



THE EXPERT RECOMMENDATIONS FOR THE PERFECTION OF THE PROGRAMS OF
THE VOCATIONAL EDUCATION WHICH ARE RECOGNISED AS A RESPONSE TO THE
CHANGING CONCEPTION OF A VOCATIONAL TRAINING AND THE NEEDS OF
SPECIALISTS COMPETENCES

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1. THE ANALYSIS OF CONTROVERSIAL ASPECTS OF THE VOCATIONAL EDUCATION AND TRAINING SYSTEM ALTERNATION

The features of knowledge and information society which are typical form the modern society influence the emergence of new qualities in various fields. These features cover the levels of systems, organisations and individuals, they also influence the educational systems, its separate sub-systems and the educational process. This initiates the alternation phenomena which in the real reality gain the aspects modernization. Since the education system and its sub-systems interact with other processes of the society development, therefore two kinds of such interaction can be expected, i.e. social and economic development can influence alternation of educational systems or the education systems which are recognised as the initiators of alternation can influence changes in the society. The vocational education and training system which is recognised as the sub-system of educational system is mostly influenced by market needs which reflect the characteristics of the society development, therefore it inevitably experiences transformations. The assumptions of these transformations in the systematic aspect acquire an external effect since new situations in the aspect of the society development pose new requirements regarding the individual's preparation for the activity in permanently changing society. Therefore vocational training changes its parameters and this sub-system becomes a relevant object of studies of the scientists who specialize in different areas, i.e. philosophers, educators, managers.

1.1. The controversies of the conception of traditional and modern vocational training

The assumptions of the vocational training system alternation. Vocational training is recognised as a social task, however this attitude, as is stated by Compter (1998), has established in many states only in the second half of this century, whereas discussions about this aspect are still ongoing in the USA. The policy of vocational training as a scientific discipline that allows recognition of its broad nature, fields of tasks, importance, also social and economic interests has originated more than 40 years ago due to the increasing lack of the balance between supply and demand in the markets and due to the emergence of the after-effects of economic globalization and international competition (Münch, 1995). According to Hyland (1991), since 1970 the movement in the field of vocational education and training began (vocalisation) that was influenced by the processes of globalisation of economic markets. The latter movement from the point of view of strengthening of economic benefit and preparation for a working place currently is recognised as the most common direction and interface globally, which combine education and employment policy regardless of its level of development, political system and geographical location (Skilbeck, 1994). The propositions of these authors and especially the interfaces of education and employment policy which are emphasized by Skilbeck allow assumptions that vocational training as the sub-system of educational system is mostly influenced by a market, it constantly experiences transformation and alternation.

The alternation of the conception of vocational training that influences the alternation of vocational training system is recognised as an integral part of social changes, therefore it is important to evaluate retrospectively the factors which are significant for this alternation.

Changes which are characterised by the particular dimensions are constantly happening in the social life. Schanz (1992) emphasizes 5 dimensions of a social alternation (structural, technical, economic, social, cultural alternation) which are closely associated with the alternation of vocational training conception and system. **Structural alternation** is perceived as an alternation of the structures of the environmental that surrounds an individual. A *material environment* consists of organic (natural) and the formed environment, whereas a social environment consists of professional and personal spheres. During a social evolution an individual becomes more and

more able to change a natural environment and at the same time to change himself thus creating the conditions for the formation of new environment that was created by him and that surrounds him. Due to the consistency of this process and since an individual is more and more penetrating into a natural environment and changes it, alternations in the environment become so intensive that, according to Toffler (1971), they can cause a „future shock“ in the development process. Moreover, some environmental changes influence an emergence of new changes and this process is recognised as „an alternation of an alternation“ by Schmidt (1989), it should be perceived as a new quality of a society. It can be stated that an alternation becomes a structural feature, since when changes influence an emergence of new changes, the social structures change too. In order to specifically understand the processes of alternation it is essential to evaluate the dimensions of structural features of alternation, i.e. technical, economic, social and cultural. The characteristics of **technical** alternation (Schanz, 1992) are as follows: industrial revolution, industrialization, technological progress and automation. Quantitative and qualitative characteristics are recognised in the **economic** alternation. The material environment that is influenced by an individual leads to economic progress that in quantitative terms manifests by a broader products supply, whereas in qualitative terms it manifests by production progress. A rise of a wealth and an alternation of a social environment are recognised as the final result of such progress. The systems of needs satisfaction which have formed earlier are replaced with a broader scale of needs. Since the needs are influenced by economic development, the process of „creative destruction“ is necessary all the time (Schumpeter, 1950) on purpose to ensure a constant functioning of economic systems. A turn of new economic tasks becomes a significant aspect of discussions, i.e. during industrial revolution an economic alternation emerges by quantitative and qualitative rises (Rapp, 1980). The development of a modern production that is associated with the marketable needs has reached a level when economic development has tendentially transformed from the economy of needs satisfaction into the economy of needs stimulation, and this influences social alternation. **Social alternation** manifests by new forms of communication and collaboration which are associated with new ways of thinking and human inter-behaviour which specifically influence the changes of a social structure. It can be assumed that a social alternation directly influences the individuals need to establish in the surrounding environment, in other words it stimulates a constant pursuit of a social goal. Thum (1990) draws attention to the processes of **cultural alternation** which are influenced by such phenomena of technification and globalisation as *an alternation of manufacturing conditions and production; an alternation of communication conditions; an alternation of the relations between nations; an alternation of individual life scenarios*. These four groups of cultural alternation phenomena are at a different level associated with technique, economy and society. A technique is an element of a human creation and it is associated with a culture. An economy that is recognised as a social phenomenon also can be treated as a cultural phenomenon. A society finally influences a culture, however a culture as a human achievement can be possible only thanks to a general social activity of people. Thus, the technical, economic and social fields are dependent on each other and therefore technical, economic and social alternations not always can be dissociated from each other. A conception of a culture that also covers a material side of life also covers a technique, an economy and a society. A technique and an economy always are associated with a social phenomenon, therefore technical, economic and social alternation can influence not only a cultural alternation, but to reflect it too.

These dimensions of a social alternation of cause have influenced a human activity that has become more and more public. In order to satisfy his needs a human had to acquire specific abilities, in other words, the human had to disclose certain specific skills, not only to perform his work. A work activity also required certain mental abilities which had to be constantly developed, therefore it is necessary to talk about *a vocational education and training* that is recognised as an assumption of the above mentioned skills formation. On the other hand, a

socially organized work that acquires certain forms is recognised as one of the most important conditions of an emergence and development of a vocational education and training (Lauzackas, 1999). It can be stated that the processes of work differentiation which were influenced by the dimensions of a social alternation which were mentioned above have also directly influenced the main dimensions of a vocational education and training, i.e. objective (profession, qualification), process (pre-vocational training, a primary vocational training, a development of a vocational qualification), theoretical (the assumptions of an alternation, principles, disciplines), factors (labour market, a policy of a vocational education and training, educational content, teachers' qualification). The assumptions of an alternation which are recognised as an integral part of the theoretical dimension of a vocational education and training will be analysed hereinafter in this article. These assumptions influence the alternation of the conception of a vocational education and training, and cause qualitatively new interfaces of qualification and competence, which are recognised as the integral parts of an objective dimension, in the context of a process dimension.

The conception of a vocational education and training was developing together with the development of a society. The characteristics of an industrial society are important in the aspect of the formation of the conception of a vocational education and training. According to Toffler (1971) this period of the society development (between the second half of the 18th century and the beginning of the 19th century) is recognised as the civilisation of "the second wave" that is characterised by its main feature, i.e. the expanding industry. Purification of individual industrial sectors occurs during this period, thanks to new communication tools markets expand, trading systems develop. The energy system, production and distribution have merged into one large system, i.e. techno-sphere. During this period a secondary stage of labour differentiation in the human activity occurs, i.e. a labour is differentiated by the activity objects (industry, crafts, merchants, stock-raising, farming) and by the nature of activity (physical, mental). At the end of the 18th century and at the beginning of the 19th century peasants liberation and the beginning of crafts freedom were influenced by industrial revolution, they have unclosed wider areas of the human activity and thus disturbed the established social order. Due to a rapid development of the industry of the 19th century many workers who live close to the working places had to be employed. Such phenomenon influenced the processes of urbanization which are treated as the phenomenon of a social alternation. Industrialisation and social issues have become integral and were reflecting the main problems of the 19th century. Moreover, new phenomena are typical for this period, they were influenced by a social alternation, i.e. transition from the patriarchal family to the partnership marriage, decreasing number of families, increasing emancipation, material wellbeing, technical development in all spheres of life, the increased mobility that influences a redistribution of population density (Schäfers, 1990). All these aspects radically influenced a human behaviour that was fluctuating between traditional and new life situations. In other words, a human was always forced to face new situations and he not necessarily had to consider his previous experience during this process. Mass industrialisation of the 19th and 20th centuries has influenced the growth of a labour productivity that has become an assumption of a division of labour not only between various sectors of activity and companies, but also inside individual companies (Lauzackas, 1999). It can be stated that the latter phenomenon has influenced the fact that a vocational education and training have become an important phenomenon on purpose to acquire certain abilities which are needed for the fulfilment of new professional activities, however this phenomenon was limited to the preparation of an individual for a particular working place, since a professional activity itself was strongly structured. Only people who have assimilated practical programs of a vocational education and training which are realized in vocational schools could carry out such activities. *One-dimensional technical attitude towards a vocational training and education that is characterised by the fact that a personal competence is based on the strategies of skills formation and training* has developed (Skilbeck, 1994). A formation of the skills which are oriented towards a particular activity can be envisaged

in this proposition of the author. It is focused on the educative strategies, hence the main responsibility for the human preparation for a professional activity is delegated to educational institutions. Fish (1993) has described such attitude as “morally exhausted”, since it reflects very uncritical and mechanistic approach in which moral competence reflects demands of employers, however the following aspects of personal autonomy aren't emphasized, i.e. an ability to combine personal activity with activities of other individuals, an ability to take over an information of other people and an ability to transfer own intensions and ideas successfully (Bridges, 1992). Thus, preparation of a person for a professional activity in this stage is substantiated on the ideas of rationalism and economic modernization of the 20th century. Moral competence in this stage is recommended as a measure which ensures development of valuables, attitudes and personal characteristics by young workers, i.e. the aspects which are required by employers. In other words, *training of qualified workers of a particular profession who are able to satisfy a demand of employers* is recognized as an objective of a vocational education.

1.2. The assumptions of an emergence of new vocational education and training conception.

The end of the 20th that according to Drucker (1993) is recognised as a period of knowledge and information society requires absolutely new attitude towards qualitative development of an educational process since new stage of a society development requires new qualities of an individual activity. According to the author, the latter stage of a society development is recognised as a qualitative social conversion or transformation that has already began. This is influenced by the increasing amount of information, technology development, constantly alternating requirements in regard of a human activity. This society is characterised and will be characterised by special relation with knowledge and science. According to Drucker, the individuals of a knowledge society will apply knowledge as the members of organisation, therefore post-industrial society can be treated as a knowledge and organisations society. The author emphasizes that a merger of two cultures, i.e. intellectual (that is oriented towards words and ideas) and managerial (that is oriented towards people and labour) is recognised as a most important objective of a future society.

