Guidelines for Development of a Work-Based Learning Program on EQF Level 5

Introduction

This document summarizes the guidelines for developing an EQF Level 5 curriculum based on the experience gained from the Skilled-Up project. The aim of the "Skilled-Up" project was to develop and test **short-cycle training programme** in wood processing sector in Baltic countries, developing it in a **form of work-based learning**. The **target group of this program are experienced specialists already working in the industry**. Such program enables professional development and lifelong learning in the wood processing sector.

Several aspects of novelty can be mentioned for the developed program. First, the **short-cycle training program was developed following the EQAVET approach**, working with partners from different countries and considering the analysis of the needs of local employers in each country. Testing of the program took place in the three Baltic States, adapting it to the needs of the local target group and the available specialists, if necessary.

Second, considering the target group of the program, it was designed to improve the professional qualifications of existing specialists. Therefore, it was decided to create an **EQF level 5 or short-cycle program.** Already in 2014 in a research project[1] about the development of EQF5 in Member States of the European Union, CEDEFOP was concluded that EQF level 5 qualifications play an important role. Despite the differences between Member States, in the future EQF level 5 could ensure better transparency and recognition of skills and qualifications, facilitating learning, employability, and mobility. Moreover, EQF level 5 "can offer a platform for new qualifications and development of such qualifications are the priority in whole European Union."[2] The experience gained in the project allows us to conclude that there are still **quite large differences in the development of EQF level 5 in the Member States of the European Union.** This is also evident considering the different state of progress of EQF 5 in the education systems of the three Baltic States (for more details, see the project document "EQF Levels 4 and 5 in the Baltic States. Reasoning for the Choice of EQF Level 5 for the "Skilled-Up" project").An example of the differences found in the education system of the Baltic States in relation to EQF Level 5 is the scope of the program specified in national education laws.EQF Level 5 programs in Estonia are divided into initial training un continuing training. The scope of initial training program in the country is 60-150 credit points, whereas continuing training programs are assigned 15-60 credit points. In Lithuania on EQF Level 5 short cycle studies are implemented granting a degree of higher education for obtaining a professional qualification. The volume is from 90 to 120 study credits. 30 or 40 credits of the programme should be awarded for students' internships in a

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[1] CEDEFOP study, "Qualifications at level 5: progressing in a career or to higher education" (2014) Available on: https://www.cedefop.europa.eu/files/6123_en.pdf

[2] Dr. Odeta Kupetiene "Developments of EQF level 5: Stakeholder approach"
Available on: https://www.efvet.org/wp-content/uploads/2019/01/Erasmus-project-Development-of-Sectoral-Qualification-Descriptors-for-EQF-level-51.pdf

workplace. Latvia has the greatest scope for EQF Level 5. The program must be 120 to 180 ECTS. Consequently, when developing a international curriculum, these national requirements must be taken into account and partners must be given the opportunity to adapt the curriculum specifically to their national framework.

Third, the curriculum was developed as **a modular work-based learning program**. The results of the employer needs analysis were summarized by identifying 10 modules to be included in the program. Each module was developed using the existing EQF descriptors knowledge, skills, and competence. In addition, by choosing a work-based learning approach, the learning of the curriculum content can be closely linked to the real work environment of the program participants.

Finally, when developing and testing a modular work-based short-cycle learning program, it is recommended to follow the EU EQAVET approach, which consists of the following stages:

„Design", „Improve", „Respond", „Communicate", „Train", „Assess". If this approach is quite widely used in EQF Level 4, then, as the experience gained during the project shows, at EQF Level 5 this approach is not yet generally established. However, in order to ensure quality, the use of EQAVET approach is also recommended in the field of continuing vocational education during the program development and approbation phase.

Analysis of EQF descriptors

To include a new qualification / training program at a certain EQF level, **the planned learning outcomes need to be evaluated**. In this context, it is important to use the existing EQF descriptors (knowledge, skills, and competence). Each of the 8 levels of the EQF is defined by a set of descriptors indicating the learning outcomes relevant to qualifications at that level in any qualifications system. Therefore, before developing the program, the descriptors specified for the selected level must be taken into account. EQF5 descriptors[3] are:

EQF5
Knowledge:
Comprehensive, specialized, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge;
Skills:
A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems;
Competence (responsibility and autonomy):
Exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others.

