Key Competences of Students of Professional Subjects Using Activating Methods

István Szőköl¹, Ildikó Pšenáková², Simona Benková³

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Abstract

Nowadays, it is necessary to use not only classic teaching methods but also non-traditional methods that can activate students to work independently and to find appropriate solutions to problems. At secondary vocational schools, the basis of students' education is teaching vocational subjects. Graduates of secondary vocational schools are expected not only to have professional knowledge but also the ability to communicate, solve problems independently, work in a team, and orient themselves in information. Therefore, teachers should include as many teaching methods as possible in teaching professional subjects, which will enable students to develop and improve key competencies. Our goal is to describe examples of several specific activating teaching methods that can be applied to teaching various vocational subjects.

Keywords: Key competences, Vocational training, Activating methods

1 Introduction

Key competences, as a new phenomenon in education, represent a mutual connection between upbringing in the family, upbringing and education in the school environment and social influence on human development. Nowadays, the process of general competence development is perceived as a necessary process for applying to the labour market. All member states of the European Union deal with key aspects, at least on a political level. Some countries of the European Union have enabled their citizens to participate in an open project to develop lifelong learning.
1.1 Definition of Relationships and Basic Terms

In the understanding of the term qualification, there is a consensus in the professional literature. According to Bendíková (2014), by the term qualification, we understand the set of abilities (knowledge, skills, habits, experience) necessary to obtain official competence to perform a particular activity. Another explanation of the term qualification can be found in Hrmo-Turek (2003), who claims that qualification is mediated by external organizational processes, has a substantive orientation, and elements of individual ability to act can be certified. Bendiková (2020) already explained the qualification of an older date, but we can consider his interpretation still current. This is a classic definition of qualification, where qualification is seen as a synthesis of three components – education, experience, and individual characteristics of the worker. In professional literature, the term qualification is often associated with the adjective key. Pavlov (2018) also uses the combination of qualification with the adjective key. They see key qualifications as similar to key competences. As the first concept of key qualifications, Kissné Zsámboki (2021) characterizes them as: “such knowledge, abilities and skills that do not show an immediate and limited relationship to certain diverse practical activities.”

He distinguishes four basic forms of key qualifications:
- basic qualifications,
- horizontal qualifications,
- expanding elements,
- acquisition factors.

These forms aim to recognize connections and subsequently manage changes. Mužík (2004) claims that the key qualification includes two elements. On the one hand, it consists of a person's expertise and, at the same time, his ability to transfer this expertise to various professional activities. We can point out that in the professional literature, we often find that the authors' statements often diverge and there is a strict distinction between the two concepts, which can lead to the creation of a distorted picture of the given issue. Having competence according to Hrmo-Turek (2003) means that we can orientate ourselves in the situation appropriately, react adequately and subsequently activate appropriate activity, and adopt a beneficial attitude. Turek (2014) claims that someone who has the knowledge, skills, or motivation to do what is required in the relevant field in a high-quality and efficient manner is considered competent in a certain area. Competence can be understood as the intersection of acquired knowledge, acquired abilities, skills, forming attitudes, value orientation, and motives for action (Turek; 2014).

Competence is the unique ability of a person to act successfully and further develop their potential based on an integrated set of their own resources, in the specific context of various tasks and life situations, combined with the possibility and willingness to make decisions and take responsibility for decisions.
2 Components of Competence

Competence is a relatively stable personality characteristic. If a manager has competence, he can use it in any company and at any management level. Competence tells us how the bearer will behave, think and express himself in certain situations (Porubčanová, 2018). We can divide the individual components of personality that enter into competences:
- Motives
- Traits
- Perception
- Knowledge
- Skills

To properly teach and identify competence from several published procedures, we present only the following:
- determination of the appropriate measure of work performance to identify top workers for the specified position and collect data on the given performance,
- analyse the elements of work behaviour, create a list of characteristic behaviours, balance and analyse the grouping of behavioural manifestations,
- select and use tests to assess competences,
- determine the causal relationship between competences and work performance,
- the result is a validated model.

