimation of an occupational standard

I. General provisions

1. A standard is legitimated by the Qualifications Authority.
2. A standard is legitimated in case it is in compliance with the established requirements.
3. The requirements for the content and structure of a standard are established by the Qualifications Authority.

II. Participants of the process of approval and legitimation of a standard and their functions

4. The following institutions participate in the process of approval of a standard:
 - 4.1. The Qualifications Authority, formed by representatives of ministries and social partners (employers, trade unions and educational institutions);
 - 4.2. The Sector's expert group;
 - 4.3. The public.
5. The Standards Division of the Qualifications Authority performs the following main functions:
 - 5.1. Arranges the activities of the sector's expert group;
 - 5.2. Performs the preliminary expertise of the draft of the standard;
 - 5.3. Arranges the approval of the draft of the standard at the Qualifications Council;
 - 5.4. Arranges the presentation of the draft of the standard to the public.
6. The sector's expert group performs the following main function:
 - 6.1. Assesses the correspondence of the draft of the standard to the established requirements.
7. The sector's expert group is formed of 9 persons for assessment of the specific draft of the standard by order of the Director of the Qualifications Authority.
8. The composition of the sector's expert group must include no less than 6 representatives of the sector's employers and hired employees' organizations and 2 representatives, delegated by vocational training

institutions' organizations as well as the coordinator of the corresponding sector of the Standards Division of the Qualifications Authority (hereinafter referred to as the Coordinator).

9. The representative of the sector's employers or hired employees' organizations is appointed to be the chairperson of the sector's expert group.

10. The Coordinator is appointed the secretary of the sector's expert group.

III. Standard assessment criteria

11.1. A standard covers a target sector, sub-sector or a narrower area of economic activities according to the classifier of the types of economic activities.

11.2. A standard describes all the most important parameters of the performed occupational activities, qualifications and their assessment.

11.3. A standard is formed of units of competence.

11.4. Each unit of competence is related to the performed activity task.

11.5. The requirements for performance are specified with regard to each activity task.

11.6. A level of qualification is set for each unit of competence (according to the National System of Qualifications).

11.7. Qualifications, having significance and really existing on the labour market are developed.

11.8. Qualifications are developed in a flexible manner – taking into consideration the constantly changing labour market requirements and the future prospects for the corresponding occupational activities, formed by the trends of economic activities.

11.9. Each qualification is formed of units of competence, a part of which is obligatory and others show the specializations.

11.10. The level of qualifications, corresponding to the National System of Qualifications is established.

11.11. The level of qualification is determined by the levels of the units of competence, forming the qualification.

IV. The standard approval process

12. The process of approval of standards includes the following phases:
 - 12.1. Preliminary standard expertise at the Standards Division of the Qualifications Authority;
 - 12.2. Assessment by the sector's expert group;
 - 12.3. Approval by the Qualifications Council;
 - 12.4. The public's comments on the draft of the standard, presented in public domains for familiarization;
13. The preliminary standard expertise is performed by the Standards Division of the Qualifications Authority, in observance of the assessment criteria. The Standards Division of the Qualifications Authority prepares the conclusion on the compliance of the standard with the established requirements.
14. In case of a positive conclusion, the draft of the standard is presented to the sector's expert group for assessment.
15. In case of a negative conclusion the standard is returned to the sector's occupational committee, which has prepared the standard with the remarks to the aspects, which need to be amended or supplemented.
16. The Standards Division repeatedly performs the expertise of the amended or supplemented standard and, in case of a positive conclusion the standard is presented to the sector's expert group for assessment.
17. The sector's expert group assesses the compliance of the standard with all the established criteria and prepares the conclusion on the compliance of the standard to the requirements.
18. In case of a positive conclusion, the draft of the standard is submitted to the Qualifications Council.
19. In case of a negative conclusion, the standard is returned back to the sector's occupational committee, which has prepared the standard with the remarks on the aspects, which need to be amended or supplemented.
20. The amended or supplemented standard is assessed and approved according to the same procedure.
21. In case the Qualifications Council approves the draft of the standard, it is presented to public domains for familiarization. If necessary the comments, proposals and remarks are taken into consideration when preparing the final edition of the Standard.

22. The order, approved by order of the Director of the Qualifications Authority is included into the Register of Occupational Standards and Qualifications according to the established procedure.

2.6. Publication of an occupational standard

Publication of a legitimated occupational standard is arranged by the Qualifications Authority.

The interactive version of the standard, accessible to all the possible users is placed on the Internet.

The need for publication of a standard is established in consideration of the type and purpose of the occupational standard. In case it is identified that the standard should be published as a separate publication, the size of the circulation is established according to the results of the market study.

2.7. Procedure of supplementing and amending of occupational standards

The standards, registered in the Register of Occupational Standards and Qualifications must be periodically analyzed for their compliance to the needs of the labour market and updated not less frequently than one time per five years.

Standards can be updated to the minimum to or to a quite significant extent, depending on the occurred or foreseen changes within the economic activities and on the labour market. Standards are updated by sectors' occupational committees, formed for that purpose. Preparation and updating of standards is arranged by the Standards Division of the Qualifications Authority.