During the analysis of this social development stage Toffler (1971) states that various renewable energy sources are used, universal computerization is typical for this stage, a merger of new energy, technological and information measures accelerates changes of a human work and etc., and this inevitably has to change a conception of economic life and a role of the state. According to the futurologist, *practical Utopia* could be recognised as the model of the existence of such society, where all people will have an opportunity to train their own individual interests, however the individuals and institutions which are used to live quietly and to change slowly can experience many problems due to a rapid tempo. A big social tension puts too big strain on human minds and they face a growing problem of decision making, therefore the members of a society have no other choice but to adapt to new realia, i.e. to adapt personally and to adapt their institutions. Based on the Schanz (1992) dimensions of alternation which were stated above, it is known that knowledge and information society is characterised by the following structural changes: destruction of hierarchical structures, an experience of systemic rationalization; a social alternation is characterised by demographic changes and development of service sector, an economic alternation is characterised by an increasing economic internationalization, globalisation of resources use and environmental impact on farming, the increasing use of new information and communication technologies is obvious in the field of technical alternation, an individualization of value attitudes is obvious in the cultural context. All these aspects form a new order for the system of a vocational education and training, i.e. *the learners have to acquire the abilities and attitudes which would increase their potential of decisions making, ability to act and preparation to act in the professional area and behind it in the constantly changing environment*. Thus, in the context of a vocational education and training professional skills and

abilities to perform a particular activity aren't recognised as the only essential matters. An integration of an activity and personal characteristics are recognised as necessarily factors. Abercrombie et al. (1992) have analysed the social changes in the Great Britain. During their discussion about post-industrial society they envisage the end of the era of an industrial worker. The Resolution of the European Community Commission dated on the 02.06.1989 is sort of a response to the changes of the social development which were stated above and an individual activity: *general and vocational education and training have to become a key priority in the nearest future and a global strategy of the Community development. The Community makes a decision to prioritize a general education and a vocational education and training by investing in people, their qualification, creativity and versatility. The European ability to innovate and to compete, security of a well-being of all the members of the Community will be infringed, unless investment which is oriented towards the existing and future manpower will be made* (Achtenhagen,1995). It is obvious that a knowledge and information society requires new qualities of an individual activity because it is characterised by constantly changing and more complex requirements which are raised on purpose to perform various work activity, and this in turn reveals the controversies between the qualities of information and a knowledge society (T.H.McLaughlin, 1999). According to Juceviciene (1999) a knowledge society is characterised by changing requirements which are raised on purpose to perform various work activity and these requirements stimulate a need to improve personal knowledge of individuals and the systems of their skills. This proposition points to the fact that a continuous learning based on own experience and the experience of others is considered necessary, and this experience shall be enriched with a new knowledge, however it is difficult to select this knowledge from that abundance of information that is typical for an information society. Although the improving information technologies facilitate this process, however the problem of handling the increasingly compressive flows of information persists. A constant training can be recognised as an assumption of a personal effective activity that determines a successful social adaptation in the alternating and improving cultural space. This training process must be based on knowledge and the acquired cognition can aid in an attempt to handle numerous information flows and to use all this in the working activity. It can be stated that an objective dimension of a vocational education and training, i.e. a dimension that states the objective to train a person for a particular professional activity providing him with a proper profession is recognised as insufficient, therefore *the conception of a vocational education and training is strongly alternating too*. After completion of the evaluation of the social characteristics which were presented above and their influence on the alternation of the conception of a vocational education and training arises a question: whether the knowledge acquired by an individual or professional skills are more important for the implementation of an everyday activity? The controversies between a liberal education and a vocational education and training, which are noticed by Pring (1997), can be envisaged in this context. The author states that the following two contradictions can be noticed in the conception of a liberal education: some proponents of this education emphasize a narrow conception of a liberal education in the face of certain changes, whereas others try to reject the best aspects of liberal traditions and grant an education the priorities of subject training. These contradictions reveal a controversy between liberal education and a vocational education and training. In order to avoid this it is important to identify the education goals: whether they are liberal or professional. After rejection of dualism between education and training, between thinking and doing, between usually valuable and useful it could seem that there shouldn't be a reason to think why liberalism couldn't be recognised as a professional benefit, whereas a vocational education and training couldn't be achieved liberally. However, it is necessary to evaluate the existing differences between a liberal and a vocational education and training, since a vocational education and training means an acquisition of the skills, attitudes and knowledge which are necessary for a labour world, whereas the idea of a liberal education is based on the

education of personal intellectual freedom. A general education is essential for a personal development. It is provided by educational institutions which carry out the main mission that is associated with a preservation, transfer and development of cultural values of mankind. The dimension of traditional vocational education and training is oriented towards an opportunity to acquire a profession. After completion of the assessment of the dimensions of a societal change a complete conception of a vocational education and training is available when it is treated as a harmony between a liberal and a vocational education and training, or, in other words, between the objection that manifests in the profession between subjective (personal) and objective (a world of activity) rudiment decision in the process of a human education and self-education, and this reveals a multi-dimension of a vocational training. According to Spranger (1995) this phenomenon is recognised as three closely related fields of a vocational education and training, i.e. subject matter, civil and true-life, or, in other words, a vocational education and training in the aspect of a social development cover economic-technical, state-public and ethical-personal fields. The theoretical propositions of Spranger also are important for the today's vocational training, since the interaction with the dimensions of alternation which were indicated by Schanz (1992) can be recognised in the fields of a vocational education and training which were defined by Spranger. However, this interaction in the constantly changing society influences the increasingly complex requirements in regard of various labour activity, and this is associated with a necessity to constantly improve a personal knowledge of individuals and to associate professional skills into the systems of skills. The experts of the EU, including the president of the British Association for Continuing Higher Education professor R. Chivers emphasizes new attitude towards a vocational training that is based on the ideas of a lifelong learning and the continuing higher education. Such attitude organically integrates the ability to absorb general basic and special knowledge and valuables, also the methodological skills of general and professional activity, and especially the systems of self-help skills training (Juceviciene, 1999). Such attitude extends all the dimensions, and especially the dimension of an objective. The emphasis of profession ad qualification is insufficient in the level of an objective, since knowledge and practical skills must be always combined with personal experience, personal characteristic and valuables. According to Lauzackas (1999) a vocational education and training is recognised as continuous process of human education that covers a pre-vocational training, a primary vocational training, a development of a vocational qualification, a vocational retraining and a vocational rehabilitation, granting people and maintaining the qualifications which are suitable for them and necessary for a society. The emphasis of institutional tasks and market needs can be envisaged in this conception, although it is based on the theoretical propositions of Spranger (1955) and reflect a modern conception of a vocational education and training, however it doesn't reflect an active participation of an individual in the process of a professional education in order to achieve a social objective in the changing society. In other words, it doesn't reflect a social competence that is essential during a constant alternation. Therefore, on the basis of the Spranger's definition of a vocational training and a modern conception of a vocational training it can be stated that a vocational training, that is recognised as a dimension of a process, has a very wide field of activity and it is a life-long process that enables a person to strive to achieve a social objective in the constantly changing society.

In summary of the views presented by various scientists it can be stated that a conception of vocational training has occurred in the industrial society, it was influenced by a social alternation. It can be assumed that a socially organized work can be recognised as the main assumption for the emergence of a professional conception. The need to train a person for a particular work activity has appeared in the context of alternation processes which were happening in the industrial society, and this has influenced the emergence of a vocational training that is recognised as a system. The functions of the resulting system of a vocational training didn't lose their meaning during the transformation of a knowledge and an information

society, however a need of new qualities of the individual's activity which are based on a knowledge and their systems has occurred in this system. The requirements in regard of the individual's activity are associated with a quality not only professionally, but also systematically, therefore a previous conception of a vocational training was extended with the dimensions of a need of lifelong learning, harmony between general basic and special knowledge, valuables and self-help. Such extension of a conception of a vocational training and its multi-dimension reveal a problem that is associated with an objective of a vocational training, i.e. whether the main objective of the system of a vocational training is considered as a training of a qualified specialist, or it is recognised as a security of the conditions which are necessary for the development of individual competence?

1.3. The ratio between qualification and competence in the modern context of a vocational training

The analysis of an alternation of a conception of a vocational training that was performed in the previous part of the article allows allegation that the dimension of a vocational training has experienced particular transformations. Granting of particular professions to an individual that is based on the formation of skills which are needed for the accomplishment of a particular work activity is recognised as an objective of a vocational training in the context of traditional conception. The dimensions of a social development have influenced an importance of a qualification that is recognised as a response to the reality that is required by the objectives of a particular activity (a Latin word *qualificatio* means a degree of the person's eligibility, preparation for a particular work. – A dictionary of international words, 1985). In the context of a vocational training qualification means individual knowledge, know-how, skills, abilities which are usually acquired in the way of learning. According to Erpenbeck, Heyse (1996) a conception of qualifications reflects objectively described educational positions. This can be perceived as a purposeful educational activity that is oriented towards a formational of particular knowledge, skills and know-how which are necessary for a work activity of an individual. However, the skills which were acquired in a way of learning in a rapidly changing society of knowledge and information become old, therefore Bernien (1997) states that the use of a new conception of *key qualification* was started in the seventies of the 20th century. This conception reflected qualitatively new requirements regarding human knowledge and abilities. It is perceived as a totality of widely used professional and social human abilities and skills that is not oriented towards particular professions. During the last decades this conception was further developing and was expanded with the following social components: the ability to work in a team, creativity, the ability to solve problems, self-sufficiency. Such a treatment of key qualifications mitigates an objective contradiction between activity requirements and personal expectations and possibilities. However, a conception of key qualifications in the professional education causes certain discussions. The conception of key qualifications was validated by the researches of a labour market. Soon conceptual propositions were transferred from the companies practice to the level of a vocational training. Buggenhagen (1995) defines the key qualifications as the way of thinking, work and behaviour. According to the author, they key qualifications are stable in regard of the knowledge, abilities and skills which are rapidly changing, are oriented towards working place and are professionally specific; they influence independence, personal responsibility and community sense independently from a particular object of work; they are assimilated during the process of training and work and enable life-long learning (see figure 1).

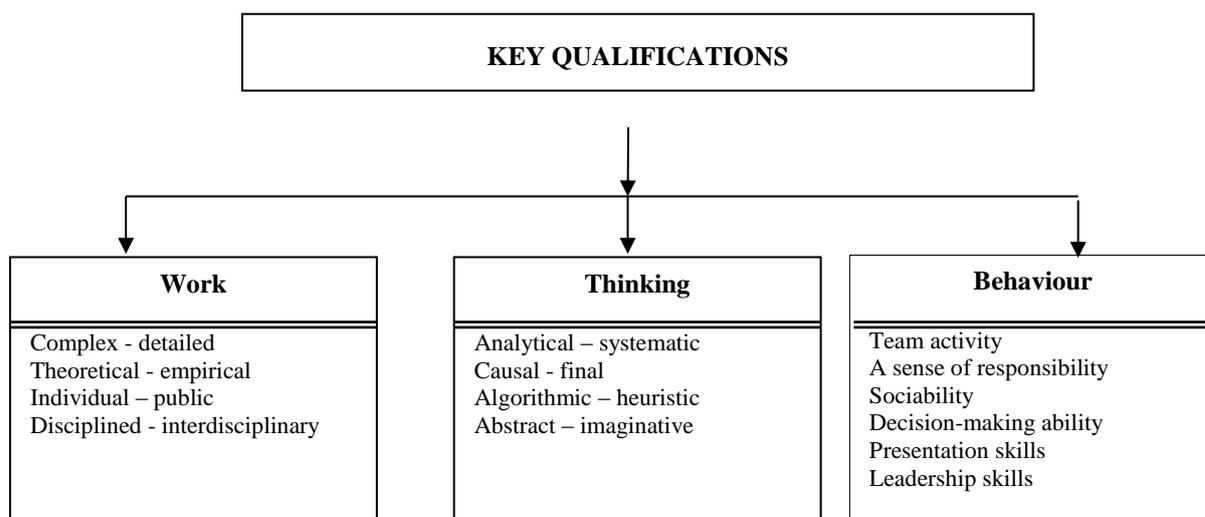


Figure 1. The basics of key qualifications (Albrecht, 1997)

Such a structural reasoning of key qualifications allows allegation that an individual has to acquire such qualifications which could be easily combined in *the working activity* when the complex or detailed tasks are carried out, when the tasks which require theoretical knowledge or the tasks which are based on experience are carried out. The individual who carries out the individual work tasks which are intended specially for him can carry out a public activity without any training when he faces a changing situation. Combination of a disciplined work that is characterised by strict order with an interdisciplinary work (the ability to use the knowledge of various fields) allows performance of such tasks as e.g. researches. Such a treatment of a work activity reveals the main essence of key qualifications conceptions, i.e. *an individual must acquire such the skills of a work activity which can be easily transformed into new activities in the alternating work environment.*

Another integral part of the structure of key qualifications i.e. *thinking* manifests by a harmony of various ways of thinking and an ability to use them all in personal activity. In the work environment an individual faces the requirements to be able to analyse, to test his own activity, to systematize the obtained results of the analysis, to summarise them and to formulate conclusions. The ability to identify the reasons which exist in the work environment must be associated with a provision of after-effects (forecasting). The ability to think on the basis of strict rules is recognised as insufficient, because in the context of constant changes this doesn't stimulate creativity and can't be recognised as an obstacle during a combination of a personal activity and changing requirements. A heuristic thinking that is recognised as an ability to search for new ways of decision is essential in the context of a changing activity. It is necessary to substantiate an abstract thinking with a thinking that is imaginative, enables more creative and better performance of particular tasks. Thus, *thinking in the context of key qualifications is characterised by the characteristics of wide and flexible thinking.*

Behaviour is the third integral part of key qualifications, it reflects *personal features of an individual*, i.e. ability to work in a team, a sense of responsibility, the abilities to communicate and to make decisions, to submit properly own opinion and the results of activity, to lead other people.

According to Buggenhagen (1995) key qualifications can be measured, he suggests to apply the criterions of dual nature for their evaluation, i.e. a) *the ones which are oriented to an*

individual – planned activity, personal initiative, preparation for learning, the possibilities of self-determination, the possibilities to control, flexibility, creativity, the competence of problems solving; b) *socially important criteria* – the possibilities of cooperation, the possibilities of communication, preparation to help, a sense of responsibility. On the basis of this author's proposition regarding measurement, evaluation and certification of key qualifications it can be assumed that these qualifications reflect an objective aspect of the individual's activity.