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[3] Description of the eight EQF levels available on: https://europa.eu/europass/en/description-eight-eqf-levels

The level of knowledge, skills and competence set at the relevant EQF level should therefore be taken into account when determining the learning outcoms to be developed. It is recommended **to develop the curriculum in the form of modules.** It is recommended to use a specific form for the description of the individual modules, which takes into account the EQF Level 5 descriptors.
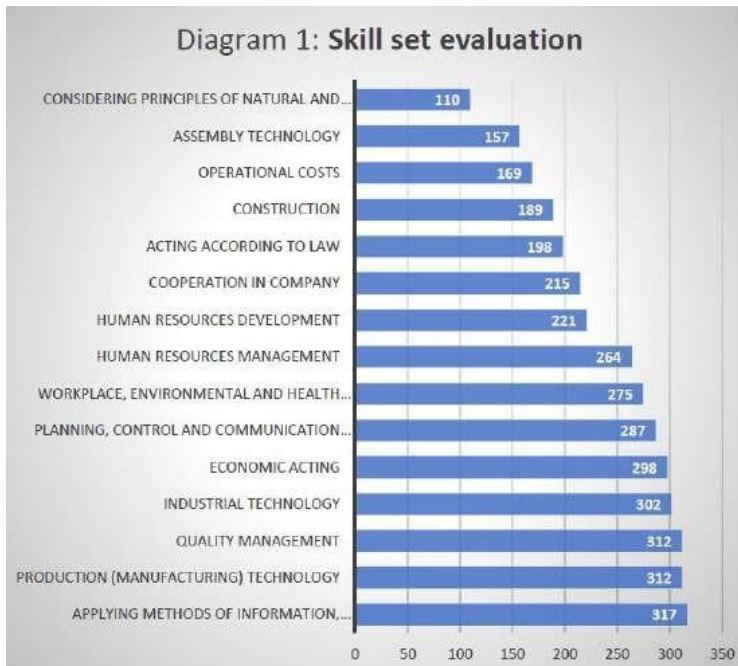
- **Design a work-based learning program**

The first building block identified by EQAVET is the one dedicated to designing the work-based learning environment. Whilst developing the curriculum, every partner organisation should link the content of their training to the participants' qualifications. Different methods can be applied to guarantee a strong focus on the quality of the curriculum from the very beginning which are outlined hereafter.

Before developing the curriculum, a needs analysis is required to identify the knowledge and skills currently needed in the labour market. At the beginning of such a study, it is important to choose a specific methodology. First, it is recommended to conduct the needs analysis in the form of a survey covering as many companies in the sector as possible. Secondly, the target group of the survey must be defined concretely. The experience of the project shows that to identify the skills and knowledge which are required by the project target audience, it is **highly recommended to consult with managers and experts** from the field of industry. When doing so, strive to include a variety of different companies, from small family-owned businesses to large industrial organizations, with heterogeneous areas of expertise. Including these experts in an initial study to identify the training needs for the program is an effective way to build a foundation for the structure of the curriculum and to guarantee versatile insights into the needs of the sector.

Thirdly, reference information from existing curricula can be very useful in identifying skills needs in the labour market. Experience from the project has shown that by cooperating with VET institutions from other countries in the formation of Skills Alliances, experience and information on best practices can be gathered, which can then be adapted to local needs. Such an approach has proven successful in the project, for example, through cooperation with the German partner Lehrinstitut Rosenheim e.V. The German curriculum for wood processing (Industriemeister Holztechnik) was used as a basis in a first step to determine the initial scope of the skills. After consultation with local employers' associations, it was then possible to identify a skills base that was important at the national level and then to include this in the survey. (Methodology: See Annex I Results of Survey to Identify the Knowledge and Skills Necessary for Qualified Production Manager in Latvian Wood Processinf Industry)

In the next step, the results of the employer survey are determined and analysed. Based on such an analysis, skills can be classified. For example:

Diagram 1: **Skill set evaluation**

Skill	Value
CONSIDERING PRINCIPLES OF NATURAL AND...	110
ASSEMBLY TECHNOLOGY	157
OPERATIONAL COSTS	169
CONSTRUCTION	189
ACTING ACCORDING TO LAW	198
COOPERATION IN COMPANY	215
HUMAN RESOURCES DEVELOPMENT	221
HUMAN RESOURCES MANAGEMENT	264
WORKPLACE, ENVIRONMENTAL AND HEALTH...	275
PLANNING, CONTROL AND COMMUNICATION...	287
ECONOMIC ACTING	298
INDUSTRIAL TECHNOLOGY	302
QUALITY MANAGEMENT	312
PRODUCTION (MANUFACTURING) TECHNOLOGY	312
APPLYING METHODS OF INFORMATION,...	317

Based on such competence gradations, their affiliation to certain areas or processes, a modular programme structure is developed in the next step. The structure of the programme (in separate modules) defines the areas or processes where employers see a need to improve workers' skills.