2.1 The Importance of Key Competences

Key competences are sets of knowledge, skills and attitudes that each individual needs for personal fulfilment and development, for involvement in society and for successful employment. Key competences are the most important of the set of competences, they are suitable for solving a whole range of most unpredictable problems that will enable an individual to successfully cope with rapid changes in work, personal and social life (Hrmo, Turek; 2007). Key competences are the entire spectrum of competences that go beyond the boundaries of individual specialisations. They express a person's ability to behave appropriately to the situation, in harmony with himself. As Belz and Siegrest (2001) state, acquiring key competencies means having the ability and being prepared to learn throughout life. We can learn even as an adult. “Learning to learn” – this means the competent way in which an adult, adapted to the situation, and accepts a lifelong challenge, especially in a collegial relationship with others, so that for him life is learning and learning is life. It is challenging to know and understand the competences correctly. It is essential to recognise which behaviour contributes to or determines the success of the given position the employee will hold. Without it, it is not possible to prepare successful training and development programs, maximize the success of the selection of workers for given positions or establish
standards of good performance (Pavlov, 2018). Key competence is an internalized, interconnected set of acquired knowledge, skills, abilities, attitudes and value orientations that are vital for the quality development of an individual's personality, his active involvement in society, adequate employment and lifelong learning (Hrmo-Podaril, 2013). The Institute for Economic and Social Reforms (2006) defines key competences as abilities and skills that enable an individual to successfully integrate into social and working life. This means holding different job positions and functions, solving unforeseen problems, and coping with rapid changes in work, social and personal life.

The 2006 European Framework of Reference recommends that Member States use key competences for lifelong learning and sets out eight key competences:

1. communication in the mother tongue,
2. communication in foreign languages,
3. competences in mathematics and basic competences in the field of natural sciences and technology,
4. digital competences,
5. learn to learn,
6. social and civic competences,
7. initiative and entrepreneurship,
8. cultural awareness and expression.

**Communication competences**
Having the communication skills of competence means perceiving, expressing, and interpreting concepts, thoughts, feelings, facts, and opinions in written and oral form and, from a linguistic point of view, engaging in communication appropriately and creatively in various situations and social environments, including in foreign languages.

**Mathematical and scientific competences**
Having these competencies means functionally using mathematical knowledge and skills in various life situations, using basic knowledge and science methods to clarify natural laws, applying them in the field of technology and explaining scientific and technical progress.

**Information competences**
Information competence means using a computer and its accessories to obtain, assess, store, create, present and exchange information and communicate and participate in collaborative networks via the Internet.

**Problem-solving skills**
Having problem-solving skills means being ready to solve ordinary and non-work problems independently creatively and critically.
Learning competencies
Having learning competencies means learning to learn effectively, to continue and persist in learning, to organise one’s learning, to effectively manage time and information, both individually and in a group, to evaluate the results achieved and progress in learning, to set needs and goals of your further education realistically.

Social and personal competences
Having these competencies means setting appropriate goals for personal development in the field of interest and work, taking care of your health, cooperating with others in the group and contributing to the formation of appropriate interpersonal relationships based on your knowledge of your personality.

Work and business competences
Having these competencies means turning thoughts into actions, optimally using your personal and professional prerequisites, applying creativity, innovation and risk-taking, planning and managing projects to achieve goals for successful application in the world of work, seizing opportunities for building and developing your professional career, and also in lifelong learning.

Civic and cultural competences
Having these competencies means recognising the values and attitudes essential for life in a democratic society and adhering to them, constructively participating in the events of society, acting by its sustainable development, realising the importance of creative expression of thoughts, experiences and emotions, supporting the values of national, European and world culture.