The presented structure of key qualifications provides this conception to the conception of a competence, that, according to Juceviciene, Lepaite (2000), is recognised as an expression of the individual's qualification or an ability to act that is determined by knowledge, know-how, skills, attitude, personal qualifications and valuables. Since many researches do not recognise essential differences in the conceptions of qualification and competence (Achtenhagen,1994, Nijhof,1999, Alaluf, Strobants,1994), it is important to determine a ratio between these two conceptions and a space of their realisation in the system of a vocational education and training realising a dimension of a process (a pre-vocational training \Rightarrow a primary vocational training \Rightarrow a development of a vocational qualification). A conception of "a competence" and "competences" becomes important in this aspect. Juceviciene, Lepaite (2000) remark that many researches reveal the fact that a conception of competence can have dual meaning, i.e. it can be recognized as a behaviour that can be divided into separate parts (competences) and then it can be observed and assessed in a work place or it can acquire a holistic sense as an ability to assess a new situation, to select the methods of an activity in this situation and to be able all the time to integrate subject and professional knowledge and skills. Lauzackas (1999) emphasizes a **competence of activity** in the level of a vocational education and training. This competence can be divided into subject matter, methodological and social competencies. It also reflects a holistic substantiation of a competence and the differences of a competence, since, according to the author, general and vocational qualifications are recognized as the integral parts of competences. Bernien (1997) emphasizes a **vocational competence** in the system of a vocational education and training. This competence can be divided into various components. According to the latter author a professional competence in a horizontal level consists of subject matter, methodical, social and personal competencies (see figure 2).

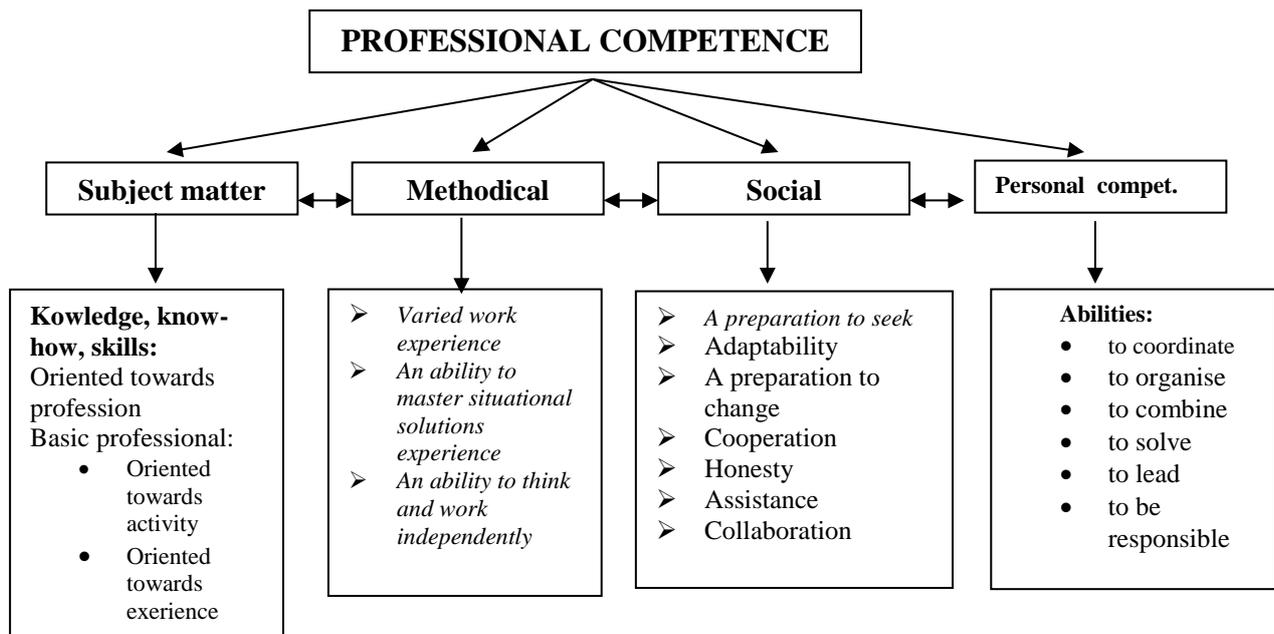


Figure 2. The structure of vocational competence (modified on the basis of Bernien,1997)

According to the author, *vocational competence reflects those abilities and skills, the totality of knowledge and experience of individuals which enable them to act and to react in familiar and new situations.* Such a conception of a vocational competence reflects a comprehensive human activity, i.e. not only the abilities of subject matter, but also the aspects of personality and social aspects. According to the author, an essence of a conception of a professional competence can be perceived after its division into separate components. A totality of these components reflects the most important parameter of a competence, i.e. *an ability to regulate independently a personal activity.* Other authors (Decker, 1984; Sonntag, 1992) offer to divide a professional competence into a subject matter and social, and subject matter-methodical, social and personal competences. All the authors emphasize one and common thing: the individual's skills, abilities, the content of his knowledge can be grouped in accordance with their interaction. According to authors, on purpose to measure these divided elements as separate competences only a subject matter competence can be evaluated, however only partly too. A subject matter competence is based on subject matter, technical and functional knowledge and ability to use them, therefore they can be compared, evaluated and certified. A methodical competence that is presented ambiguously by various authors can't be easily grouped and evaluated. Since a methodical competence is based on an ability to use the activity algorithms, it reflects a subjective aspect of the individual's activity and then only the results of its activity become visible and can be evaluated. The evaluation of a methodic competence itself is impossible. A social competence is based on the communication of at least two individuals, those individuals are characterised by individuality, therefore it is difficult to formulate general criteria of evaluation. The evaluation of this competence becomes sophisticated because it can also emerge in the group activity of individuals where evaluation of every person's contribution is complicated. Exceptionally subjective aspect of an activity is reflected by a personal competence that manifests itself by discipline, self-assessment, self-criticism, therefore it can't be measured when the objective criteria are used. The above aspects confirm the Bernien's (1997) proposition that a division of a professional competence into separate segments allows a deeper understanding of an essence of a competence itself.

The characteristics of particular qualifications can be recognised in the structure of the integral parts of a professional competence suggested by the latter author, whereas this confirms the conclusions of the researches carried out by other authors that although qualifications and especially key qualifications are very closely associated with a professional competence, however they are recognised as the integral parts of competences or divided competences. Then the following problematic issue occurs in the level of a vocational education and training dimension process: where a competence should be developed? Whether it is recognised as a training theory or as the theory of a personality development? In other words, whether a professional competence can be achieved in the system of a vocational education and training using various elements of a didactics, or maybe this space is recognised as insufficient? The distinguishment of *the levels of Professional competence* proposed by Albrecht (1997) becomes important in this aspect. According to the author, a competence development is a long-term process, however a pre-vocational training is undoubtedly considered as its basis. Basic qualifications which are recognised as an assumption of key qualifications are developed on the basis of a pre-vocational training. Key qualifications influence innovations – know-how). An interaction between the levels of this competence guarantees the competitive opportunities of an individual in a labour market.

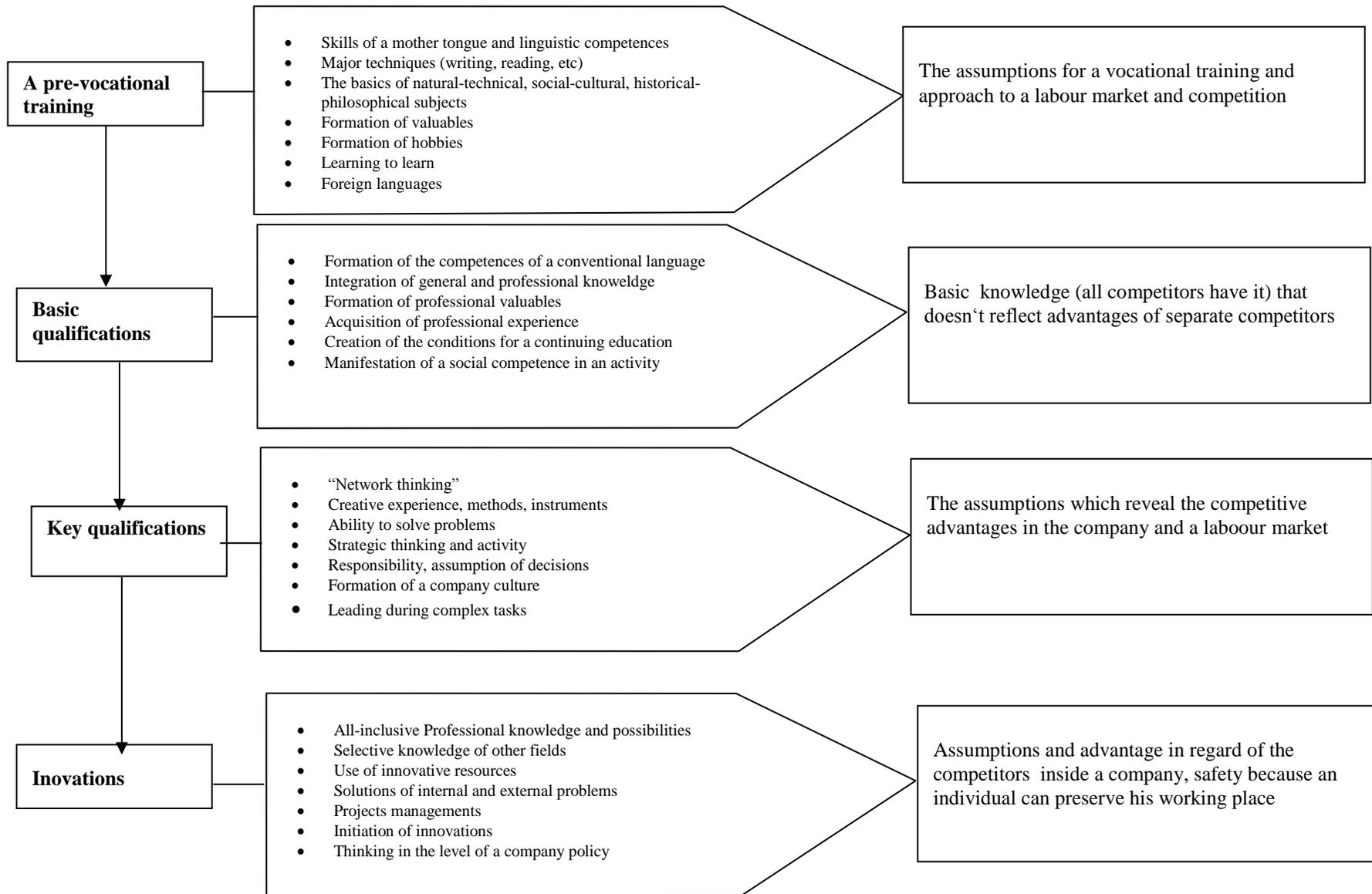


Figure 3. The interface of the competition levels and the competitive possibilities in a labour market (according to Albrecht,1997)

The above model reveals that the contents of the dimensions of a vocational training process which influence a development of the individual's competitive opportunities enable a formation of his social competences that is recognised as a purpose in the constantly changing environment. Since a social competence is one of the integral parts of the holistic competence conception, it can be stated that a formation of the assumptions for a further development of a vocational competence that is closely associated with an activity world and the above mentioned characteristics of a society development, however in the aspect of an individual they can be recognised as his personal objective, is recognised as the main objective of the vocational training (also known as basic and key qualifications) of the dimension of a vocational training process. After completion of the evaluation of the essence of the vocational training conception that was revealed in the part one of the article and the aspects of the interaction between the levels of a competence which were presented by Albrecht (1997), it can be stated that when an individual seeks to realise the social objectives, the dimension of a vocational training objective is recognised as *granting of basic and key qualifications which enable a development of his competence as an assumption of a social competence realisation. A primary vocational training is considered as the space of these qualifications formation, since an expression of an individual's activity that enables his competitive opportunities in the activity word is possible when the dimensions of an objective and a process are properly combined with the dimensions of factors (a labour market, a policy of a vocational training, a content of an education) in this space.*

1.4. The changes of an educational system which influence a harmony between the dimensions of a vocational training

After completion of the evaluation of the transformations of the vocational training system's objective which are influenced by a conception of a vocational training that has changed in the face of the changes in a society, the process dimensions (a pre-vocational training, a primary vocational training, a development of professional qualification) are inevitably associated with a need of an alternation that is recognised as a theoretical dimension. On the basis of the previous proposition that a formation of basic and key qualifications is recognised as the purpose of a primary vocational training, it is important to define the principles of a theoretical dimension which can serve as the basis for an education. As was mentioned in the previous parts of the article, a vocational training, a vocational training as the system especially sensitively reacts to the changes in the environment, since this first of all is associated with an alternation in the market needs. Hence, in the context of a theoretical dimension a constant alternation of the system of a vocational training becomes the most important phenomenon that covers the elements of a didactic system that can be recognised as an assumption of a modern conception of a vocational training. According to Dubs (1995) that during an intensive alternation of a society a big portion of criticism was oriented towards the system of a vocational training in the recent decades, also many suggestion of its modernisation occurred. The author suggests a division of the vocational training system's aspects into the following five groups:

➤ ***Focus on the essential and enduring:*** a vocational education and training in the educational institutions and companies must be based on the attitudes that a learner must acquire only such knowledge, abilities and skills which guarantee a possibility of a continuing formation of knowledge, abilities and skills when the market needs and the parameters of a work activity are changing. In other words, during alternation processes and during an alternation of activity parameters an individual could easily transform the existing knowledge, abilities and skills into qualitatively new knowledge, abilities and skills. After completion of the evaluation of the above in the aspect of the interaction between qualification and competence it can be stated that this is recognised as the basis for a further development of the individual's competence.