In the Skilled-Up project, for example, the results of the survey showed that employees need to improve their knowledge in three different areas or process bundles: Technology, Organisation and HR/Leadership. Based on the gradation of skills, specific modules were identified for these areas, each enabling the acquisition of certain knowledge, skills and competences:

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Technology	Organization	HR/Leadership
Industrial design Aim of the module: □ to acquire knowledge about technical creation, fundamentals of the creation of new products, course of construction, and production of assays • to develop skills on how to apply the principles of technical creation, and knowledge in technological processes while creating new wooden products	**Planning, control and communication systems** Aim of the module: □ to acquire knowledge about quality planning methods applied in organizations, quality management systems applied in production, and quality assurance methods applied in production. • to develop practical skills in intermediate and final product control, applying control methods in technological process	**People management** Aim of the module: • to obtain profound knowledge and skills in human resources management in order to effectively manage human resources of a company and to develop a human resources management strategy
Industrial technology Aim of the module: □ to acquire necessary skills to be able to manage the technological processes of wood processing independently in order to ensure high quality (in compliance with quality requirements) and efficient work processes	**Operational costs** Aim of the module: □ to acquire knowledge of the structure of company expenses (expenditures), costing principles, pricing, earning opportunities. □ to develop practical skills of calculating the cost of wood products, pricing and performance calculation, applying the principles and knowledge acquired while studying theory	**Communication skills for the First Level Manager** Aim of the module: • to introduce and practice essential communication skills to manage people as the first-level manager at the company, creating awareness of successful communication and its importance within a company
	Basic skills for team management Aim of the module: □ to provide the participants with basic knowledge about group processes and practical skills to manage them	**Career planning and business management** Aim of the module: • to increase the economical (including the labour market issues) and ecological awareness of the first-level manager at the woodworking sector; to give an overview about the legislation regulating the labour market and to introduce the principles of lifelong learning and career development
	Occupational safety and health, environmental protection Aim of the module: • to develop a set of knowledge, skills and attitudes of learners about the duties and rights of employees, the importance of occupational safety in wood processing, and key work processes in order to be able to master and use safe working practices in professional employment	

Final module

Project Management
Aim of the module:
• to acquire necessary knowledge and skills in project management to be able to plan and implement an independent project in wooden product production

Additionally, the modules' contents for the curriculum should be **developed in expert groups with the active participation of employers' representatives**. It is important to keep in mind that the creation of a national curriculum is a time-consuming and complex process. Therefore, it is recommended to schedule enough extra time and, if necessary, to start the training as an additional training for adult learners. This way, the time which is needed for administration work does not need to be wasted.

In order to facilitate the development of module content and to have a common approach to the description of module content, it is recommended that specific templates for the description of modules are provided to the experts in advance. In such a template, the sections of the module

description can be predefined. In the Skilled-Up project, for example, the expert groups received a predefined template for the description of the modules, which contained all the necessary information (aim, learning outcomes EQF descriptors (knowledge, skills, and competence):

[Module name]

Aim	
Tasks (Learning outcomes)	Knows: Understands: Is able to do:
Assessment form	
Role in curriculum	

Content of Module

Learning Outcome	Topics	Content (suggested)	Units	Assessment of acquired learning outcomes (optimal level)	Methods and ideas for learning process
1. Understands					
2. Knows					
3. Is able to					

- **Improve the quality**

The EQAVET project approach is based on a continuous quality assessment process, which is the focus of the second building block called "Improve". According to the EQAVET system, regular monitoring and reviewing the quality of the training is of great importance. Therefore, **both participants and teachers of the program** are invited **to evaluate the developed training modules during their implementation**. To create a program based on continuous improvement, the learners and teachers are asked for their feedback after every training part (See Annex II, Training Evaluation in Latvia). For example, **digital feedback sheets available to everyone via Google Forms can be used,** ensuring the anonymity of the participants. Each student can fill in a feedback questionnaire and teachers complete a self-analysis. In the feedback questionnaires, the learners are asked to evaluate if the module is related to their work and useful for them. Further questions cover their opinion about the volume of the module and its importance for the curriculum. **Surveys consisting of open questions invite the students to express their views freely and voice criticism or suggestions** for continuous quality improvement of the learning process. The teachers analyse how the themes of the modules are received by learners, if time and

volume of the modules are suitable to achieve the learning outcomes, and which methods work well, and which do not.

In addition to the participants' and teachers' feedbacks, it is recommended **to give the employers the opportunity to voice their opinions**, as well (See Annex III, Survey for Employers). To do so, questionnaires are distributed among the entrepreneurs at the end of the program, asking which modules the curriculum should contain, if there are any significant improvements of the employer's knowledge after the completion of the program, and if the employer plans to raise the employee's salary due to the training.

- **<u>Respond to learners' needs</u>**

Due to the emphasis on the learners' needs and the labour market, the third building block of the EQAVET approach is called "Respond". To create a program based on the requirements of the participants, **the training should feature a strong orientation to both practical experience and the work environment**. Feedback received from the learners and teachers should be used to systematically adapt and improve the content.