In addition to communication in the mother tongue, communication in foreign languages, competence in mathematics and basic competence in the field of natural sciences and technology, digital competences, learning to learn, social and civic competences, initiative and entrepreneurship, cultural awareness and expression, some countries also develop cultural sensitivity, work and business competences and health education. In 2018, the European Council adopted the updated Council recommendations on key lifelong learning competencies. The recommendations aim to support the development of key competences and basic skills through:
- high-quality education,
- professional training and lifelong learning for all,
- support of teaching staff,
- analysis of approaches to assessment and verification of key competences.
The Education and Training Monitor report (2019) presents the goals of the European Union. These goals relate to early school leaving, early childhood primary education, graduate unemployment rates, tertiary education, increasing literacy, numeracy and science literacy, and adult education.

According to the decision of the European Parliament and the Council of the EU No. 1720/2006/EC of 15 November 2006, which implements the program in the area of lifelong learning, defines lifelong learning as “all general education, vocational education and training, non-formal education, vocational education and informational learning during life, where its result is the improvement of knowledge, skills and abilities in personal, civic, social or employment-related efficiency”. According to this definition, we can understand lifelong learning as a process of adapting to changing life conditions and a prerequisite for continuous personality development. Eight key competencies have been identified and identified by the document as those needed by all individuals to:

- personal satisfaction and development,
- active citizenship,

Hrmo and Turek (2003) attribute the economic benefit of key competencies to the following phenomena:

- productivity growth and increasing competitiveness,
- development of an adaptive and qualified workforce,
- creating an innovative environment.

The active approach of the individual and the modern concept of educational policy is an emphasis on the concept of learning, which enables multiple, frequent transitions between education and employment, enabling the acquisition of “qualifications and competence through different paths and at any time during life” (Pavlov, 2021). The labour market is a complex market that requires the expertise, knowledge and ability of each individual individually. Each of us has encountered increasing demands on individual job positions, knowledge of the company, or stressful situations. Therefore, according to Hrmo and Podaril (2013), much attention is paid to lifelong learning, but also to the improvement of qualifications and the development of key competencies, because they are directly related to the employment of a person in the labour market. Other educational opportunities are also defined by the OECD, which understands educational opportunities in both the formal and informal sectors as one interconnected system that should enable the acquisition of qualifications in various ways and at any time during life. The process of changes, whether they are personal, work or social, of which there are many during life, tend to be a reflection of the need for lifelong learning. Adaptation to change is a complex increase of those who cannot adapt to change. That is why the concept of a learning organisation resulting from the lifelong learning strategy, expressed in the Memorandum on lifelong learning (2000), was
created. The European Council and the member states of the European Union have defined a comprehensive lifelong learning strategy for Europe with the objectives:

- guaranteeing general and permanent access to learning to acquire and renew skills, the so-called principle of “new basic skills for all”.
- visible growth of investments in human resources,
- development of effective teaching and learning methods, or so-called teaching and learning innovation,
- a significant improvement in the way of understanding and evaluating the results of learning as an activity and its results with an emphasis on evaluating learning,
- ensuring access to information and advice,
- bringing the opportunity for lifelong learning as close as possible to people, i.e. homes, regions, etc.

The Memorandum on Lifelong Learning (2000) also talks about so-called lifelong learning. This defines learning so that learning takes place regardless of life stage, place, time and form of learning. The lifelong learning strategy focuses on six basic ideas:

1. new basic skills for everyone,
2. more investments in the development of human resources,
3. innovation in the teaching and learning process,
4. the value of education,
5. new concepts of consultancy,
6. finding a path leading to easier access to education (Veteška, Turieckiová; 2008).

### 2.2 Criticism of Key Competences

We are witnessing a transformation of the content of education in favour of favouring competences. Bendíková (2020) calls this phenomenon a “turn to competences”, and Turek (2014) talks about competence orientation in adult education. It is possible to observe tendencies to replace traditional encyclopedic knowledge with valuable knowledge for life, emphasising their applicability to real life. This trend is aptly expressed by Marks-Lajčin (2017). He emphasises that mental capacity should no longer be used as a repository of facts but should be used as a trigger headquarters for intelligent responses.

Kaščák and Pupala (2010) talk about the requirements for the new curriculum, which is also reflected in:

- new emphases at the level of regional education standards, qualification profiles,
- performance standards of teachers and in national testing systems.