➤ ***An orientation towards complex overall areas of problems which are close to a life and a profession:*** not simplified (reduced) models that help to convey knowledge, to form abilities and know-how must dominate in the educational process, but the real (restructured) problems which could be analysed during the process of a vocational education and training. This would enable a more profound perception of the real phenomena which are typical for a world of an activity, since, according to the author, a perception can be more profound when the process of perception itself is recognised as overall. Such an attitude could significantly improve the competitive possibilities of an individual in the activity world.

➤ ***A training that is oriented towards an individual:*** a transfer of a training essence from a situation to an individual emphasizing his personal characteristics is recognised as the main objective of a vocational education and training. This enables the learner's preparation for an activity on the basis of all the processes of training, activity, expression development in order to gain an individual experience instead of an ability to master the conveyed teaching contents. The polemic between problems and contents is considered important, all the learners must comprehend it and to *embed* it into the existing luggage of knowledge and abilities. The following two aspects can be recognized in this proposition: the basics of a personal autonomy formation in the activity world (Bridges, 1992) and stimulation of an individual innovation that is recognised as a top level of a competence (see figure 3).

➤ ***Learning as an active process:*** such learning is perceived not as a superficial and noticeable activity of a learner during the educational process, but as a process of learning from new and already existing own experiences, the entirety (structural) of the acquired individual knowledge and abilities is replaced and personalized, i.e. a personal perception is achieved.

➤ ***Learning in the groups:*** a collective learning in the groups is strongly emphasized, the emphasis is also placed not only on the formation of team work skills (this is also very important in the vocational activity), but first of all it is intended to enable a learner to improve an initiation of interpretations of the situation of an individual complex learning, the ways of solution of individual ideas and problems that occurs in the groups, to present an individual, comprehensible structure.

The above five aspect of a vocational education and training improvement which were suggested by Dubs (1995), reflect the principles of *a learning that is oriented towards an activity* in the didactic system of a vocational education and training, because a learner who uses the forms of an active learning and on the basis of complex situations of learning is able to master the skills of a practical activity and thinking which can be achieved after overcoming of the following three levels: *an activity* (active, the one that establishes an acquaintance with a specific and abstract environment) → thinking (a settling behaviour) → an activity (an application in new situations). After completion of an evaluation of the above presented characteristics of key qualifications it can be stated that the postulates of a vocational education and training which were suggested by Dubs (1995) are essential for their formation, however it should be remarked that key qualifications and their importance are emphasized in the context of the European vocational education and training. There is no discussion about key qualifications in the USA because the behaviourist conceptions are strongly emphasized (Goldstein, 1993). This can be explained by the fact that a short-term vocational training in the companies is especially prioritized in the USA, i.e. the standards of a vocational qualification and the standards of a vocational education strictly reflect the needs of a labour market emphasizing an immediate benefit for a labour market and an individual himself. The postulates which were presented above in such environment are substantiated with the ideas of constructivism (Duffy, Janassen, 1992), where, similar to the conception of key qualifications, a spectrum of opinion is constantly expanding. The representatives of the WIG (Within information given) trend follow the postulates of a vocational education and training suggested by Dubs (1995),

whereas the representatives of the BIG (Beyond information given) trend have gone much further. According to them no objective knowledge should be provided during a process of a vocational education, however the learners thanks to a collective and a self-regulated training must themselves construct their own knowledge and know-how. Thus, *these controversial propositions allow assumption and confirmation of the ideas of the scientists who operate in the field of a vocational education which were presented above that the system of a vocational education and training that sensitively reacts at the processes of a social alternation and the market demands constantly experiences transformations which are reflected in all the dimensions of a vocational education and training, i.e. objective, process, theory and factors.*

1.5. The controversies of the specialists competences and a labour market need in the context of educational institutions and cooperation between employers.

On the basis of the insights which were revealed in the theoretical part the research of a labour market was carried out in 2014. Its purpose was to determine the conformity of the competences of the trained specialists with the needs of a labour market. This research was inspired by the fact that recently the certain controversies manifest in the context of the interaction between an educational system and a labour market. Often the suggestions of a labour world regarding improvement of the specialists training are addressed towards the educational institutions which carry out a training of specialists in accordance with the legislation that regulates the specialists training, since the competences acquired by absolvents not always correspond to the needs of a labour market. Although the educational institutions attempt to grant them during a practical training that is organized in their bases of practical training and during workshops which are organised in the companies, however this aspect remains fairly relevant.

Strictly speaking, the representatives of both a labour market and an educational system notice and identify a need of a closer interaction between a labour market and an educational system, however there is a lack of reasoned researches which could allow revelation of new forms of cooperation between these subjects and the possibilities of their effect. In order to partially evaluate an effect of a labour market new educational/training programs should be prepared, however it doesn't reflect the conception in a broad sense, but represents a need of competences only in the context of a particular educational program. The analyses are intended for determination of conformity with the needs of a labour market of two groups of the absolvents, i.e. the specialists of vocational schools and colleges. The results of the research that was carried out in Kaunas region revealed that the absolvents who have graduated from the educational institutions (vocational schools and colleges) partly satisfy the needs of a labour market, however the absolvents of vocational schools much more lack vocational knowledge and skills when compared with the absolvents of colleges. According to the employers opinion the absolvents of colleges during the years of study have acquired more general abilities which satisfy the needs of a labour market. During workshops, which are organised by the companies representatives, a bigger number of problems can be detected in the group of the trainees of vocational schools. The arising problems are caused by insufficient luggage of theoretical knowledge, the trainees and absolvents motivation to work in the field of the selected speciality, low motivation regarding development of qualification after graduation. The knowledge acquired in the educational institutions, general and professional practical abilities only partly satisfy the participants of a labour market. In the context of these results which are recognised as adverse in regard of educational institutions two main reasons can be envisaged, i.e. 1) insufficient cooperation between educational institutions and employers and 2) insufficiently flexible and modern programs of specialists training which by their content are considered too distant from the needs of a labour market. The research that was intended

for a revelation of a context of the cooperation between educational institutions and employers revealed the fact that organisation of practical training is recognised as the most common form of cooperation between companies and educational institutions. The companies' representatives participation in qualification examinations and qualification commissions also is recognised as a positive aspect, since this activity allows more objective assessment of the graduates' competences, especially their ability to apply the acquired theoretical knowledge in practice. Since the educational institutions aren't capable to use the latest technological equipment during the process of the specialists training, it is very important for a teaching staff to be familiar with all real technological changes in a labour market, therefore when the employers invite the lecturers to their companies thus allowing them to acknowledge the latest technological measures used by the companies and technological innovations, such a phenomenon is recognised as very significant in the context of development of the lecturers competences. Cooperation with the representatives of educational institutions is identified as a priority number one by the representatives of a labour market that should be assured during development of cooperation with educational institutions, whereas involvement in the improvement of the programs of theoretical and practical training is ranked two and a bigger number of trainees in the companies is ranked three. Thus, while evaluating theoretical controversial aspects in the level of vocational education and training, and the real limitations which are associated with preparation of specialists and which are identified by the representatives of a labour market, it can be stated that a constant update of educational programs, their projection and implementation in accordance with the constantly alternating technological, economic and social changes and the needs of preparation of appropriate specialists for a labour market which are associated with these changes are considered as a very important aspect.

2. PREPARATION AND DEVELOPMENT OF THE PROGRAMS OF A VOCATIONAL EDUCATION AND TRAINING IN THE CONTEXT OF SYSTEMATIC ALTERNATION

Modern requirements, forecasting of their alternation, the requirements of the employers who ensure a stable existence of a profession, the researches of the employers and scientists who ensure a development of a profession – all these requirements are recognised as a starting point of the training programs planning. On the basis of the above requirements the training objectives which must be associated with the objectives of training (self-training) (the knowledge, competences which are intended to be developed) are planned. Then the content of studies shall be selected and the methodology of their implementation must be provided, i.e. the methods which are suitable for the achievement of the training (self-training) objectives are selected, thus a student will be able to become a competent specialist who is able to function in the provided professional area. After the end of a training process the student's achievements (the knowledge acquired, competences) are evaluated. On this purpose a degree of coincidence between the students objectives and their achievement must be determined. All the states who seek to join the unified European space of education are prompted to follow such logic during development of the methodologies of planning, organisation and evaluation of an educational process. They are also prompted to develop the programs which would be mainly oriented on the training of competences of two groups (general and subject matter). In this context the following factors are considered important:

1. *The indicator of the graduates employability* helps the persons who prepare the programs to see the interfaces which bring together a professional environment and training programs. The connections between a professional environment and a training program manifest in various forms. The representatives of a professional environment, i.e. employers participate in the committees of the programs preparation, they are invited to participate in the thesis committees, the students have

an opportunity to gain practical knowledge during their temporal employment in the companies. During preparation of new and during an update of the existing programs, the experience of social partners and the experts of a professional environment is considered important when defining the objectives of a program level and the criteria of evaluation and organizing a training process by application of a wider range of methods.

2. On purpose to substantiate *the connection between a program demand and the potential of a professional environment* the researches of a professional environment, a market demands and the training programs conformity, when the expert, i.e. employers, the absolvents of a program and other social partners who represent a professional environment become a main source of a data

3. *National and international strategic documents* (the strategies of the trends of a professional activity, international directives and agreements, other normative documents which regulate a preparation of specialists and which define the acquisition of the absolvent's qualification) which reveal a more global perspective of a professional environment.

4. *A maintenance of a feedback* manifests by the research of the opinion of the social partners of a program that is carried out periodically. The research is carried out in accordance with the analysis of the interviews and documents of state and public organizations, industry and business organizations. The arguments of potential employers, social partners about the program changes and their effect, the required competences, the opportunities of the graduates (self-) employment are presented. The feedback surveys help to maintain the social-partners interest in a program and allow a security of its vitality.

5. Since a professional environment of the same trend of the specialists training can be very broad and may contain many educational programs of various profile, therefore *the comparison* of the program with the similar programs of the public high schools and the schools of other countries reveals their similarities and differences. *It is necessary to prove the differences between a new program and the existing programs and what the niches of a professional activity they tend to fill.*

The program of the specialists' preparation can be a subject matter and modular by its structure. The subject matter program is characterised by the fact that a different number of credits is granted for every subject, however a number of the semester credits remains constant and fixed. A modular system is characterised by the fact that a program is divided into the larger and integral elements of a program, i.e. modules.

More and more attention is paid on the analysis of a modular training. An importance of a modular training implementation is emphasized in many international and national documents. A mobility of people, especially those who belong to the academic community is recognised as one of the most important objectives of the European Union. In order to achieve this objective it is important to ensure a more flexible and more open training structure in the national educational systems, therefore it is important to create the real and relatively simple systems of recognition (also the systems of training results/objectives, and qualifications) which create not only the assumptions of mobility, but also the assumptions for a better preparation for a professional activity. A modular training could be useful for this. A module is a distinctive feature of this program, it is the unit of the program, its value that is expressed in credits always is the same or its value is multiplied twice or three times, i.e. the values of the bigger units, i.e. modules of the program are multiple. A module is a part of a standard size program, it has a defined purpose and objectives and the criteria of evaluation.

Thus, a module is a larger unit when compared with a subject, therefore it gives more freedom and opportunities for a collective activity between lecturers and students. Second, a modular training stimulates cooperation between lecturers, discussions, cooperative researches. Third, during preparation for a professional activity the students have an opportunity to

professionalize and to choose an individual way and time for the acquisition of the qualifications which are necessary for their profession.

There are two types of the structure of a modular program of studies: 1) when all the modules are equal by their extent (e.g. all modules contain 10 or 15 Credits of the European Vocational Education and Training); 2) a program contains the modules of a different size. The multiple value of the smallest module is used for the determination of their extents, e.g. if a minimal module covers 5 Credits of the European Vocational Education and Training, then the extents of other modules can be recognised as the multiple values of this number, i.e. 10, 15, 20 Credits of the European Vocational Education and Training. The number of credits can be indicated in a modular program, i.e. 30 credits in a semester or 60 credits per year.

The advantages of modular programs.

1. A big module as a larger unit of a program causes the assumptions for an improvement of a didactic competence of a lecturer or lecturers (if they work as a team that is capable to properly allocate works). The opportunities to apply additional and more diverse methods of a (self) training and evaluation, to stimulate students to self-train in more diverse ways and thus to help them to educate themselves and to develop general and subject matter competences. A module (as a larger unit of a program) creates better conditions for improvement and development of general competences. Modular programs are characterized by other advantages too:

- they help to avoid too big fragmentation of the studies program, division into the subjects of a very small extent;
- reduce the number of examination to be passed by students;
- facilitate a comparison of modules in different programs and create the conditions to choose the modules of other programs, whereas the acquired credits can be transferred from one program to another;
- make a program more flexible because an attention is paid on the general structure of a program (a subject matter program is characterised by a focus on the content of a subject);
- facilitates a balance of the student's workload;
- more effective use of a (self) training time;
- a student has an opportunity to professionalize, to personalize learning and to create the groups of modules;
- a modular program is more suitable for a (self) training and development of general competences;
- individual modules can be suitable for the development of specialists' qualification.