As an organizer of such a training program, the organizer must be aware of own **role as a motivator for the learners**. Often, the participants might have had an exhausting work week right before taking part in one of the courses, so sympathy and support for the learners should always be present. Additionally, it is likely that the **employees have different working backgrounds and, therefore, different levels of experience**. This must be considered during the preparation of the program so that every participant can profit from the teaching content. Therefore, it may be useful **to assess each participants' level of knowledge** before starting the actual teaching period. From this starting point, teachers need to evaluate if changes to the curriculum are necessary or if the course should be split into smaller groups depending on their knowledge.

Due to the different working hours and schedules of the participants and their companies, the program should **be developed as flexible as possible**. To give both employers and employees the chance to adapt their work schedule to the training program, it is therefore recommended to prepare the training plan as early as possible.

Some participants may decide not to finish the whole program due to various reasons. Due to this, it is recommended to compile a **back-up list** for interested employees wanting to participate in the training. This system ensures that as many learners as possible can profit from the program. The modular design of the programme also makes this approach flexible. So the student can choose to take certain modules that he / she needs, a certificate but not an EQF level 5 qualification. Thus, in the future, such short study programmes could focus on the needs of two target groups of students. On the one hand, they may be professionals who want to complete the whole programme and obtain an EQF5 level qualification. On the other hand, there are employees who do not want or need all the content offered in the programme, but only in certain areas (e.g. in one or all modules from the process areas Technology, Organisation and/-or HR/Leadership).

- **<u>Communicate</u>**

Successful communication between the different parties of the program is a very important aspect of EQAVET, which is why the fourth building block of the approach is dedicated to it. It must be ensured that partner institutions, representatives of the industry, learners, and teachers in every participating country have the tools and information to communicate among each other as needed. **The use of electronic communication methods is recommended**. The aim of this block is to improve the content of the proposed program according to the needs of all parties involved. To finalize the program and submit it for licensing in later stages of the project, successful communication to and between stakeholders and state educational institutions must be guaranteed, as well.

Giving both **employee and employer access to information about the topics and planned outcomes of the training** is an easy way to illustrate the significance of the training for the learner and the company and can help to improve the employer's acceptance of the training program. To ensure a regular exchange of information, **the use of three different communication methods came in handy**: individual phone calls, e-mails, and closed Facebook groups. Before creating a group on Facebook, confirm that every participant has a profile and if so, provide everyone with the necessary information for joining. Whenever possible, promote the exchange between the students to establish an environment where participants can profit from the transfer of experiences.

- **<u>Train the staff</u>**

Training is the fifth of six building blocks of EQAVET. **To provide the teachers** with the qualifications necessary for the curriculum, **one or two days of in-service training in companies should be offered** to them in the preparatory phase of the project. This familiarization of teachers with the work environment, requirements, and needs of local companies regarding the qualifications of employees ensures a beneficial exchange of experience and better cooperation between institutions and the industry. Additionally, planned **mobilities can be utilized to promote the qualification of teachers**. For that, at least one teacher per institution should attend the mobility to another participating country to improve the teacher's knowledge about latest developments throughout the industry. After the completion, the teacher can act as a multiplier for others in the partner organizations.

Another important aspect in this context is **the availability of suitable teachers**. In case there are no qualified teachers in your own institution, it is necessary to use existing contacts from your network or research suitable teachers externally. Keep in mind that, especially for those who are in a teaching position for the first time, **additional guiding may be needed, and sufficient resources should be devoted to their training**. It may be challenging to find teachers who are willing to participate in the training program, so the requirements for mentors should not be too restrictive to find such people **in the work environment**. If no teacher from your institution is available full-time, it may be useful to involve an external teacher who then serves as the leading lecturer. Depending on the content of the module, several leading lecturers may be necessary, each responsible for the content of the module of his/her expertise. The respective lead lecturer is

responsible for planning the implementation of the module in both theoretical and work-based learning, as well as for counselling the participants during the study tasks in the work environment. In cooperation with the project partners, the leading lecturer also organizes excursions to companies and meetings with industry experts. **Modules involving several teachers can be seen as beneficial to students** as they result in an exchange of different views, work organizations, and management approaches, thereby broadening students' horizons and challenging them to form their own opinions.

- **Assess the learners**

Even though the point of assessing the learners is already included in the planning phase of the EQAVET system, it is also the last building block of the WBL-program due to its importance. Because the program is designed in accordance with the requirements of already employed participants, **the goals and achievable learning outcomes for each module should be predictable and clearly defined right from the start**. This approach informs the participants about the skills and abilities provided by each module. In a broader sense, this method strengthens the overall quality of the program design process and of the learners' assessment **by clearly demonstrating the learning outcomes**.