Supplementing standards with new units of competence and/or new qualifications should not be limited, however it should be strictly regulated. Supplementing of standards is performed by sectors' occupational committees according to a scheduled procedure or at a proposal by employees, hired employees' organizations, separate enterprises or organizations. New units of competence and qualifications are legitimated according to the general procedure.

3. SUPPLEMENTARY DOCUMENTS

3.1. Formation of qualifications

Designing of qualifications is a process within the National System of Qualifications, covering studies of occupational activities, formation of the qualifications, necessary for the system of activities and preparation of occupational standards. The main purpose of the qualifications designing process is formation of the qualifications, corresponding to the needs of Lithuania's system of activities and labour market within the framework of the requirements of the National System of Qualifications, which gives the preconditions for development of the content of vocational training and higher education studies, as well as informal and independent learning, assessment and recognition of the acquired qualifications.

Qualifications designing tasks:

- Labour market and occupational activity studies with the purpose of obtaining comprehensive information on the qualifications and competences, necessary for performing of the occupational activities, activity conditions and requirements and demand for the qualifications on the labour market;
- Formation of qualifications by using the information, obtained during the studies of the labour market and professional activities;
- Development of national occupational standards – normative documents, necessary for formation of qualifications.

Designing of qualifications includes the following two phases: studies of the occupational activities and development of occupational standards and qualifications. Occupational activity studies include 4 tasks: analysis of the activity sector, analysis of the activity sub-sector, distribution of working tasks and identification of competences. When developing occupational standards and qualifications three tasks are performed: formation of units of competence, formation of qualifications and development of the occupational standard. The said tasks are demonstrated in Figure below.

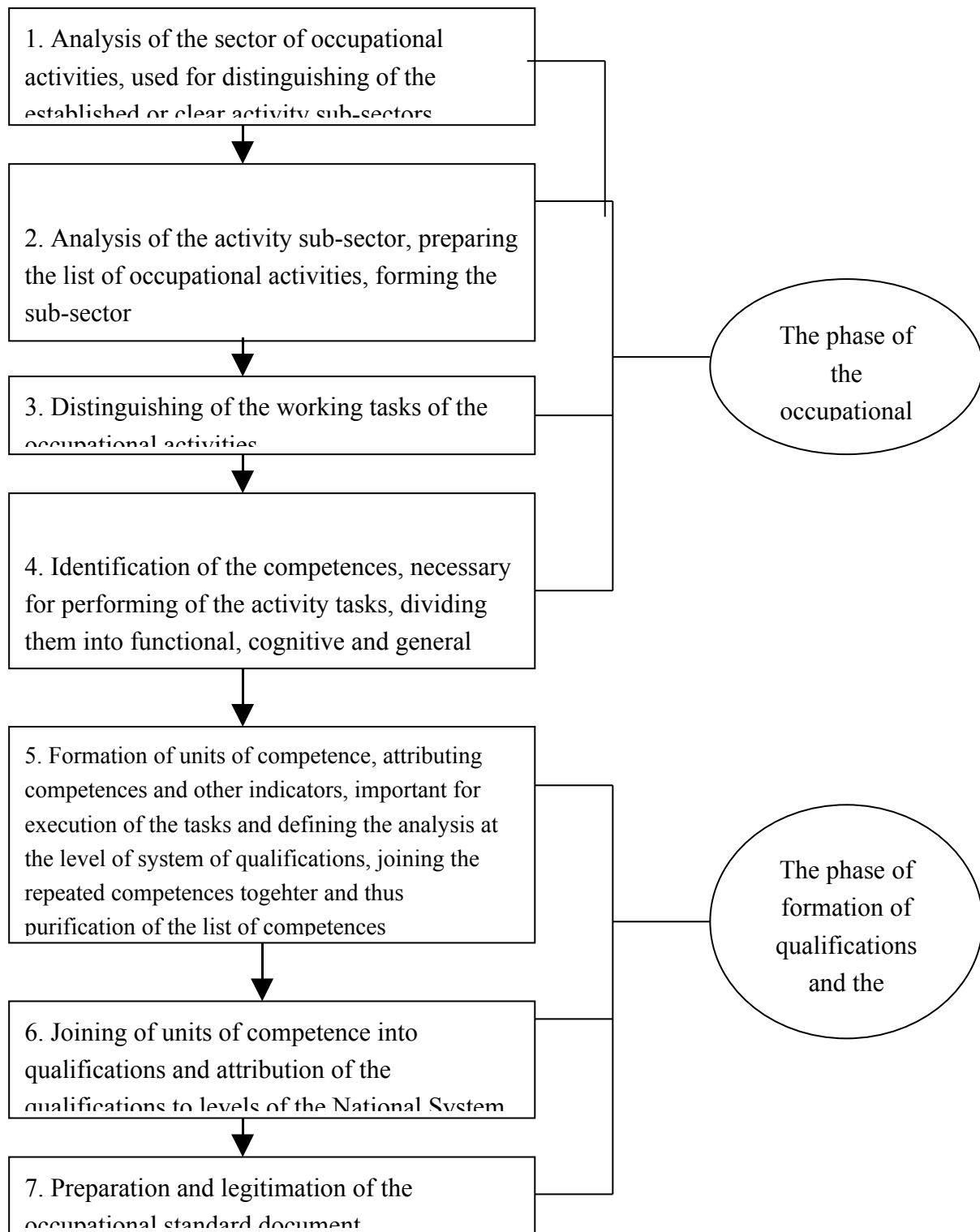


Figure. Qualifications designing phases and tasks
Occupational activity studies

The following two types of occupational activity studies are distinguished:

- *Sector studies*. Their purpose is to identify the need for human resources (in a broad sense) within the studied sectors of economic activities (for instance constructions, rural economy, etc.). During the studies the need for labour force is identified taking into consideration long-term labour market forecasts. The following is identified: where, when, how many and what kind of employees will be needed by the system of occupational activities in a certain defined sector. Sector studies are more frequently used for identification and improvement of the structure of labour force in consideration of the economic and social changes in the country and separate sectors as well as for regulation of relation of the supply and demand of labour force. Sector studies are related to the tasks of the system of qualifications through the possibility to search for new qualifications and competences, which are necessary or likely to become important in the future.
- *Functional analysis of occupational activities* (also known as studies of qualifications and competences) are always executed when and where is a need to identify (define, describe) the tasks, characteristic of activity sectors, occupations or groups of occupations and the competences and qualifications, needed in order to be able to perform those tasks. Within the view of the system of qualifications functional analysis is mostly appropriate when used for the purpose of obtaining the data on activity tasks and the competences, necessary in order to perform the tasks. The data are obligatory for the purpose of formation of qualifications.

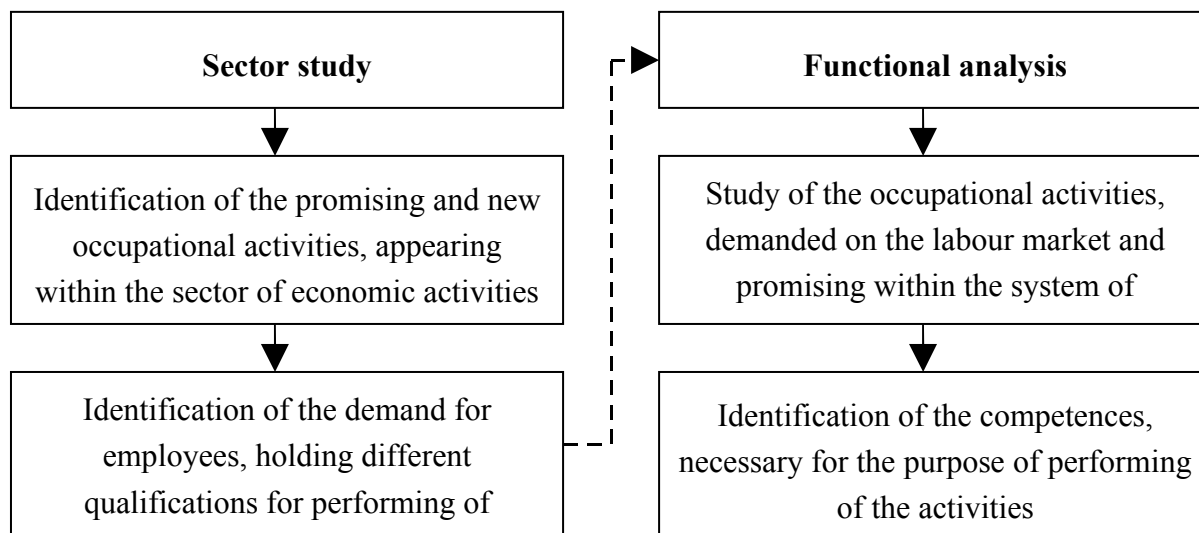


Figure 5. The interrelation of performing of a sector's study and functional analysis

In certain cases, where the aim of the study to a greater extent is pertaining to the problematics of the system of qualifications, sector studies are not performed, instead the analysis of the documents, revealing the sector's structure is executed, the results of previous studies are analyzed, etc.

The occupational activity studies methodology

When selecting a specific methodology for a study of occupational activities the following criteria are taken into consideration:

- *The level of versatility of occupational activity studies*: whether the occupational activities cover one, several, multiple or diverse aspects and elements of occupational activities (the content of the occupational activity, qualification requirements, the competences, necessary to be held to be able to perform the activities, psychological, ergonomic, technical and technological, organizational and managerial specifications of the activities, workplace analysis, etc.);
- *The limitations of the occupational activity study methodology* with regard to the system of qualifications (the requirements, raised by the specific study methodology for the qualification of the staff, performing the study, the technologies, employed for performance of the studies, organization of the studies, complexity of works, the time, organizational and financial resources, needed for execution of the study, etc.);

- *The specifics of correspondence of the methodology to the system of occupational activities* in Lithuania, studies' traditions, the level or preparation of researches, etc.
- *The appropriateness of the methodology of studies* for the specifics of the content of the activity studies, intensiveness of changes of the environment and the future prospects. Suitability of the methodology for studies of occupational activities and qualifications for studying of occupational activities and qualifications of different characters.
- *Compatibility of the specific functional analysis methodology* with other studies methodologies and the possibilities, provided by such compatibility.