Kaščák and Pupala (2007) compare the curriculum change due to the prioritisation of competences to its change to the business curriculum. Here we come across the fact of assessment quality of education based on the criterion of economic utility. At the same time, it is desirable to realise that such characteristics as entrepreneurship and initiative are
explicitly expressed in the list of key competencies. The authors, and I with them, are aware of the reality of assessing individuals based on the sum of their competencies, which contribute to the economic prosperity of society. A similar opinion is held by Ribbolits (2004), who draws attention to the perception of the educational system as a supply agency for economic events to create an economically usable workforce. According to the author, lifelong learning should lead people to function as a cog in the political-economic system, the driving force of which is the transformation of money into more money and certainly not the humanisation of the world. He sees learning as an act of subjection, not liberation, not the education of individuals, but only the education of “capital” through the qualification training of subjects for potential purchasers of labour-power goods. We find the coercive rather than the voluntary character of lifelong learning in the work of Kaščák and Pupal (2010): “who claim that the education model framed by the requirement to shape competences is a radical intervention in the overall concept of education. Its basic feature is the effort to dissolve the dividing line between general and professional education through the establishment of competences as the goals of education and as the principle of designing its content to cover such needs that belonged more to the goals of professional education.”

I find their warning about the disappearance of general education in its general cultural and academic concept alarming and worthy of thought. Kissné Zsámboki (2021) claims that he particularly notices change in relations between social groups: “The introduction of competences in education is the basis of new power relations between social groups because it introduces an asymmetry in favour of employers, entrepreneurs, economic practice in the expense of schools, teachers, students, general culture.”

3 Vocational Secondary Schools in Slovakia

We can generally define a school as “an institution that specialises in training as opposed to a company that offers training in conjunction with producing goods. Some schools, such as those for barbers, specialise in one skill, while others, such as universities, offer a wide and diverse set. Schools and companies are substitute sources for specific skills” (Porubčanová, 2018). Secondary vocational school, which offers opportunities for we will investigate increasing the employability of its graduates; we understand a school in which graduates can obtain upper secondary education completed by the matriculation exam. In evaluating a (specific) secondary vocational school, we must consider that its competences are limited to some extent by applicable legislation. With the reform in 2008 in education, they also introduced state educational programs (hereafter referred to as SVP), which define and delineate the content of education and training in schools in accordance with internationally valid standards. SVP defines:

a) the generally binding goal, content, scope and conditions of education at ISCED for the given groups of study fields,
b) the target quality of the student’s personality, which the student has after completing education and training to reach,
c) rules for creating school educational programs, evaluation of results education,
d) binding basis for determining financial resources. (ŠVP)

The Vocational Education and Training Act of 2009 established the rights and obligations of all participants and created space for the involvement of employers and employers' unions, and private investment capital in the vocational education and training system. The reform of secondary vocational education was supposed to enable a more flexible profiling of graduates of study fields according to the conditions of the school. At the same time, the fields of study should respond to the needs of the regional labour market and the individual abilities and interests of the pupils. All state secondary schools in the Slovak Republic must comply with the Education and Training Act (245/2008 Coll.). According to this law, the goal of upbringing and education is to enable a child or pupil to get an education (according to this law), to acquire competences, especially in the field of communication skills, oral skills and written skills, use of information and communication technologies, communication in the state language, mother tongue language and a foreign language, mathematical literacy, and competence in the field of technical natural sciences and technologies, for lifelong learning, social competence and civic competence, entrepreneurial skills and cultural competence, command of the English language and at least one. For each group of study fields with experience, through professional training and extension studies, there is one SVP, another foreign language and being able to use them, learn to correctly identify and analyse problems and propose their solutions and be able to solve them, develop manual skills, creative, artistic psychomotor skills, current knowledge and work with them on practical exercises in the areas related to further education or current requirements on the labour market, learn to develop and cultivate your personality and lifelong learning, work in a group and take responsibility.