Whilst the modules themselves are structured as needed, every one of them follows the same basic principles. At the beginning of the module, **the participants receive information about the learning outcomes and the final work of the module**, including the content of the module topics in the students' work environment, the proposition for the work environment and process improvements, as well as evaluation criteria. At the end of each module, the participants present their achievements and discuss learning outcomes, whereas teachers evaluate the students' work with a grade. **The participants also present their achievements and discuss the learning outcomes, thereby ensuring a mutual exchange of experience**. This is an additional benefit, considering that the students occupy positions of different ranks and work in various companies in different fields of the sector. During the last module, the learners develop a final work which is based on the competencies acquired in all previous modules.

RESULTS OF SURVEY TO IDENTIFY THE KNOWLEDGE AND SKILLS NECESSARY FOR QUALFIED PRODUCTION MANAGER IN LATVIAN WOOD PROCESSING INDUSTRY

CONTEXT AND METHODOLOGY:

In order to identify skills and knowledge needed for the target audience of the project in the most accurate way possible, using the association platform of P2 and association "Latvian furniture", P2 took a survey of managers and experts form 35 wood processing companies in Latvia: AS "INGRID D.", SIA "HANSA Timber Trade", SIA "4 PLUS", SIA "AG Energy", SIA "AJG Plus", SIA "ALA Lignea", SIA "Alwark", SIA "AmberBirch", SIA "IKTK", SIA "Apsītes AG", SIA "Arko grupa", SIA "Atex", SIA "DRAUGU DĀRZS", SIA "Erte grupa", SIA "GBM", SIA "Kokapstrāde 98", SIA "Konto", SIA "Kraujas Z", SIA "KRAUZERS", SIA "Līvānu mājas un logi", SIA "MARKO KEA", SIA "Ošukalns", ZS "Griezes", ZS "Lūsēni", SIA "Bolderāja Serviss", SIA "Daiļrade Koks", SIA "Dižozols Plus", SIA "Elīza K", SIA "Marks M", SIA "Relat K", SIA "Reliņš", SIA "Rīgas Krēslu Fabrika", SIA "Sencis", SIA "Troja", SIA "Wenden Furniture". This group of companies basically covered whole range of Latvian forest industry – from small family businesses to middle sized companies and large industrial organisations, from primary processing (kindlings, firewood, briquettes, sawn timber, construction materials, veneer etc.) to secondary processing (kiln dried, glued, profiled wood products) and high added value products (furniture, doors, windows, stairs etc.).

For the basis of this survey P2 chose the curriculum of Wood - processing (Industriemeister Holztechnik) VET program from P5 (Lehrinstitute Rosenheim e.V.). After consultations with Latvian Forest industry federation, P2 prepared a survey template, asking company representatives to evaluate importance of each skill represented at Table 1.

Survey respondents were asked to evaluate importance of each skill on a scale from 1 to 10 were 1 is not important and 10 is very important. Each participant could also add skills, that where not in the list, but should be there with high importance in his/her opinion.

Table 1 – Skills to be evaluated during survey of wood processing companies:

	Acting according to law
1.	Considering labor law regulations while establishing individual employment relationships, especially considering collective agreements and company agreements
2.	Considering regulations for social insurance, salary and employment promotion
3.	Considering regulations on work security and coordination with company and external institutions
4.	Considering regulations on protection of environment (protection of waters and soil, waste disposal, protection against air pollution, sound pollution, radiation)
5.	Considering regulations on product responsibility, product liability and data protection
	Economic acting
6.	Considering economic principles of a company with understanding of macroeconomic context and social impact
7.	Considering principles of organizational structure and workflow management of the company
8.	Use and possibilities of organizational development
9.	Applying methods of salary determination and continuous improvement in the company
10.	Determining cost elements, cost centers, payers and carrying out calculation process
	Applying methods of information, communication and planning

11.	Capture, analysis and processing of process and production data using computer systems and evaluation of visualized data
12.	Evaluation of planning techniques and methods of analysis and their application possibilities
13.	Applying of presentation techniques
14.	Creating technical documentation, drafts, statistics, tables and diagrams
15.	Applying of project management methods
16.	Selecting and applying of information and communication forms including the use of appropriate information and communication mediums
	Cooperation in company
17.	Assessing and promoting of career development of individual considering previous work experience and personal and social conditions
18.	Assessing and considering of the influence of work and workplace organization on social behavior and working atmosphere, applying measures for improvement
19.	Assessing the influence of group structures on group behavior and as well as developing and implementing alternative structures
20.	Analyzing own leadership behavior and leadership behavior of others, implementation of basic leadership principles
21.	Applying of leadership methods and techniques including agreeing upon rules and actions in order to promote cooperation of employees
22.	Promoting communication and cooperation by using methods for solving problems in the company and social conflicts
	Considering principles of natural and technical sciences
23.	Considering impact of principles of natural and technical sciences on materials, machines, processes, person and environment e.g. with oxidation and reduction processes, temperature influence, galvanic processes, mechanic motions, electrotechnical, hydraulic impacts
24.	Exploiting of different forms of energy in production and considering their impact on person and environment
25.	Calculations for different sizes of products for loading and moving
26.	Applying of basic statistical calculations and their graphic presentation
	Industrial technology
27.	Selecting of functions of machines, tools and vehicles for lifting, transporting and conveying
28.	Planning, starting and controlling of maintenance measures
29.	Maintenance of devices and facilities for providing energy and rest disposal
30.	Exploitation of devices and facilities considering security measures and technical regulations
31.	Maintenance and controlling of control devices, diagnostic systems and devices
32.	Establishing measures for storage of materials and products
	Production (Manufacturing) technology
33.	Planning and analyzing of production orders and establishing necessary processes, resources and determining necessary technical data
34.	Initiating, steering, controlling and optimization of production process
35.	Assessing impact of new materials, processes and resources
36.	Applying numerical control technology of CNC machines at programming and organizing the production process
37.	Establishing and exploiting of machines and production systems
	Construction