The principles for performing occupational activity studies

The following principles for performing of sector studies and functional analysis are distinguished:

- *Taking into consideration the context of the activities and the requirements, raised by the content of the occupational activities.* All the studies of occupational activities must be oriented to the analysis of the demand for human resources in the sector (sector studies) and the need of competences within the specific activities (functional analysis);
- *Representation of the study.* The subject of the activity studies, intended for development of the system of qualifications must be activity sectors and occupational activities, having different experience. When selecting a specific subject for the study (activity, workplace, enterprise, sector), it is important to take into consideration that the subject allows for study of both the existing situation and the activity situation as the technological, organizational and economic measures and processes change.
- *Practicality and adaptability.* The activity studies must retain the characteristics of applied researches. The results of studies must be clear, presented in simple

language, characteristic of the studied activity sector or activity. The study reports should provide the methodological instructions with regard to use of the results of the study for development of occupational standards, vocational training standards, regulations of directions of education and training or studies' programmes.

- *Compatibility of the interest groups' views.* Representatives of the following interest groups should be involved into performance of sector studies or functional analysis: employers' organizations, trade unions, vocational training and higher educational institutions. The quality of the results of the studies depends on the support and consent by of the interest groups. It is important to provide the interest groups with the appropriate information on the significance of the performed studies, thus ensuring the political, financial and other support for the study.

The qualification requirements for the institutions, performing studies and the researchers

The following qualification requirements for the institutions, performing studies of occupational activities are distinguished:

- *Experience in performing of sector studies and functional analysis.* The institution, performing sector studies must have experience in execution of such studies, knowledge of the methodological and organizational requirements for execution of sector studies and have qualified researchers;
- *Qualification of the sector's researchers and experts.* The researchers must have competences for identification of the demand for labour force, analysis of economic development, studies of technological development and arrangement of activities, statistical analysis, forecasting of supply and demand of labour force, etc.;
- *Close cooperation with the experts of activity sectors.*

The qualification requirements for researchers of occupational activities:

- *Professional experience in the area of the studied occupational activities.* The researchers of occupational activities should have a qualification within the area of the studied activities and no less than five years' working experience in the area;
- The experience in the area of execution of activity studies. When performing studies the researches must rely on the support of the occupational activity experts and sector experts and have the competences for defining and formulating the competences, included into the occupational standards;
- The abilities, related with implementation, development and improvement of the system of qualifications.

Formation of qualifications and development of national occupational standards

The qualifications formation steps

Formation of qualifications is the process, during which, by using the data, obtained during the functional analysis of occupational activities, the qualifications, necessary for the occupational activities, their names, content and levels are defined. Formation of qualifications is performed in two steps.

The first step of formation of qualifications is formation of units of competence. A unit of competence is a compound of functional, cognitive and general competences, necessary (sufficient) for the performance of a specific task of the occupational activities. A unit of competence is the main element of the qualification.

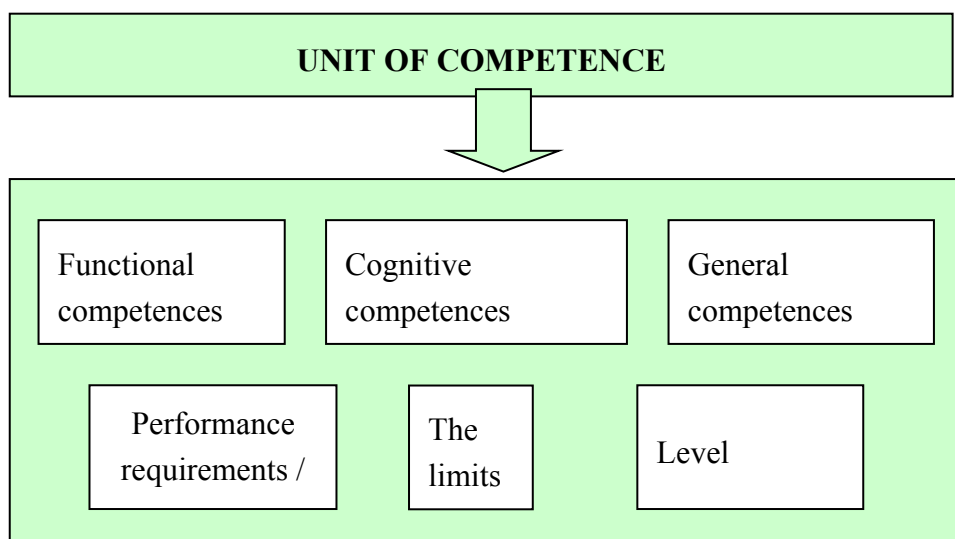


Figure **The structure of a unit of competence**

The second step in formation of qualifications is joining of units of competence into qualifications. Units of competence, upon attribution of the level of the system of qualifications are joined according to the qualification, formed to their correspondence to the character of the specific occupational activity (occupation, etc.), taking into consideration its compliance with the content of descriptions of the levels of Lithuania's system of qualifications and are attributed to a corresponding level.