During implementation of a modular training program, restructurisation of the latter and the integration and combination of the related subjects must be carried out. The subjects' integration helps to avoid a content duplication and overlap. During development of the structure of a modular program it is necessary to ensure an integrated discussion between the committee of the studies program and the lecturers who work in the program and the module. Their cooperation is important for a definition of modular objectives, determination of the student's workload, selection and integration of a training content.

The fact that several lecturers who implement an integral module must face a restriction of their individual freedom is recognised as one of the disadvantages of a modular program. The administration of a training process is much more complicated during a transition period and later

and this is recognised as another disadvantage. During development of a modular program usually a subject matter program of studies serves as a basis, the developers also tend to keep all the subjects which were in the program. Such a mechanical combination of subjects should be avoided. The developers must remember that during implementation of the program that is based on the training objectives, a content integrity and suitability for the achievement of the intended objectives are recognised as the main criterion of a content selection.

A module is a larger unit of a program, its implementation can be intensive. This allows an achievement of particular objectives of a program, creates more suitable organisational assumptions of an intensive self-training, summer semesters and distant training.

Since the duration of a module becomes longer, an opportunity to *even* inadequacies, to solve the organisational, personal problems of the students (e.g. illness, a tour organisation, etc.) occurs, the lecturers can have more free time that can be spent for the internships in other countries, mobility program, etc.

Thus, considering the above general advantages of modular programs, a further detailed analysis of these programs preparation as an assumption of the innovations implementation in the level of a vocational education and training is carried out.

2.1. The assumptions and conception of development of modular programs of a vocational education and training

Qualification is recognized as a starting point of every modular program of a vocational education and training. A program is developed for the qualification acquisition. A practical aspect of the concept *qualification* is often identified with the documents which are acquired in the system of a vocational education and training, i.e. certificates which confirm the fact that a particular person has graduated from a certain training program and has acquired a qualification, i.e. a preparation for a certain work. The documented (licensed) qualification means the implementation of minimal qualifying requirements. A diploma that certifies a qualification indicates that the absolvent has acquired knowledge and abilities which allow him to begin an individual work in the field of a certain professional activity.

The unit of qualification is recognized as an integral part of qualification. A qualification describes a preparation for a broad multi-functional (in most cases for a profession), whereas the units of qualification mean functional abilities to carry out a part of that activity.

The division of a qualification into the units of qualification is very important in the system of a modular training echoing the principles of this system flexibility and availability when a person who wants to work in one or another area of a professional activity must have only several competences and there is no need to acquire a full qualification. The qualification units consist of the groups of competences. In some cases a qualification unit can consist of only one competence.

During development of modular programs of a vocational education and training it is necessary to know what small activities will be included in the training program of a specialist and what knowledge and abilities he will have to acquire, i.e. what task which are associated with an activity he will have to solve and what processes of activity he will have to carry out. Therefore, it is very important to divide a qualification into separate competences. In the literature sources and in practice a concept of a competence is often used on purpose to describe a worker's competency. However, these two words have a different meaning. When we want to emphasize the effectiveness of a worker's activity, its quality or his ability to use practically certain competences and/or qualification, then a word competency or incompetency shall be used. When we speak about the person's preparation (potential) to perform a certain function of an activity or an operation, then we shall use a concept of a competence. Formally a program of a vocational education and training is

recognized as short, structural and consistent description of theoretical and practical elements of a vocational education and training content which form the unified totality and certify a particular qualification. This allows understanding that a program of a vocational education and training is intended for the description of the things which are intended to do substantiating and planning the measures for the achievement of the intended objective/qualification. A program of a vocational education and training program consists of the system of interdependent and mutually consistent elements / modules and such the structure is recognized as an exceptional feature of a program of a vocational education and training. Hence, all the elements of a modular program that was prepared in accordance with methodological attitudes are closely interrelated with each other. The proper parameters, i.e. the purpose of a program/its specification, self-training results of a program play an exceptional role. The results of self-training which are recognized as objective developed competences have especially exceptional meaning during development of a modular program of a vocational education and training. They determine all other parameters of a program and in the program modules they turn into the results of modules.

The developed modular program of a vocational education and training passes the cycle that consists of 7 stages and returns to the same situation that is already different. According to R. Lauzackas (2008) the development of a program of a vocational education and training is recognized as theoretically substantiated, organized and methodologically consistent process. Preparation for a professional activity is recognized as the purpose of a modular program of a vocational education and training, therefore contradiction between the qualification requirements raised by the system of a professional activity, needs of learners and the possibilities of their satisfaction in the institutions of a vocational education and training is recognized as a reason of a new program creation and the starting point. A preparation of a modular program of a vocational education and training is performed in a circle manner, where the structure of a qualification required by a vocational education and training is recognizes as a starting point, whereas the assessment and testing of the created program is recognized as the end point. The assessment results determine a next stage, i.e. the determined inadequacies determine the beginning of the first stage and the actions of a program improvement.

It is important to pay attention at the following factors:

- The professions which are defined in the classificatory of professions are presented in the **first stage** of a program preparation (assessment of the scale of professions is carried out) and the decision is made regarding the profession that is the recognized as the purpose of a program (cook, cook - bartender, food maker, etc.), the documents which regulate a profession are being acknowledged;
- The professional standard or the standardized part of a program are analysed in the **second stage**, formulation of qualifications is being formed, i.e. definition of a program structure, identification of a qualification level, determination of qualification units, identification of their level, update of competences;
- The analysis of the standardized parts of a vocational education and training standards of the adjacent programs of a subgroup and their comparison with the competences which are defined in the program that is currently being prepared are carried out in the **third stage**.
- The decision regarding specialisations is made in the **fourth stage**;
- The description of the purpose, objective of a modular program of a vocational education and training are carried out in the **fifth stage**, the results, competences of a program and the specialization competences are defined too.

- The assessment of the time that is needed for the acquisition of a certain competence is carried out in the **sixth stage**, i.e. determination of the program extension that is expressed in the number of the learner's work hours and credits is carried out;
- The definition of the content of a (self) training is carried out in the **seventh stage**, i.e. the certain modules of a program are provided (including the modules which are intended for the acquisition of a specialization).
- The definition of the criteria and the forms of the learning achievements (qualification evaluation) is carried in the **eighth stage**;
- The preparation of the program modules' descriptions is carried out in the **ninth stage**.

The schematic presentation of the logic of the modular programs and modules preparation can be seen in the figures 4 and 5. These two logical schemes are inseparable, i.e. first of all the logic of a program preparation must be maintained, then the logic of a module preparation.

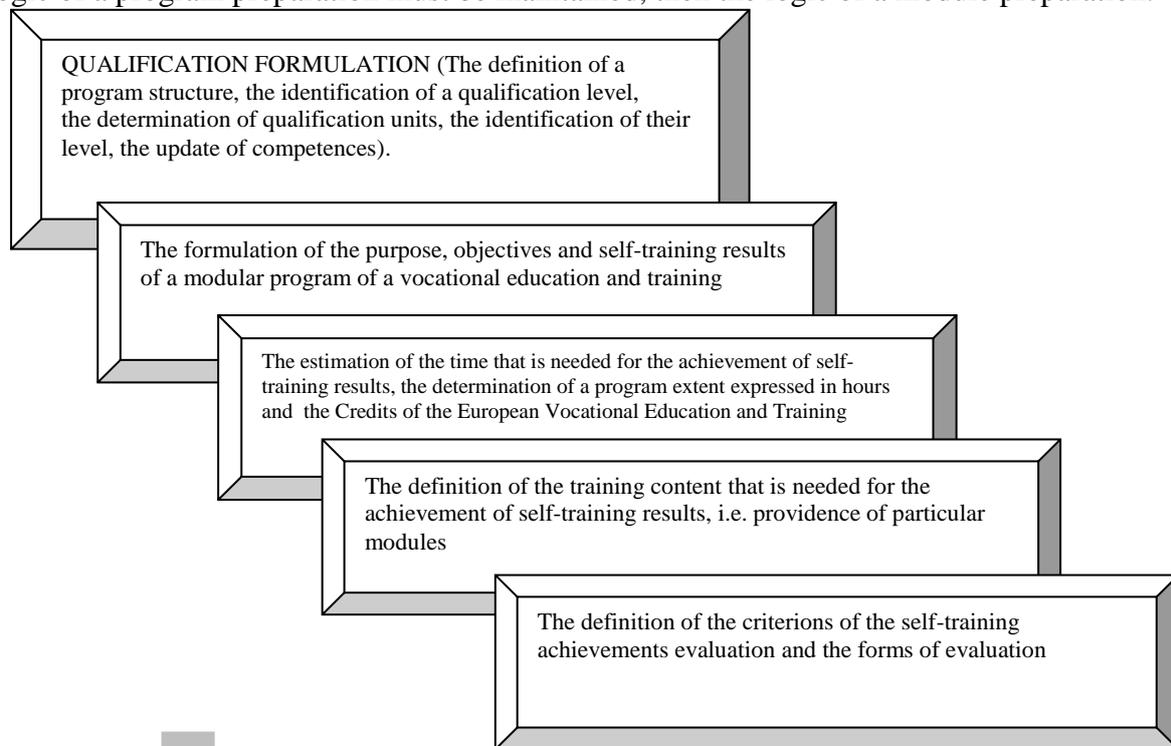


Figure 4. A logical scheme of a modular program preparation

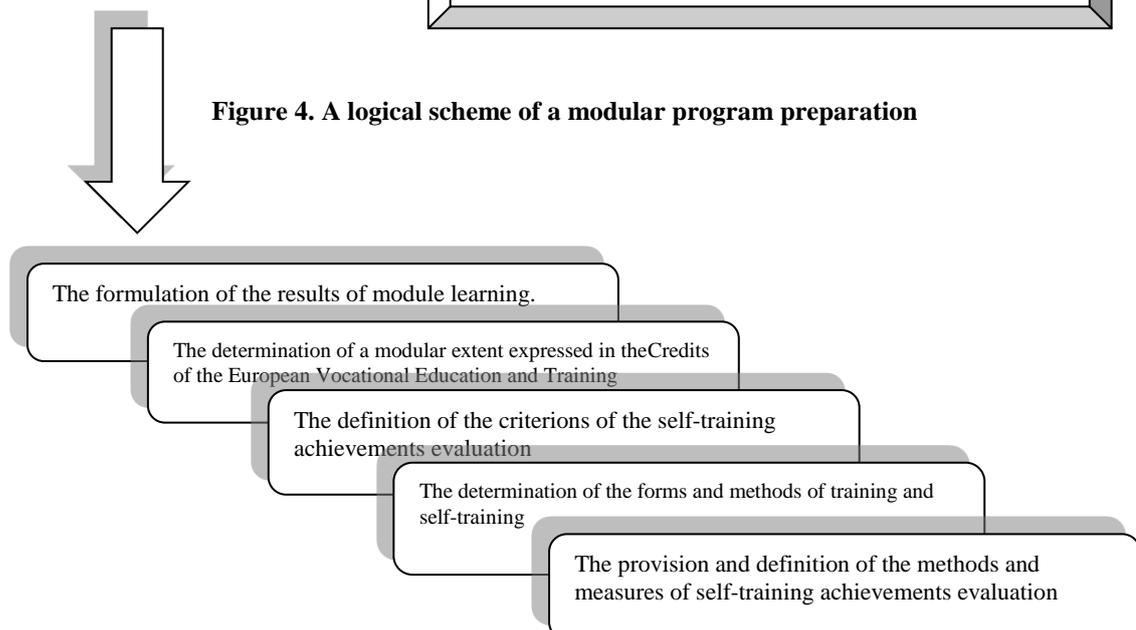


Figure 5. The logic of a module preparation

2.2. The interaction between a module of a vocational education and training and the national structure of qualifications

During development of a module of a vocational education and training it is essential to maintain the main principles and requirements of the module development. A module is recognised as the element of a clear duration, it is close, autonomous, its size is standard. A module is oriented towards the desired competences or the part of a qualification. A modular training is based on a clear structure of training and the modules which were developed on the basis of competences acquisition. These modules form a consistent general structure, however students can study them as a separate unit that is dissociated from a general training program. The main principles of a modular (self) training are set below:

- logical consistency,
- organisation,
- accumulation,
- cooperation,
- motivation
- (self) training technologies (Navikiene 2008).

The development of a module should be carried out refusing from the material that is recognised as unnecessary for the acquisition of a particular part of a qualification, in other words during the development of a module it is necessary to consider the principle “nothing too much”. A module is perceived as the elements of (self) training which fit together, i.e. objectives, content, the ways of (self) training and evaluation. It is necessary to create such a modular structure that would allow a learner to recognise and to perceive the objectives pursued, to be able to choose the required self-training material and to follow sequential instructions. The area of competence and the qualification division into qualifying units are recognised as the basis of a modular construction (see figure 6).