38.	Assessment and correction of conceptual and functional solutions for production considering materials to be used, processes of surface treatment, sketches, drafts and construction drawings
39.	Applying construction principles for furniture, interior facilities, office and store facilities, kitchen facilities, exhibition buildings considering ergonomic principles; selection of production technology and explaining the choice
40.	Development and explanation of suggestions for measures for construction technology; assessment and correction of technical specifications for construction
	Assembly technology
41.	Planning and analyzing assembly orders considering technical specifications, scheduling deliveries of self-produced and foreign – produced parts, establishing assembly place, resources, principles and assembly process
42.	Developing and providing reasoning for process plans of assembly works including choice of tools and machines; proofing, assessing and correcting the assembly plans
43.	Presentation of necessary interim and final controls of assembly works
44.	Assessment of assembly technologies, assigning use and explaining the assignment
	Operational costs
45.	Planning, capturing, analyzing and assessing costs according to plan data
46.	Controlling of the assigned budget
47.	Influencing the costs considering alternative production concepts and demanded warehousing
48.	Working towards cost awareness of employees at different forms of work organization
49.	Creating and assessing cost accounting with different types of costs, cost centers and payers
50.	Applying methods of time management
	Planning, control and communication systems
51.	Optimizing organizational and process structures and updating source data for these systems
52.	Creating, adjusting and implementing plans for production, amounts, deadlines and capacities
53.	Using systems for work process planning, material supply, planning of production program and orders including time and data determination
54.	Using systems of information and communication
55.	Using logistics systems, especially while scheduling product and material deliveries
56.	**Workplace, environmental and health protection**
57.	Checking and guaranteeing workplace, environmental and health protection in the company
58.	Promoting awareness of employees regarding workplace, environmental and health protection in the company
59.	Health protection
60.	Controlling the storage and safe exploitation of materials, resources, tools and facilities possibly dangerous for environment and health
61.	Planning, suggesting, initiating and controlling measures for improving work safety, reducing risks and avoiding accidents, environment pollution and health problems
	Human resources management
62.	Determining and communicating on qualitative and quantitative staffing needs considering technical and organizational changes
63.	Selecting and assigning of employees considering their personal data, suitability for the position
64.	Creating necessary employee profiles, position plans and descriptions
65.	Delegating tasks and responsibilities
66.	Promoting communication and cooperation among employees

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67.	Solving conflict situations
68.	Encouraging employees to participate in continuous improvement process
	Human resources development
69.	Determining quantitative and qualitative needs for human resource development
70.	Defining goals for human resource development
71.	Implementing assessment of potential considering given criteria
72.	Planning, implementing and initiating measures for human resource development considering company needs and interests of employees
73.	Controlling results of human resource development measures
74.	Consulting and supporting employees regarding their professional development
	Quality management
75.	Considering impact of quality management systems on the company
76.	Promoting quality awareness of employees
77.	Applying methods of securing and improving quality, especially product quality and customer satisfaction
78.	Implementing quality management goals

RESULTS:

Skills were evaluated and results of survey analyzed by specific skills and skill sets. Results of skill set evaluation can be seen on Diagram 1:

Diagram 1: **Skill set evaluation**

Skill set	Value
CONSIDERING PRINCIPLES OF NATURAL AND…	110
ASSEMBLY TECHNOLOGY	157
OPERATIONAL COSTS	169
CONSTRUCTION	189
ACTING ACCORDING TO LAW	198
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HUMAN RESOURCES DEVELOPMENT	221
HUMAN RESOURCES MANAGEMENT	264
WORKPLACE, ENVIRONMENTAL AND HEALTH…	275
PLANNING, CONTROL AND COMMUNICATION…	287
ECONOMIC ACTING	298
INDUSTRIAL TECHNOLOGY	302
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PRODUCTION (MANUFACTURING) TECHNOLOGY	312
APPLYING METHODS OF INFORMATION,…	317

The results of survey showed quite large difference in evaluation of importance between different skill sets. Later analysis and discussions with company managers indicated, that skills in these skill sets are important for the companies, but not for the manager of production – those are mostly covered by other professionals and production manager needs only overall competence on these matters. It is important to mention, that even if the SKILL SET got a low evaluation of importance, there still were specific skills in this set, that was evaluated highly, as the further analysis shows.