Units of competence and their formation

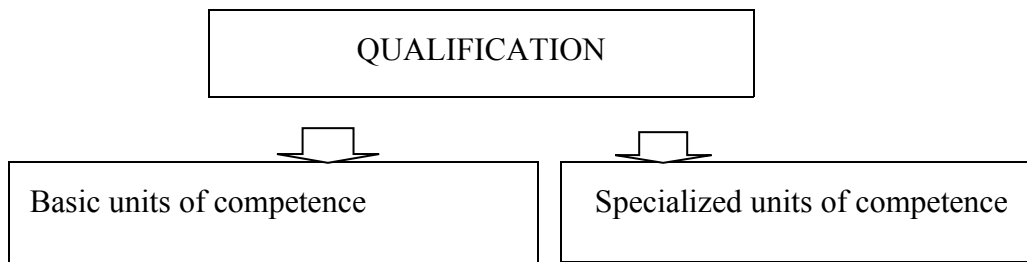
In order for an employee to be able to perform all the foreseen activity tasks in the appropriate manner, he/she must be *competent*, t. e. must characterize with the corresponding combinations of cognitive, functional and personal abilities – *units of competences*. The content and scope of a unit of competence is determined by the activity tasks. In case the activity tasks, necessary to be performed by the employee are known, the question is which combinations - units of competences correspond to those needs. Each unit of competence includes a different number of functional, cognitive and general competences. All the descriptions of activities, formed of the data of the occupational activity studies are grouped according to the specific activity sub-sectors, an

optimized list of all the activity tasks is prepared for each sub-sector, excluding the repeated tasks. After formation of the list of the sub-sector's activity tasks, they are ranked according to evidencing of activity characteristics – self-sufficiency, complexity and variability when performing the tasks, i. e. according to their correspondence to the levels of qualifications. The comprehensive lists of Lithuania's National System of Qualifications are used for such ranking. Upon ranking the activity tasks, the competences, necessary for performance of each task are joined into units of competences according to the actions or operations, forming the activity task. Units of competence are formed with the assistance of experts and researches of the occupational activities, who analyze each activity task and the list of the competences, needed in order to perform the task and group the competences into the units of competence. The equivalent of each unit of competence is established according to the levels of the national system of qualifications.

Upon ranking the activity tasks and units of competence, necessary for the purpose of performing of each activity task, the so-called table of competence, revealing all the units of competence of the activity sub-sector according to the logics of qualification growth of the activity task can be drawn. The table is drawn by presenting all the activity tasks, distinguished within the sub-sector, ranked according to their attribution to levels of qualifications in one column, and presenting the units of competences, necessary in order to be able to perform the activity tasks in lines.

For the purpose of ensuring of flexibility of formation of qualifications the units of competences, if necessary, can be divided into basic and specialized.

The set of basic units of competence (correspondingly according to the qualification and its level) is an obligatory part, forming the base of the qualification (occupational activity). Specialized units of competence supplement the qualification within the horizontal view: they do not change the level of qualification, however extend or specialize the qualification.



Distinguishing of basic and specialized units of competence gives a person the possibilities to both clearly assess his/her situation with the view to the held qualification and more clearly orient him/herself when making the decision on the direction of improvement of the qualification: to strive for a qualification of a higher level, formed of units of competences of a higher level (the case of vertical improvement of a qualification) or to improve the existing qualification along the specialized direction (the case of horizontal improvement of a qualification). Within the view of lifelong learning a clear definition of units of competence is important for the persons, to whom the method of independent learning is attractive, and recognition of the independently acquired competences is relevant.

Distinguishing of the two types of units of competences is based by different schemes of employees' qualification development.

1. *Improvement of qualifications by acquisition of new competences within the same units of competences* is related with the changes within the occupational activity and helps to adapt to such changes. *Horizontal* improvement of qualifications does not mean a transition to a higher level of qualification within the system of qualifications. When competences, belonging to a higher level of qualifications are acquired within a certain unit of competence, the totality of such competences gives the preconditions for transition from a lower level of qualification to a higher one. This is a case of a *vertical* improvement of qualification.
2. *Improvement of qualifications, evidencing by acquisition of new units of competence* is related to significant changes of the content of occupational activities, determining the change in

the number of activity tasks. Upon appearing of new activity tasks, the need for new units of competence comes into existence. Such improvement of qualification can also be both horizontal and vertical. In case the new tasks require units of competences, belonging to the same level of qualification, it is a case of horizontal improvement of qualification and the units of competence, belonging to higher level of qualifications are acquired, it is a case of vertical improvement of qualification.

Logics and procedure of formation of qualifications

Qualifications are formed according to the following two criteria:

1. *Breadth of the qualification*, defined by the number of the activity tasks, which can be performed by an employee, holding the specific qualification. The number of activity tasks can be different depending on the qualification. Activity tasks can be joined within a qualification by attributing the activity tasks to a specific level. For instance, an assistant concrete pouring worker is employed in three areas of activities: preliminary construction works, reinforcement and lining installation.
2. *Depth of the qualification*, determined by the level, attributed to the units of competence, used for performing of the activity tasks.