A module must be associated with qualifications which are defined in the national structure of qualifications. During preparation of a modular training program it is very important to remember that the development of the competences which exist in the modular structure must be considered as subordination of the relations between competences and vocational standards. A standard is a normative document that indicates minimal requirements for the fulfilment of a professional function, therefore during the definition of a module that is recognised as the structure of the (self) training that is based on competences it is necessary to develop a content (*curriculum*) which is adequate to a professional activity. In the context of a vocational education and training a module is perceived *in the process level*, whereas qualification unit is defined *in the results level*. “The program that is based on a modular structure consists of the elements which are separate from each other by a certain structure, i.e. elements which can be passed (credit, exams). A vocational education and training program consists of the accumulated modules of the particular level of the qualifications structure which in the level of results are described as qualification units, i.e. “the parts of qualifications which can be defined by knowledge, skills and competence. The units can be certified” (Severing, Hanf, 2009).

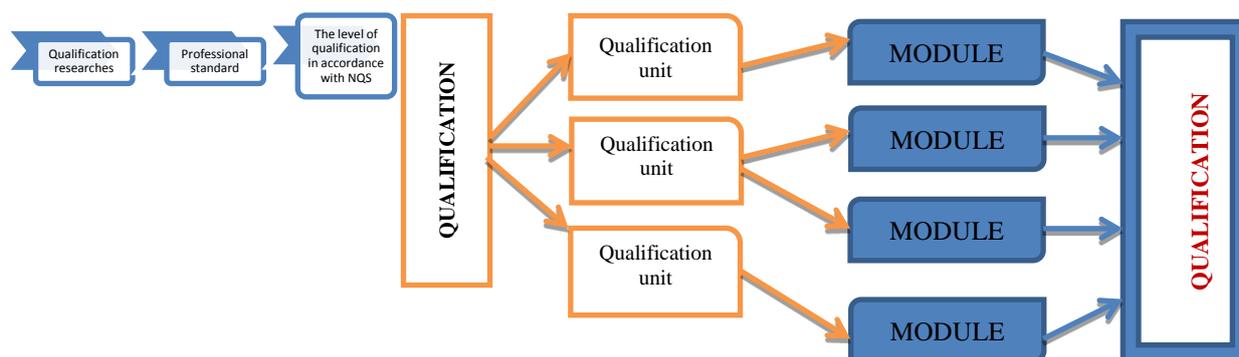


Figure 6. The ratio between the module of a vocational education and training and the National qualifications structure (NQS). According to Z. Navikiene, V. Tutlis (2009).

During the development of the modules of a vocational education and training it is very important to maintain the main principles of a modular (self) training, i.e. *continuity, accessibility, flexibility, clarity, transparency, explicitness and accumulation*. *Individualization* is another important aspect of a modular training. During the implementation and application of a modular training in this context and in order to ensure the parameters of individualization it is essential to determine the previously acquired learner’s knowledge, therefore an opportunity of a self-assessment should be developed to allow a learner to make the assessment of the previous self-training achievements. P. Juceviciene (1989) states that “the diagnostics of the existing knowledge must be determined in the way that could allow an easy development of the individual structure of a particular model that is based on the result of the diagnostics of the existing knowledge”. Since the development of the particular competences which could serve as a basis for the acquisition of a particular qualification is recognised as the main purpose of a (self) training, a competence in the modular construction is treated as the totality of the acquired knowledge, know-how, abilities, valuables, outlook achievements during the pursuit to acquire a part of a qualification (unit) through the provided results of a self-training. Modules were developed during integration of competences and knowledge in order to allow students to react to the professional activity changes.

2.3. The structure of a modular training program / module

The criterions of the modular training program / module structure which will help to perceive the procedure of the module presentation are introduced in this part. The criterions of a modular training program / module structure consist of a cover sheet, the user manual of a module, a module introduction, a module self-training content, the administrative requirements of a module, a module summary. According to R. Ali (2005) a module must contain the thorough instructions of self-training with clearly indicated objectives of a self-training section, the list of self-training activities which must be considered during the pursuit of the targeted objectives and self-training technologies, therefore the taxonomy of a modular structure helps to perceive a modular construction. According to P. Juceviciene (1989) “a special attention must be paid on the obligatory modular structure”, therefore the example of a modular structure is presented in the table 1.

Table 1

The criteria of a modular training program / formation of a modular structure according to Rasiat 2005, Juceviciene 1989

THE STRUCTURE OF THE MODULE DEVELOPMENT	THE CATEGORY OF DEVELOPMENT	DESCRIPTION
COVER SHEET	The name of a qualification	The definition of the name of a qualification, the indication of the level of the national qualification structure.
	Name	The indication of the qualification units which reflect competences.
	Description	The presentation of a qualification, the indication of competences.
	The model of a module (modules)	The definition of the level of a module (modules) importance in the structure of a whole qualification. The presentation of the type of a module in accordance with the position in the program and importance (e.g. obligatory, optional, recommendable, etc.)
USER MANUAL	The presentation of the module sections, the explanation of the consistency of their learning and the learning procedures. The standard symbols which present the objectives, outlay, feedback of a separate part can be developed.	
ADMINISTRATIVE REQUIREMENTS	Duration	The indication of a module learning duration and the opportunities the learning intervals selection.
	Credits / the training points	The indication on purpose to determine the module extension and significance in the whole structure of a qualification.
	Methods	The description of the methods of a self-training which help to acquire the appropriate competences.
	Contact hours	The establishment of the teacher's consultations
	The module classification	Determines the type of the module learning (full-time groups, partial group, self-sustaining learning, etc.).
INTRODUCTION	Purpose	The description of the module significance for the competences acquisition, the indication of the module position in the general program, qualification and professional context.
	Objectives	The module objectives which are directed towards the self-training achievements, i.e. the competences acquisition.
	The list of competences	The part of the professional standard description that highlights the competences which are necessary

		for the acquisition of a professional qualification.
	The list of the essential skills	The basis that is necessary for the module selection, therefore the significance and importance of the obligatory previous knowledge and skills in regard of the optional module must be described.
	The list of the self-training objectives	The self-training objectives are conveyed in the terms of demonstration, they can be measured. Each section of a module must begin with the specific objectives which are typical for that section.
	Diagnostic pre-tests	Help to find out the level of the existing students' knowledge and skills on purpose to perceive the level of the module depth use.
	The assessment and score up of the previous self-training achievements (competences)	A competent commission that is formed in accordance with a tripartite objective principle determines the existing abilities and after completion of their proper evaluation allows scoring of a whole module or its part.
	The self-training technologies	The provision of the means, materials, etc. which are essential for a self-training.
	The self-training results	The propositions about the student's knowledge and comprehension level and his abilities after the end of the self-training process; the terms <i>knowledge, skills and competence</i> are used for the description of a self-training results (the European Credit System for VET, 2008:18).
THE CONTENT OF A SELF-TRAINING	The self-training divisions, sub-divisions (elements)	The description of the self-training divisions, sub-divisions, the provided objectives and achievements of the self-training divisions / subdivisions.
	The consistency of a self-training activity	All the issues must be oriented towards self-verification and self-assessment, practical tasks allow consistent realization of each activity.
	Tasks	The presented tasks of a self-training allow simulation of the possibilities of the problems of a vocational education and training.
	The control of the ability to master a knowledge	Was prepared in accordance with the module objectives, regularly measures the acquired self-training achievements.
	Practice	The indication of the internship

		time; whether it will be integrated into this module; whether it will occur during the time intended for the internship.
	Feedback	A feedback helps to improve a module, to discuss and to find out the unclear results of the final test thus consolidating knowledge and avoiding the self-learning gaps.
SUMMATION	The self-training results / the achievements evaluation – the methods and processes which are applied on purpose to determine the degree of the knowledge, skills and competences acquired by the student and to define the procedure and criterions of evaluation EBK KOM (2008)	

The formulation of the module’s objectives is recognised as the starting point of the modular training program preparation, since these objectives serve as the basis for the module content projection in the further stage. Tough interfaces must exist between the modular objective and content, since, according to B. Ott and K. Halfpap (2004), “setting of an objective as the didactic tool is useful only in case the students clearly understand the tasks, conditions and requirements of a self-training and work for the system which is being developed”, therefore the module which is being developed must define a clear objective of a self-training and to define the self-training achievements. The self-training trend and character is determined by the student’s experience, therefore the main objective of a self-training arises from the student’s needs which must be determined and identified (defined) as the lack of the particular competences. Competences are considered as the content of the student’s practical / cognitive activity which will serve as the basis for the result’s achievement.

2.4. The determination of the program extent by the ECVET

The ECVET (European Credit Transfer System for Vocational Education and Training) credits introduction to the national systems of a vocational education and training is intended for the facilitation of the transfer, accumulation and recognition of personal achievements in the area of a self-training. The ECVET project was prepared by the European Commission in accordance with the Resolution of the Education Council dated on the 12th of November 2002 and the Copenhagen Declaration dated on the 30th of November 2002. On the 14th of December 2004 the Maastricht Communique has extended and intercepted the authorization of 2002. The ministers of 32 European countries who are responsible for a vocational education and training, also the European social partners and the Commission made the agreement regarding the Maastricht Communique. The system of ECVET credits is intended for the formation of the assumptions for people to be able to move from one self-training environment to another. Thus ECVET intends to become the tool of information interchange that will help the individuals to take advantage of all the benefits of education acquired, especially of the education that was acquired thanks to international mobility, regardless of whether it was acquired in the environment of formal, informal or self-contained self-training.

ECVET is the method of the self-training achievements (knowledge, skills and competency) transfer and accumulation by their linking with credits

ECVET facilitates transfer and accumulation of the self-training achievements which were acquired during the people's movement from one environment of a self-training to another, from one system of qualifications to another;

ECVET is based on the voluntary participation of the member states of the European Union and their concerned groups in the appropriate systems of qualifications and a voluntary education and training.

ECVET is the mechanism that stimulates the interaction between the support from the training providers that is intended for the cooperation between partner organizations on purpose to transfer and to accumulate the credits of an individual self-training.

ECVET is supplemented with the European qualifications structure (EQS) and it is based on general principles and provisions which first of all:

- emphasize the self-training achievements expressed by knowledge, skills and competency;
- are adjusted to the needs of life-long learning and equally treat all the environments of a self-training;
- are oriented towards stimulation of people's mobility

The determination of the program's extent by ECVET credits is based on the general reference levels suggested by the European qualifications

- ***ECVET offers:***
- *an opportunity for people to choose the further ways of a self-training on the basis of the knowledge and abilities acquired, and to move from one environment of a self-training to another, especially when they participate in the mobility;*
- *the method of the evaluation of the knowledge and abilities which were acquired abroad and to score them up during a further self-training on purpose to acquire a qualification in the national systems of a vocational education and training;*
- *the instrument for the training providers, specialists and responsible authorities providing them with the possibility to make the easier comparison of the knowledge and/or abilities acquired in various countries, also to legitimate and recognise them.*

Therefore the developers of the modular programs of a vocational education and training must determine the credit based extension of a particular program that provides a formal qualification. Also on purpose to facilitate the transparency of the constituent elements, i.e. qualification units and competences the ECVET credits are applied for the quantitative representation of each competence and description of its weight and value in comparison with a whole qualification.

Therefore it is important to make a clear definition of the results which must be achieved on purpose to acquire a required qualification in the description of each modular program of a vocational education and training

On purpose to achieve the ECVET objectives, the credits first of all are granted for a whole qualification, i.e. for a whole training program, later a certain number of credits from a total number of credits is granted for the separate competences, i.e. modules, since the number of credits reflects the weight ratio of each competence with a whole qualification.

The defined results of a self-training determine the characteristics (content, extent, etc.) of the competences which form a qualification. On purpose to achieve the ECVET objectives the credits first of all are granted for a whole qualification, later a certain number of credits from a total number of credits is granted for the separate units, i.e. competences, since the number of credits reflects the weight ratio of each competence with a whole qualification.

As can be seen the ECVET credits are recognised as an additional source of the information about the qualification that is acquired during a program. Since the ECVET credits are associated both with a qualification and competences, the following two functions are assigned to them:

- the presentation of the picture of a relative value of the self-training results in regard of all qualification. They illustrate the competences' ratio with a qualification;
- the facilitation of the real self-training results transfer presenting a general starting point between the systems of qualifications in the European level.

The ECVET credits are granted on the basis of the following criterions:

1. the evaluation of the content of each competence in terms of importance, knowledge, skills and competency;
2. the information about the average duration of a program;
3. in terms of the learner's workload in the context of a formal self-training;
4. in terms of the learner's efforts in the context of an informal and a self-contained self-training;
5. in terms of the combinations of several criterions.

The extent of the already existing program of a vocational education and training shall be concretized, corrected after completion of the summation of the separate competences of that qualification, i.e. the credits of modules.

The following conditionality can be used as a real indicator: an average of 60 ECVET credits could be associated with the self-training results which are achieved by an individual within one year of a self-training. Such the measuring is purely indicative. It doesn't determine the absolute and strict criteria of measurement. It also doesn't require a strict adherence to a self-training duration, an obligatory period of self-training or mandatory efforts.

A self-training credit is recognised as the unit of a self-training extent that is used for the measurement of the self-training results and the learner's work time. One year of a self-training consists of 1600 hours equal to 60 credits

The structure of the modular programs of a vocational education and training in terms of the credits of a modular extent can be dual. First, when a program consists of all modules which are equal by their extent (all modules consist of 10 or 15 ECVET credits), second, when a program consists of the modules of different extent. In the latter case it is recommended to follow the following main attitude: the modules extents' determination is carried out using the multiple of the

module that is the smallest by its extent. E.g., if the extent of the smallest module is equal to 5 credits, then the extents of other modules can be recognised as the multiples of this number, i.e. 10, 15, 20 ECVET credits.