Evaluation of specific skill importance in skill sets were done. Survey results are shown in diagrams 2 – 16. Analysis of skills added by respondents identified one skill set to be added: Energy - efficiency, digitization and robotization in wood processing.

Skill set and specific skill importance evaluation was 1ˢᵗ step of skill identification and were used in further development of training program structure and content together with project partners.

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Diagram 2: Acting according to law

- Considering regulations on product responsibility, product liability and data protection
- Considering regulations on protection of environment (protection of waters and soil, waste disposal, protection against air pollution, sound pollution, radiation)
- Considering regulations on work security and coordination with company and external institutions
- Considering labor law regulations while establishing individual employment relationships, especially considering collective agreements and company agreements
- Considering regulations for social insurance, salary and employment promotion

Scale: 0, 50, 100, 150, 200, 250, 300

Diagram 3: Economic acting

- Determining cost elements, cost centers, payers and carrying out calculation process
- Applying methods of salary determination and continuous improvement in the...
- Considering economic principles of a company with understanding of...
- Considering principles of organizational structure and workflow management of...
- Use and possibilities of organizational development

Scale: 0, 50, 100, 150, 200, 250

Diagram 4: Applying methods of information, communication and planning

- Applying of project management methods
- Creating technical documentation, drafts, statistics, tables and diagrams
- Evaluation of planning techniques and methods of analysis and their application...
- Capture, analysis and processing of process and production data using computer...
- Applying of presentation techniques
- Selecting and applying of information and communication forms including the use of...

Scale: 0, 50, 100, 150, 200, 250, 300, 350, 400

Diagram 5: Cooperation in company

- Applying of leadership methods and techniques including agreeing upon rules...
- Promoting communication and cooperation by using methods for solving problems in...
- Assessing and considering of the influence of work and workplace organization on social...
- Assessing and promoting of career development of individual considering...
- Analyzing own leadership behavior and leadership behavior of others,...
- Assessing the influence of group structures on group behavior and as well as...

Scale: 0, 50, 100, 150, 200, 250, 300

Diagram 6: Considering principles of natural and technical sciences

Applying of basic statistical calculations and their graphic presentation

Calculations for different sizes of products for loading and moving

Considering impact of principles of natural and technical sciences on materials, machines, processes, person and…

Exploiting of different forms of energy in production and considering their impact on person and environment

(scale: 0, 50, 100, 150, 200, 250, 300)

Diagram 7: Industrial technology

Exploitation of devices and facilities considering security measures and…

Selecting of functions of machines, tools and vehicles for lifting, transporting and…

Maintenance and controlling of control devices, diagnostic systems and devices

Planning, starting and controlling of maintenance measures

Establishing measures for storage of materials and products

Maintenance of devices and facilities for providing energy and rest disposal

(scale: 300, 310, 320, 330, 340, 350, 360)

Diagram 8: Production (Manufacturing) technology

Planning and analyzing of production orders and establishing necessary processes,…

Initiating, steering, controlling and optimization of production process

Assessing impact of new materials, processes and resources

Applying numerical control technology of CNC machines at programming and…

Establishing and exploiting of machines and production systems

(scale: 0, 50, 100, 150, 200, 250, 300, 350, 400)

Diagram 9: Construction

Assessment and correction of conceptual and functional solutions for production considering materials to be used, processes of surface treatment, sketches, drafts and…

Applying construction principles for furniture, interior facilities, office and store facilities, kitchen facilities, exhibition buildings considering ergonomic principles;…

Development and explanation of suggestions for measures for construction technology; assessment and correction of technical specifications for construction

(scale: 0, 50, 100, 150, 200, 250, 300)

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Diagram 10: Assembly technology

Developing and providing reasoning for process plans of assembly works including choice of tools and machines; proofing,...

Planning and analyzing assembly orders considering technical specifications, scheduling deliveries of self-produced and...

Presentation of necessary interim and final controls of assembly works

Assessment of assembly technologies, assigning use and explaining the assignment

(x-axis: 0, 50, 100, 150, 200, 250, 300, 350)

Diagram 11: Operational costs

Working towards cost awareness of employees at different forms of work...

Applying methods of time management

Planning, capturing, analyzing and assessing costs according to plan data

Influencing the costs considering alternative production concepts and demanded...