When forming qualifications of the units of competence, participation of experts of the enterprise level is important.

The advantages and disadvantages of the principles of formation of units of qualifications and their further usage possibilities are illustrated by the competence matrix, proposed by the VQTC (Vocational Qualification Transfer System) model, developed by Austria's 3S research center in cooperation with international partners. In this model units of competence are paralleled by joint descriptions of competences, consisting of different competences, necessary for performing of a certain activity task. The number of joint descriptions of competences for one task can be different, depending on the complexity of the activity.

An example of a description of joint units of competence according to the materials of the VQTS model for the mechatronics sector is presented below (Luomi-Messerer, Markowitsch, 2006):

3. *Qualifications are formed according to the structured description of areas (units) of competences and the competences, falling within the areas (the competence matrix). In this case a unit of qualifications covers a certain group of competences, presented in the matrix, corresponding to the competences, needed for the area of activities. Such structure of the occupational standard is convenient, since it gives clear information to the learner on the competences he/she lacks in order to acquire the needed unit of competence or qualification. Each set of competences, corresponding to the matrix box can be assessed in credits, which give the possibility to measure the acquired and missing competences in a quantitative manner and use the occupational standards for development of vocational training standards. Distribution of credits according to competences is executed by assessing the duration of acquisition of competences, therefore it can be different in separate areas (units) of competences. Acquisition of competences can also be estimated in the time spent for (hours of) training.*

The competences matrix also helps to identify the qualification development relations between separate qualifications. Units of competences are joined into separate qualifications. One qualification can be formed of units of competences of different levels. The same units of competences can be included into the composition of different qualifications.

The table of competences of the concrete pouring sub-sector, according to which the qualifications of the sub-sector are formed is presented below.

SUBSECTOR: CONCRETE POURING. TABLE OF COMPETENCES

Activity tasks	Units of competences according to the logic of improvement of qualification			
1. Preparatory construction works	1.1. Ability to prepare a works site, install scaffolds, prepare different labour safety measures – racks, cradles, install the temporary wooden platbands, necessary for construction works, receive, unload and arrange the materials for temporary storage on the site, etc.	1.2. Ability to select the materials and tools, necessary for performance of concrete pouring and other works, taking into consideration the character of the performed works and the specific labour conditions, chalk details and simple constructions, according to the instructions, presented by workers of higher qualification and the suppliers	1.3. Ability to prepare the estimate of the materials and working tools and calculate the working costs according to the construction drawings, schemes and sketches	1.4. Ability to prepare the plan of performing of construction works, the technological schemes for performing of concrete pouring works
2. Preparation of concrete	2.1. Ability to prepare concrete manually and in the push-button way according to the presented instructions		2.2. Ability to identify and verify the quality of concrete and its compliance with the quality specifications, provided by manufacturers of the materials and the specific labour conditions, prepare the concrete with	2.3. Ability to draft concrete preparation instructions and technical specifications

			the special add-ons for pouring in the cold	
3. Reinforcement and installation of lining	3.1. Ability to perform the simplest works of bundling of armature into gridirons and mount the simplest lining	3.2. Ability to perform reinforcement works when preparing for pouring of concrete of standard constructions, bundling of armature into gridirons and frameworks, cutting and grinding the armature, install and uninstall lining, chinking holes	3.3. Ability to reinforce and install lining for concrete constructions of complex configuration	
4. Constructions' concrete pouring	4.1. Ability to pour concrete into foundations, platbands, chinking holes and openings, supervising the construction after the pouring of concrete, covering the concrete by special cloths and sheets	4.2. Ability to pour concrete for flat and raised walls, pour concrete floors, cellars and road pavements, performing concrete consolidation and paving works	4.3. Ability to pour concrete into drilled foundations and different underground and underwater constructions	
5. Trimming of surface of concrete constructions	5.1. Ability to smooth the wet surface of concrete foundations, chink holes and openings		5.2. Ability to smooth the dried-up surface of concrete floors, flat and raised walls	
6. Installation of concrete and ferro-concrete constructions in stone building	6.1. Ability to store the concrete and ferro-concrete products, ensuring retaining of their quality features		6.2. Ability to hang, raise and construct ferro-concrete constructions and products by using the construction devices, tools and signaling systems	
7. Verification of	7.1. Ability to identify and	7.2. Ability to identify and	7.3. Ability to identify	7.4. Ability to perform

<p>quality and repair of concrete and ferro-concrete constructions</p>	<p>remove small defects of concrete and ferro-concrete constructions and parts thereof</p>	<p>remove defects of the surface of concrete constructions by grinding and using other smoothing technologies</p>	<p>and remove complex defects of concrete and ferro-concrete constructions or parts thereof, requiring disassembling of a part of the concrete construction, perform the cleaning and re-pour concrete, reinforce the construction with armature, etc.</p>	<p>complex assessment of quality of different concrete constructions</p>
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According to the table of competences of the concrete pouring sub-sector the following qualifications can be distinguished:

1. *Assistant concrete pouring worker*: the qualification includes the following units of competence = 1.1. + 2.1. + 3.1. + 6.1.
2. *Pourer of concrete into buildings' foundations and other simple construction structures*: the qualification includes the following units of competence = 1.1. + 1.2. + 2.1. + 2.2. + 3.1. + 3.2. + 4.1. + 5.1. + 7.1. + 7.2.
3. *Pourer of concrete into complex construction structures – floors, flat and raised walls, cellars and road pavements, drilled foundations, underground and underwater structures*: the qualification includes the following units of competence = 1.1. + 1.2. + 2.1. + 2.2. + 3.3. + 4.2. + 4.3 + 5.1. + 5.2 + 7.1. + 7.2. + 7.3
4. *Assembler of concrete and ferro-concrete structures*: the qualification includes the following units of competence = 1.1. + 1.2 + 1.3 + 2.1. + 2.2. + 6.1. + 6.2. + 7.1. + 7.2. + 7.3.
5. *Master concrete pourer*: the qualification includes the following units of competence

Option A (*Master pourer of concrete into buildings' foundations and other simple structures*): = 1.2. + 1.3. + 2.2. + 3.2. + 3.3 + 4.1. + 5.1. + 7.1. + 7.2. + 7.4.

Option B (*Master pourer of concrete into complex construction structures – floors, flat and raised walls, cellars and road pavements, drilled foundations, underground and underwater structures*): = 1.2. + 1.3. + 2.2. + 3.2. + 3.3. + 4.2. + 4.3. + 5.2. + 7.2. + 7.3. + 7.4.

6. *Concrete pouring works engineer-technologist*: the qualification includes the following units of competence 1.4. + 2.3. + the units of competence of the master concrete pourer.

3.2. Procedure of coding

3.2.1. General provisions

1. The present procedure has been prepared in observance of the Law on the State Registers of the Republic of Lithuania, Resolution No. 1418 “On the formation, designing, reorganization and usage of the state registers” of the Government of the Republic of Lithuania of 29 11 1996 and the Classifier of economic activities.

2. The procedure establishes the principles and system of coding and entering of qualifications into the register of qualifications of the Republic of Lithuania, regulates the procedure of usage and application of codes, assigned to standards and units of competences as well as joining of units of competences into qualifications.

3. Codes can be assigned to occupational standards, qualifications and units of competence or changed by the manager of the Register of Qualifications.

4. The procedure of coding of standards, qualifications and units of competences is approved by the Government of the Republic of Lithuania.

3.2.2. Coding of occupational standards

A code is assigned to a standard according to the classifier of economic activities – *on the economy level*.

According to the types of economic activities, presented in the classifier the section codes are the following: A, B, C, D etc.:

A.	Agriculture, hunting and forestry;
B.	Fishery;
C.	Mining and quarry operation;
D.	Manufacturing;

E.	Power, gas and water supply;
F	Constructions;
G	Wholesales and retail sales, repair of vehicles and home appliances
H	Hotels and restaurants;
I	Transport and communications;
J	Financial intermediation;
K.	Real estate, lease and other business activities;
L.	Public administration and advocacy;
M.	Education;
N.	Health care and social work;
O	Other facility, social and individual service provision;
P	Private households' activities;
Q	Activities of the international organizations and their divisions.

Apart from the letter of the classifier of economic activities, the levels of the system of qualifications, included into the qualifications, existing in the standard and the number of the standard are also specified when coding a standard.

3.2.3. Coding of qualifications

A qualification is coded according to the standard, establishing the qualifications, needed in the specific sector of economic activities or a part thereof, their structure, content, possible ways for acquisition and assessment.

A code of a qualification also must reflect the sub-sector, to which the specific occupational activity and correspondingly the qualification is attributed to.

When coding qualifications, the classifier of the branches of the specific economic activity (sector) (for instance, the classifier of agricultural branches, the classifier of manufacturing industry branches, etc.) is observed.

D. The classifier of manufacturing industry branches – *on the industry level:*

DA. Production of foodstuffs, beverages and tobacco;

DB. Production of textile and textile products;

DC. Production of leather and leather products;

DD. Production of timber and timber products;

DE. Production of paper and paper products; publishing and typography;

DF. Production of refined oil products;

DG. Production of chemicals, chemical industry products and chemical fibers;

DH. Production of gum and plastic products;

DI. Production of other non-metallic mineral products

(construction materials industry);

DJ. Production of main metals and metallic products;