The modular programs of a vocational education and training which are based on competences, the self-training results and the credits which are granted for their acquisition are more flexible, more attractive and better correspond to the needs of learners and a labour market and the needs of the transfer to another environment of a self-training.

During the implementation of the programs of a vocational education and training the following aspects are considered important:

1. the results of all learners are documented, they are granted with an appropriate number of the ECVET credits which can be transferred to another institution of a vocational education and training, regardless in which country of the EU it is located;

2. if a self-training involves separate modules of a program, then their credits are accumulated, whereas the results of a self-training mark the level of the competence acquired;

3. very often competences are acquired informally, when a person works in one or another field of activity, or similarly, then the credits are granted after the completion of the evaluation of his/her achievements which were acquired informally or the credits are granted after the recognition of the existing competences and a person gets a chance to work and to continue his studies in the appropriate program.

The features of a properly prepared modular program of a vocational education and training:

The real objectives of a program which correspond to the qualification level and the self-training results (competences);

The optimal compatibility between the modules: the modular extent can be different, however the number of credits corresponds to the expenditure of time which is necessary for the results implementation;

The program stimulates the learners to develop competences in the way of the options increase (optional modules).

2.5. The determination and formulation of the modular self-training results

The modules are prepared for the acquisition of the formulated self-training result/competence of each level of the modular vocational education and training program. In other words, the modules are prepared on purpose to implement the program and form the content of a whole program.

In terms of the content of each modular, the division of the program's result/competence into the smaller elements is recognized as an important action, i.e. the modular self-training results. The modular self-training results are recognized as an essential element that determines the modular self-training content/tasks. The determination of the modular self-training results is essential in order to allow a learner to have a clear understanding what exactly he must learn. The program's self-training results mean an ability to perform a particular activity, whereas the modular self-training results mean the particular learned didactic elements of this activity. The modular self-training results are more detailed and the selection of the material, tasks, self-training methods, etc. which are essential for their implementation is much easier. The modular self-training results are recognized as the starting point that must be considered on purpose to define the criteria and measures of the evaluation of the self-training achievements results.

The self-training results formulation is both important and fairly complicated process that requires the accomplishment of the results formulation procedures using the taxonomies of the

(self) training objectives. These taxonomies allow definition of the self-training results which are oriented towards the knowledge and abilities of a particular level. On purpose to achieve the above knowledge and abilities, a different content of a self-training is necessary.

The formulation of the module's self-training results is carried out moving through four stages. *During the first stage* the answer to the questions *what the self-training results must be achieved on purpose to acquire a particular competence? What he must know, be able to do? What personal qualities he must have? What general competences he must have?* i.e. *What is needed in order to acquire a competence – the program result?* is found. The answers to the above questions turn in to the results of the modular self-training. 5 to 9 self-training results are recommended to be formed for one module. Usually the complexity of the defined competence that is recognized as the objective in the module determines the self-training results number. The comparison of all formulated self-training results is carried out *in the second stage* in accordance with a particular taxonomic theory and the assessment is performed on purpose to find out whether they correspond to the real taxonomic levels. It is important because if the competence formulation corresponds to the level of analysis (Bloom's taxonomy), then the modular self-training results which were derived from it must/can include all lower levels, i.e. the levels of knowing, comprehension, application, whereas at the end of a module the achievement of the analytical level self-training must be ensured. This is important because a whole process of a self-training depends on the taxonomic level of the self-training result, i.e. the methods of training and self-training, tasks, the methods and measures of the self-training achievements evaluation and etc. *The third stage* is recognized as the correct formulation of the self-training results. The latter consists of three parts: **1 – an active verb** that usually written in an infinitive form using the verbs which can't be interpreted, e.g. in the level of knowing the following verbs are used: *to name, to tell about, etc.*, in the level of comprehension the following verbs are used: *to explain, to group, to recognize, etc.* **2 – a complement** that tells what to do, **3 – a context or a condition** that indicates in what context and under what conditions a particular task must be performed. (More information can be found in the sub-section 2.2.1). *in the fourth stage* classification of all self-training results is carried out, i.e. they are divided into three groups, i.e. knowledge, abilities/skills and general competences.

The matrix of a program and a module is presented in the table 2.

Table 2

The matrix of the programme and the modular results

<i>The results of the program self-training</i>	<i>The result of the modular self-training</i>		
competence 1	Knowledge	Abilities, skills	General competences
competence 2	Knowledge	Abilities, skills	General competences
... competence	competence	Abilities, skills	General competences

During the formulation of the self-training results, first of all the problem of the main verb occurs. What does it has to mean? Whether it must mean a taxonomic level or a verified proposition? The self-training results separation in accordance with the appropriate fields (cognitive, psychomotoric, emotional) and in accordance with their levels (e.g. the cognitive field is separated into knowing, comprehension, application, analysis, synthesis, evaluation) is complicated too. Practically this step means a very complicated work with the self-training results. Here it is worth to remember the rules and requirements of the self-training results formulation. All the self-training results must represent a particular field (cognitive, psycho-motoric, emotional) and a particular level (e.g. the level of a cognitive field: knowing, comprehension, application, analysis, synthesis, evaluation). The program and modules developers must not only clearly understand this,

but also be able to accomplish practically, to calculate the part of the modular self-training results that is attributed to a particular taxonomic level. This is a practical task that allows the determination of a strategic subject, i.e. whether the formulated result of a self-training is in the harmony with a qualification level of the vocational education and training program.

The purpose of the programme objectives and the self-training results is recognized as a problematic issue. I. Savickiene (2010) presents the definition of the self-training results and states that they correspond to “the requirements which define the abilities, which must be acquired or developed by learners in accordance with a cognitive, psycho-motoric and emotional field of a self-training”.

THUS:

the result of a self-training is recognized as the written proposition that determines the learner’s abilities after a successful completion of a self-training.

In terms of the self-training results the following main aspects should be emphasized:

□□ the self-training results are used for a clear and uniformly understandable definition of knowledge and abilities which must be acquired by a learner;

□□ the propositions of the self-training results indicate a learner what his achievements will be evaluated after finishing one or another stage of a self-training, or a whole module, therefore a learner has a clear picture of the subjects that require his attention during a self-training and performance of tasks;

If a learner has achieved some self-training results, whereas other results were left behind, his qualifications could remain unrecognized. However, the institutions of a vocational education and training do not follow this principle and apply a compensation mechanism, i.e. when the achievements of some results of a vocational education and training exceed the threshold requirements (high level of achievements), whereas a learner doesn’t achieve other requirements of a vocational education and training, then “the highly” achieved requirements compensate the ones which were not achieved. Here occurs a problem of scoring. The criterions of the evaluation of the self-training result of a vocational education and training achievement or fail to achieve, also the evaluation of the achievement margin overrun must correspond to the particular criterions of scoring. Due to this reason the results of a vocational education and training must be closely linked to the criterions of the vocational self-training achievements evaluation.

The results of a vocational self-training must be formed in the way that would allow the learners to demonstrate their self-training achievements, whereas the profession teachers, instructors, the internship mentors could carry put monitoring, analysis and evaluation. As better the self-training results are formulated, as easier a learner can understand how to achieve them, whereas the modules’ developers can define the criterions of evaluation. According to R. J. Marzan (2005) it should be highlighted that the properly formulated self-training results must be the learner-oriented, i.e. they must indicate the level of comprehension and activity abilities that must be achieved by a learner as the result of involvement in the professional learning activities and the tasks accomplishment.

The vocational self-training results involve the following three fields: cognitive, psycho-motoric and emotional.

The results of a cognitive field usually are formulated in accordance with the cognitive levels (knowing, comprehension, application, analysis, synthesis, evaluation) of the B. S. Bloom’s (1956) taxonomy. The recommended active verbs which can’t be interpreted correspond to them.

The psycho-motoric field is associated with *the motoric skills* and usually manifest during practical actions, it is also associated with *the social skills, such as communication and information.*

The specialists are advised to formulate the vocational self-training results of the psychomotoric field in accordance with the levels of the E. Symptom's (1972) taxonomy.

The movements which are based on reflexes, reactions, the main movements, physical powers, the skills of psycho-motoric activity, the ways of non-verbal communication, complex movements, which require power, speed, mobility, flexibility, the coordination of different movements are assigned to the psycho-motoric field.

Dave (1968) distinguishes the following 5 levels in the taxonomy of psycho-motoric objectives:

Imitation. The observation of other people's activity and its imitation, copying, mimesis;

Manipulation. The particular actions learning that is characterized by striving to perform verbal or written instructions. The multiple repeat of actions;

In the level of ***accuracy*** a bigger precision occurs, a lot less mistakes are made during the accomplishment of complex movements;

The coordination, harmonization of separate actions is happening in the level of ***articulation***;

Actions become natural in the ***naturalization*** level and can be accomplished easily, professionally.

The self-training results of emotional field reflect the changes of the individual's behaviour and activity that is associated with emotions, attitudes, feelings, value orientations, recognition, etc. They are known from the D. R. Krathwohl's (1964) taxonomy that emphasizes the following levels of results manifestation.

The level of attention (notice)

The level of reaction

The level of value

The level of value comparison

The level of value definition

The vocational self-training results of emotional field usually express the following general personal abilities of an individual: *punctuality, honesty, responsibility, thoroughness, innovation, independence, confidence, self-criticism*, etc. Recently big emphasis is given on their significance, therefore the specialists are advised to pay attention at it in the modular programs of a vocational education and training, thus formulating the results of a vocational self-training which express general abilities and which can be realized throughout the whole process of a vocational self-training. The formulation of the results of the emotional field of a vocational self-training in the form that could also allow the expression of evaluation criteria, i.e. to be checked at the end of a vocational self-training, is especially complicated.

It is especially important to select the correct active verb of the self-training result, because other components of the result formulation are necessary for the description of the action that is being expressed by that verb. Moreover, the verb of a vocational self-training result indicates what will be evaluated. It is important to understand that not a vocational self-training itself has to be evaluated, but the learner's representation of a vocational self-training. Thus, the correct phrases must be indicated in the self-training result formulation, e.g. instead of "will be able to perceive" the phrases "will be able to explain", "to describe", etc. must be indicated. The active verbs of a comprehension level which can't be interpreted (i.e. the active verb that can't be interpreted must indicate *how* a learner must be able to demonstrate comprehension) are indicated in the figure 9. During the formulation of the vocational self-training results their propositions shouldn't be mistaken with the propositions of *the vocational self-training objectives*. The purpose of the self-training objectives and the vocational self-training results is different.

The verbs which are used in the formulations of the vocational self-training objectives aren't very precise, they can be interpreted in various ways, because actions aren't specified by objectives. The clear criteria of the learners' vocational self-training achievements evaluation also can't be defined on the basis of objectives.

The self-training results formulation must define the way of the required ability level achievement, also the tasks and (or) activities which must be performed on purpose to achieve the required ability level during a vocational self-training, therefore the result must define the activities of a vocational self-training which must be considered by learners on purpose to achieve the self-training result

It is necessary to pay attention on the fact that the sentence of the vocational self-training formulation must consist of the following four parts:

- *the general part of a sentence,*
- *an active verb or a phrase,*
- *a complement,*
- *a context or a condition.*

The developers of the modular programs of a vocational education and training must both to properly formulate the results of modules learning and to decide regarding their number. It is better to avoid the formulation of too many results of module learning, because in such case the control of the self-training achievements evaluation will become very complicated, also it will be difficult to ensure the opportunities for the learners to achieve all provided results of a self-training.

2.6. The assessment and evaluation of the self-training achievements in the module level

Assessment;
Evaluation.
Threshold criteria.
Grade criteria.
The rest criteria

An assessment and an evaluation in the modular training that is based on the competences development is the process that involves the collection of the evidences about the learner's self-training achievements and decision regarding these evidences making in accordance with the pre-determined criteria.

An assessment is the process that allows getting the results about the learner's self-training achievements, the activity quality and level, also the acquired competence. The assessment is intended for the determination whether a learner is able to use and to apply his self-training achievements during his work activity. The assessment essence is as follows: to apply various methods on purpose to collect the evidence of the self-training achievements and activity. It is very important to receive proper evidence from a learner on purpose to make a perfect assessment, whereas the assessor must arrange appropriate assessment methods and tasks which could allow obtaining of appropriate evidences. The assessment system is recognized as the organization of the self-training results expression and formalization procedure that must be clear both for the assessors and the learners who demonstrate their self-training achievements.

An assessment in the modular training involves not the assessment of separate knowledge or abilities, but the fully acquired competencies. The answer to the main question that is associated with the competence acquisition during the assessment process can be as follows: the learner can perform a specific activity/the learner can't perform a specific activity/the data is insufficient, therefore the decision regarding assessment can't be made. The competences assessment is based on the following principles:

- the assessment is based on clear criterions;
- the particular learners' achievement/the evidences of the competence acquisition are assessed during the assessment.