Controlling of the assigned budget

Creating and assessing cost accounting with different types of costs, cost centers and...

(x-axis: 0, 50, 100, 150, 200, 250, 300, 350)

Diagram 12: Planning, control and communication systems

Creating, adjusting and implementing plans for production, amounts, deadlines and...

Optimizing organizational and process structures and updating source data for...

Using systems for work process planning, material supply, planning of production...

Using systems of information and communication

Using logistics systems, especially while scheduling product and material deliveries

(x-axis: 0, 50, 100, 150, 200, 250, 300, 350, 400)

Diagram 13: Workplace, environmental and health protection

Promoting awareness of employees regarding workplace, environmental and...

Checking and guaranteeing workplace, environmental and health protection in...

Controlling the storage and safe exploitation of materials, resources, tools and facilities...

Health protection

Planning, suggesting, initiating and controlling measures for improving work...

(x-axis: 0, 50, 100, 150, 200, 250, 300, 350, 400)

Diagram 14: Human resources management

Category	Value
Delegating tasks and responsibilities	~345
Determining and communicating on qualitative and quantitative staffing needs...	~340
Solving conflict situations	~315
Selecting and assigning of employees considering their personal data, suitability...	~310
Encouraging employees to participate in continuous improvement process	~265
Promoting communication and cooperation among employees	~245
Creating necessary employee profiles, position plans and descriptions	~150

(Axis: 0, 50, 100, 150, 200, 250, 300, 350, 400)

Diagram 15: Human resources development

Category	Value
Planning, implementing and initiating measures for human resource...	~255
Controlling results of human resource development measures	~210
Determining quantitative and qualitative needs for human resource development	~155
Consulting and supporting employees regarding their professional development	~120
Implementing assessment of potential considering given criteria	~110
Defining goals for human resource development	~70

(Axis: 0, 50, 100, 150, 200, 250, 300)

Diagram 16: Quality management

Category	Value
Applying methods of securing and improving quality, especially product quality and customer satisfaction	~350
Implementing quality management goals	~347
Considering impact of quality management systems on the company	~344
Promoting quality awareness of employees	~328

(Axis: 315, 320, 325, 330, 335, 340, 345, 350, 355)

Student Evaluation of the Training in Latvia %

Statement / Evaluation	Completely agree, %	Partially Agree, %	Neutral Rating, %	Partially disagree, %	Completely disagree, %
1. Content of the module and topics were relevant for the labor market	80	20	-	-	-
2. The topics of the module were broad enough and interesting for me	80	20	-	-	-
3. The pace of training in this module was suitable for me (it was neither too fast nor too slow)	75	23	2	-	-
4. The ratio of theory to practical examples was optimal	78	22	-	-	-
5. In the training module I expanded and gained new knowledge and competencies and / or refreshed my knowledge	81	13	6	-	-
6. In the training of the module, the lecturers were knowledgeable, experienced experts in their field	84	16	-	-	-
7. The production factories and objects for company visits were selected successfully, I gained new experience and good practice	75	25	-	-	-
8. The conditions of the final work of the module were understandable and the implementation turned out to be useful (listening to presentations of other participants, participating in discussions)	64	30	4	2	-
All criteria together, average of all answers, %	77	21	2	-	-

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Evaluation Form - Business

"Skills for Baltic Wood industry – European Quality in Vocational Education and Training"

For questions requiring a score out of 10, please use the following scale:
1- Strongly disagree, 2- Disagree, 3- Neither agree nor disagree, 4- Agree, 5- Strongly agree

1. Learning Outcomes

		1	2	3	4	5
1.1	Did the course help your employee to work more independently (with little or no supervision)?					
1.2	Do you see a significant improvement of the employee's knowledge about the subject matter?					
1.3	Did the employee already have good pre-knowledge about the subject matter?					
1.4	Did the employee show clear positive progress after participating in the training program?					
1.5	Was the employee able to provide own innovations, solutions, or ideas?					
1.6	Has there been an opportunity in your company to address the issues/topics to be solved by your employee in the working environment?					
1.7	Has the course provided positive impact on the employee's work at your company?					
1.8	Do you see potential in the course for the future of the Baltic wood industry and business?					
1.9	Do you plan any promotions for the employee after completing the course?					
1.10	Do you plan any salary raises for the employee after completing the course?					
1.11	Do you think the course added value to your employee?					
1.12	Would you send further employees of your company to participate in this course?					
1.13	Were you as an employer informed about the contents of the individual modules?					

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2. Overall Opinion		
2.1	Did the course meet your expectations as an employer?	
2.2	In your opinion, what were advantages and disadvantages of this course?	
2.3	Will you support such form of studies in the future?	
2.4	What needs to be changed or improved for the next course?	

| 2.5 | Will anything change for the employee in the course in his/her career in your company? If so, what exactly? | |