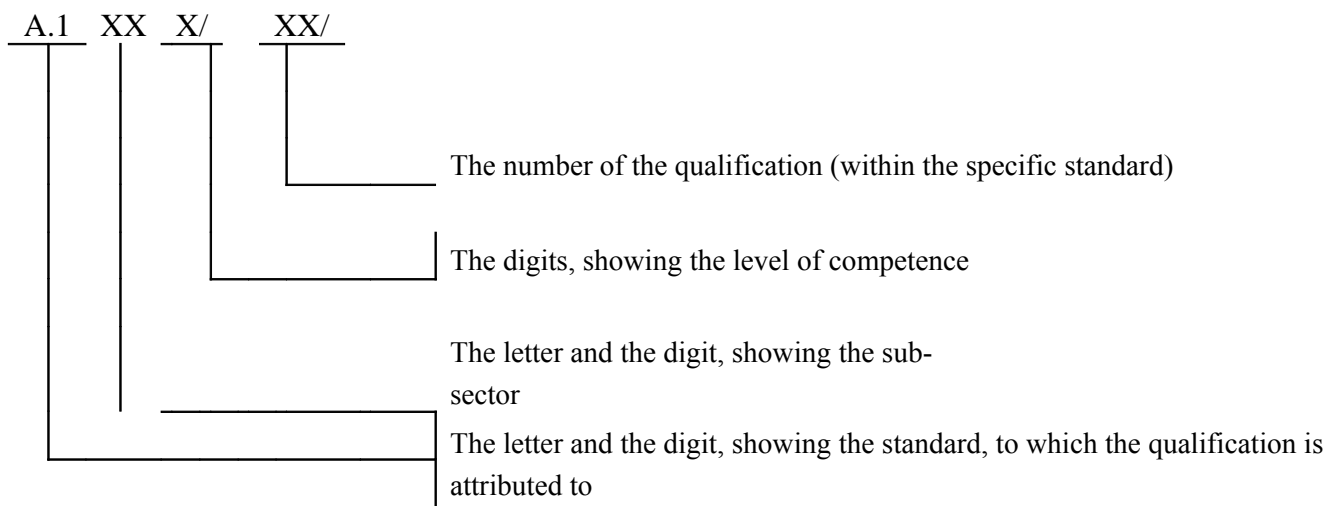
DK. Production of other machinery and equipment;

DL. Production of electrical and optical equipment;

DM. Production of vehicles;

DN. Other production.

The common code of a qualification is formed referring to the code of the standard and the sub-sector of the economic activities, to which the qualification is attributed to. The code contains the level of competence and the number of identification of the qualification within the standard:



7. 5 When including a qualification into the standard, a code is assigned to the qualification.

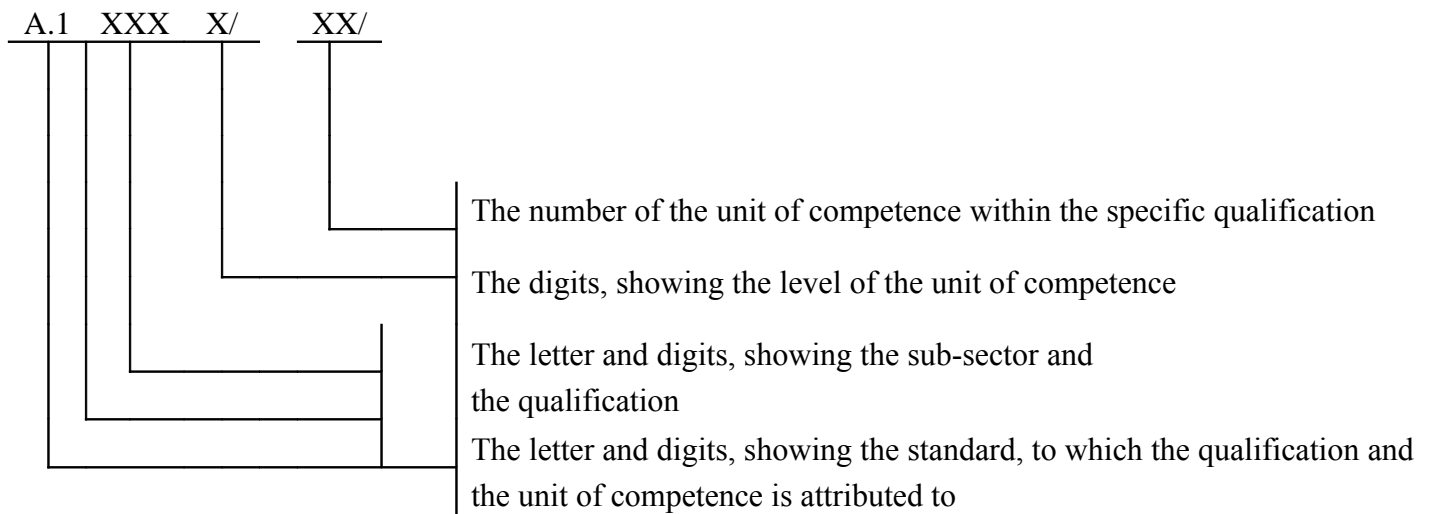
3.2.34. Coding of units of competences

A code is assigned to a unit of competence according to the specific qualification, to which the unit is attributed to, according to the number in the qualification, showing the significance of the unit of competence.

According to the logics of formation of qualifications, the number of a unit of competence is formed according to the following two criteria:

- *Breadness of the qualification;*
- *Depth of the qualification,* determined by the level, assigned to the units of competence, used for performing of the activity tasks.

A unit of competence is coded according to the letter of the standard, the sub-sector, the qualification, its level and its place within the qualification.



The units of competence, which do not belong to any standard or qualification (specific, general or supplementary (safety and health, general competences, etc.) receive a special symbol, showing their oneness within the standard.

Units of competences, which are not attributed to any specific qualifications are assigned a running number, entered into the code.

When including a unit of competence into the register, a code is assigned to the unit of competence.

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