An assessment includes the self-training achievements demonstration and monitoring, whereas an evaluation includes the confirmation of the fact that the learners have acquired the ability that was formulated in the task of each module and are able to perform all required actions. The evidences can be presented in various forms:

- the products which were produced by the learner;
- the learner's activity monitoring that is based on characteristics;
- the evidences which were submitted by the persons who were monitoring the learner (video, audio recordings, etc.);
- the task accomplishment results (projects, case studies);
- the answers to the questions which were submitted in written or verbal form;
- the role-playing during the simulated self-training;
 - portfolio;
 - other.

The above mentioned evidences must be:

- reliable, they must be associated with the assessment object, i.e. the self-training result, what is being assessed (knowledge, comprehension, ability, general competences);
- sufficient, the evidences extent must be sufficient for the demonstration of the determined activity within the established time of the task accomplishment.

While planning and organizing an assessment it is important to follow the main principle: the assessment methods and measures/instruments must correspond to the assessed competence (the self-training results). Therefore it is essential to:

- choose the appropriate assessment method;
- choose a suitable measure/instrument of evidences collection;
- make a precisely interpretation of the results.

2.7. The determination and formulation of the self-training achievements assessment criterions

The criterions of self-training achievements assessment are recognized as the features which serve as the basis for making the decision about the self-training achievements (knowledge, comprehension, abilities, skills, general competences) conformity with the defined self-training results. The criterions of the self-training achievements assessment are intended for:

- the ensuring of the module content transparency;
- the module content concretisation;

- the facilitation of the decisions regarding the self-training achievements making by teachers and a feedback submission to learners;
- the ensuring of a clarity about the self-training results (what they must seek to achieve during the self-training process).

The types of the criterion of the self-training achievement assessment can be different. Moon (2002) recommends using the criterion of two types, i.e. the threshold criterions and the grade criterions. While formulating the threshold criterions, the self-training achievements are defined. After demonstration/non-demonstration of the above achievements the learner is scored positively/negatively. The type of the grade criterions requires the definition of clear the self-training achievements criterions on purpose to get the grade of each level (from 0 to 10 grades in the ten-point grading system).

While applying the assessment model that is based in criterions, all the learners have an opportunity to get a good grade, if their self-training achievements correspond to all assessed criterions. The assessment that is based on criterions is directly associated with the self-training results which must be measured. The assessment criterions must be easily understandable for the learners, they must allow them to have a clear picture of their work and must show the meaning of a successful work completion. Formally the assessment is carried out in grades which are based on the particular determined criterions which are acknowledged by the learners at the beginning of the (self) training process. The criterions determination allows reduction of the assessment subjectivity and the increase of the assessment reliability. The criterions' definition plays the most important role in the assessment model that is based on criterions, therefore the module's description must contain the clearly formulated assessment criterions which are associated with the self-training results.

2.8. The methods and measures/instruments of the self-training achievements assessment

1. The assessment objectives must be clearly defined.

On purpose to prepare the assessment guidelines or to improve an assessment it is essential to know clearly the assessment objective. The assessment types, methods, tasks, criterions, assessment and a feedback strongly depend on the selected objective.

The assessment objectives can be as follows:

- the assessment of knowledge and abilities quality;
- the alternation assessment within a certain time;
- the diagnosis of the learners achievements and progress;
- the recording of the self-learning achievements
- the stimulation of the learners' motivation

2. An assessment must be recognized as an integrated and constantly planned part of the training and self-training process. An assessment must be associated with the self-training results, the assessment strategies must be discussed with colleagues (teachers), the assessment criterions are being formulated, the schemes of the assessment with grades are being created.

3. The assessment criterions must be defined and substantiated. The assessment criterions must be associated with the self-training results, they must correspond to the learners' self-training level

(not too high and not too low). Learners can express their opinion regarding the criteria formation and to apply them during the assessment of their own progress.

4. An assessment must be clear, understandable. All the training process participants must know and understand the assessment objectives, criteria and procedure.
5. The assessment process must be objective.
6. The assessment tasks must be reliable and reasoned.
7. The assessment tasks must be achievable.
8. A learner and teacher must be able to bear the assessment workload.
9. An assessment must be carried out by application of various assessment methods.
10. An assessment must perform the function of the training quality assurance.

The assessment planning. The main stages of an assessment are as follows:

- The assessment objectives formulation and the description of the provided training results by defining them as the competence that is developed in the module program and its components, i.e. knowledge, comprehension, the cognitive abilities of a higher level.

- The module content review (whether the selected content allows the implementation of the formulated training objectives and the achievement of the provided self-training results).
- The assessment objects description (what we intend to assess, i.e. knowledge, comprehension, the developed general and special competences).
- The preparation of the assessment instruments, assessment tasks for the achieved self-training results assessment by making the decision regarding the assessment model and the assessment methods.
- The analysis of the assessment information on purpose to find out the gaps of the teacher's and students' activity, the training and self-training activity conformity with the quality criteria on purpose to carry out the further improvement of the methodology of a module training and assessment and the students' self-training results.

On purpose to avoid the assessment subjectivity the specialists must consider the following recommendations:

- The checklists which contain clear answers to the questions and the criteria of practical tasks performance should be prepared and given to the assessors
- At least two assessors must perform an assessment.
The following aspects must be considered while planning the assessment procedure:
- The assessors' time expenditure;
- The resources which are necessary for an assessment (materials, equipment).
- The time that is intended for the tasks performance.

1. The performance of practical tasks (the abilities, skills demonstration).

Practical tasks are performed individually or in the group under the different conditions, i.e. in the auditorium, laboratory, real working place. A demonstration can be applied both for the interim and final assessment. The following aspects must be assured while preparing as practical task:

- a clear and exact instruction of the task performance;
- the understandable task content;
- the sufficient resources which are required for the task performance;
- clear criterions of the students assessment;
- the feedback possibility

The competences' assessment usually is carried out in the form of the observation of the practical task performance. The following various forms can be applied for the competences demonstration:

- a verbal demonstration, e.g. for the assessment of communication skills;
- a complex demonstration, it is carried out in a real working place or the environment that imitates a working place. In this case the student is allowed to demonstrate.....
- examinations.....
- a project.....

2. A task/an exercise.

This is a small task that is accomplished in accordance with the set parameters. This method of assessment differs from a practical task that is intended for the competences demonstration which is carried out on purpose to assess separate actions or a whole module. Each task must be described, the conditions of its performance must be indicated. The tasks of this type can be verbal or the student may be asked to perform calculations, to draw drawings, to carry out the analysis of particular practical situations.

3. Daybook.

It is the student's responsibility to fill in a daybook. Its format depends on the developed competence. A student together with a teacher can plan the format of a daybook. A teacher sets the requirements for the daybook content. The following requirements are raised in regard of this document:

- *a clear formulation of the instruction of a daybook filling;
- * the presented requirements of the daybook clearance;
- * the set terms of the daybook presentation for the assessment.

4. Portfolio.

The examples of the student's activity which demonstrate his competences acquisition are being accumulated throughout the modular training process. These examples can be as follows: photo pictures and video records; the actually developed product; drawing, picture; calculations; scheme; documents, etc.

A teacher prepares the requirements for the accumulation of the above examples and presents them in advance to the students. The following requirements are raised in regard of portfolio:

- the instruction of portfolio formation must be clear and understandable;
- the establishment of evidences types and format;
- the example of evidences format;
- the assessment criterions;
- the references to the sources which are essential for the evidences collection and which can be presented to a student;
- the terms of the evidences presentation for an assessment.

The selection of **the assessment method** depends on many factors set below which must be considered by a teacher:

- the assessment object, i.e. everything what will be assessed (knowledge, comprehension, skills);
- the assessment objective (the formative or summative assessment);
- the size of students group, etc.

The assessment measures must be constructed in the way that would allow measurement of the students' achievements of the self-training results (taxonomy can be applied for their formation).

The assessment tasks must be clear, a student must easily understand what has to be performed, what instruments, materials, equipment, etc. must be used on purpose to accomplish the tasks, also the information about the place of tasks performance, what the result's presentation format must be, what the criterions will be applied for the tasks assessment, how much time a student will have for a task accomplishment.

Bellow can be found the verbs which are recommended during the assessment tasks formation depending on the assessment object:

- knowledge – to characterize, to describe, to enumerate, to indicate, to name...
- comprehension – to explain, to indicate differences, to prove, to illustrate, to make a conclusion, to summarise.
- The knowledge application – to use, to solve, to prepare, to indicate, to make....
- The analytical and organizational abilities – to plan, to develop, to evaluate...
- Practical abilities – to develop, to measure, to implement, to construct, to select, to apply, to manage, to participate, to cooperate, to work safely, to demonstrate, to depict....

The assessment method: The monitoring of the practical tasks which are carried out in the real or modelled work situation; Examination (conversation, test, interview); The analysis of individual or group projects; The monitoring of small tasks/exercises performance; The daybooks analysis; The analysis of the portfolio of the student's activity examples which demonstrate the achieved self-training results.

The assessment must be clear, understandable. All the training process participants must know and understand the assessment objectives, criterions and procedure. The assessment

process must be objective. The assessment tasks must be reliable and reasoned. The assessment task must be achievable. A student and a teacher must be able to bear the assessment workload. An assessment must be carried out by application of various methods. An assessment must perform the function of the training quality assurance.

The assessment planning. The main assessment stages are set below:

1. The assessment objectives formulation and the description of the provided training results by defining them as the competence that is developed in the module program and its components, i.e. knowledge, comprehension, the cognitive abilities of a higher level.
2. The module content review (whether the selected content allows the implementation of the formulated training objectives and the achievement of the provided self-training results).
3. The assessment objects description (what we intend to assess, i.e. knowledge, comprehension, the developed general and special competences).
4. The preparation of the assessment instruments, assessment tasks for the achieved self-training results assessment by making the decision regarding the assessment model and the assessment methods.
5. The analysis of the assessment information on purpose to find out the gaps of the teacher's and students' activity, the training and self-training activity conformity with the quality criteria on purpose to carry out the further improvement of the methodology of a module training and assessment and the students' self-training results.

On purpose to avoid the assessment subjectivity the specialists must consider the following recommendations:

- The checklists which contain clear answers to the questions and the criteria of practical tasks performance should be prepared and given to the assessors
- At least two assessors must perform an assessment.
- The following aspects must be considered while planning the assessment procedure:
 - The assessors' time expenditure;
 - The resources which are necessary for an assessment (materials, equipment).
 - The time that is intended for the tasks performance.

2.9. The selection of training and self-training methods

A word *method* –in Greek language means *meta-hodos* , i.e. *behind* and *road: the road to somewhere, behind the road, across the road.* *Methodos* mean the rational way, the sequence of actions that helps to achieve a result.

In the module of a vocational education and training the self-training method is seen as a rational, consistent and globally significant way of the student's activity on purpose to absorb knowledge, to acquire theoretical and practical skills, to develop skills, to form an outlook, it is oriented towards the self-training result and matches the student's *nature* and the *peculiarities of the modular content.*

While providing the self-training methods the following several rules must be considered:

1. Students differently accept and process an information, i.e. their way of learning is different;

2. Every student uses several ways for learning and the best absorption of information, however one way is dominant;
3. The learning process can become more effective when several ways are applied in regard of each student;
4. The teacher's opinion regarding a self-training determines the selection of the self-training methods, i.e. the opinion *whether this student is able to acquire full information* can be replaced with the attitude *how this student can acquire full information*.

On purpose to have an answer to the question *how this student can acquire full information* it is important to assess the students style of self-training. The following three main ways of a self-training are distinguished: visual, auditory, kinesthetic and tactile.

The students with a dominant visual way of a self-training are characterised by:

- they need to see the teacher's non-verbal language and a face expression;
- they tend to avoid visual barriers;
- their thinking is expressed in images: information in diagrams, illustrated text, slides, films;
- they make a detailed conspectus.

The students with a dominant auditory way of a self-training are characterized by:

- they need to clearly hear an instruction, i.e. they are able to acquire full information during hearing what others speak;
- they interpret the information content in accordance with the speaking tone, tempo, a voice timbre;
- a written information becomes less significant when it is heard;
- they are able much easier to keep in their mind the text when it is read aloud or when they listen to an audio records.

The students with a dominant kinesthetic way of a self-training are characterised by:

- they are able to acquire the biggest amount of information when they touch, move, actively examine the surrounding environment and activity;
- they find it difficult to sit still for a long time;
- they all the time need to be engaged in an active activity.

The appropriate training content (material/topic, tasks, etc.) that is essential on purpose to achieve the results which are provided in the module must be selected in accordance with the formulated self-training results. The self-training content determines what the methods of training and self-training should be selected on purpose to ensure an effective self-training and to minimize the time expenditure needed for the self-training result achievement. The methods which make the student's activity more active are the most suitable, i.e. practical methods of a self-training, such as problems formulation, problems solving, case studies, a work in groups or teams, etc. The character of the modular self-training results determines the following:

- the *character of the self-training content* that must be absorbed by students;
- the selected assessment *methods and measures*;
- the selected *training and self-training* methods.

The self-training methods which are presented in the modular descriptions and which will be used during the self-training process must be in clear connection with the self-training results, the criterions of the self-training achievements evaluation and the assessment methods.

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