Thus, the law responds to new trends in technology and the economy and focuses on developing a wide range of knowledge, skills, and abilities. On the one hand, we will be interested in how the secondary vocational school we have chosen helps to fulfil work with current knowledge, which is required by the labour market, and on the other hand, which area of competence employers value the most. Even though, at first glance, pedagogues have relatively high autonomy because they work in the classroom without external control, “in educational situations, they are required to assess the children’s needs themselves, react flexibly and carry out effective interventions. On the other hand, in educational situations, they are still significantly limited by the uniformity of educational goals and contents, the overcrowding of which leads to the uniformity of forms and methods of education”. (Kaščák & Pupala 2007)
3.1 Key Competences of a Secondary Vocational School Graduate

According to the SVP, a graduate of the Secondary Vocational School has the following key competencies to develop during their studies at this school: Competence for lifelong learning – with this competence, the graduate realises the need for autonomous learning as a means of self-realisation and personal development, can reflect on the process of own learning when acquiring and processing new knowledge, and applies various learning strategies. The graduate can think critically, evaluate information, use it practically, and subsequently know how to accept feedback. The graduate can become familiar with motivational programs aimed at solving problems. The graduate realises the need for autonomous learning as a means of self-realisation and personal development.

**Social communication competences** – with this competence, a graduate can use all available forms of communication when processing and expressing information of several types, have adequate oral and written expression. The graduate masters self-presentation and knows how to translate the results of his work to the public, where he uses professional language. The graduate understands the meaning and applies communication skills that are the basis of effective cooperation, based on mutual respect for rights and obligations to take personal responsibility.

**Competences to apply mathematical thinking and cognition in the field of science and technology** – the graduate uses mathematical thinking to solve practical problems in everyday situations. It uses mathematical models of logical and spatial thinking. He knows how to use the basics of natural literacy, enabling him to make scientifically based judgments while using the acquired operational knowledge to solve problems successfully.

**Competences in the field of information and communication technologies** – the graduate effectively uses information and communication technologies in his education, creative activities, project teaching, and expressing his thoughts and attitudes when solving real-life problems. The graduate realises the importance of recognising virtual and real life. He understands the opportunities and possible risks associated with using the Internet and information and communication technologies. He knows how to think algorithmically and controls the operation of peripheral devices necessary to operate the used program. The graduate can assess the credibility of information sources, proceed critically to obtain information and then record, sort and store it so that he can use it at work or in his personal life.

**Competence to solve problems** – the graduate applies appropriate methods based on analytical-critical and creative thinking when solving problems. He formulates arguments and evidence to defend his results. The graduate knows the pros and cons of individual solutions...
and is also aware of the need to consider their risk levels. Can resolve conflicts constructively and cooperatively. The graduate can clarify the most serious features of problems in the form of systematic knowledge and use various generally applicable rules for this purpose. The graduate can evaluate the meaning of various information, independently collect information, sort it and use only the most important ones for clarifying the problem. The graduate can take creative risks, adequately criticise, take a clear approach to solving problems, make quick decisions, be consistent, and inspire others when looking for ideas, initiatives and creating possibilities.

**Civic competences** – the graduate is aware of fundamental humanist values and the meaning of the national cultural heritage and applies and protects the principles of democracy. The graduate understands his interests in connection with the interests of the wider group. He is aware of his rights in the context of a responsible approach to his duties and contributes to the fulfilment of the rights of others. The student can understand the systemic nature of the world. It recognises that decisions and actions taken by individuals or groups will impact the global present and future. The graduate is oriented on the issue of uneven economic development, ethnic, religious, and racial conflicts, and terrorism and suggests ways to eliminate them. He understands the concepts of justice, human rights and responsibility, where he can apply them globally. The graduate observes the law, respects the rights and personality of other people, and their cultural specificities, and speaks out against intolerance, xenophobia and discrimination. At the same time, the graduate is actively interested in political and social events in Slovakia and the world.

**Social and personal competences** – the graduate reflects his own identity and builds his autonomy and independence as a member of the whole. Based on self-reflection, he sets his goals and priorities by his actual abilities, interests and needs. Significantly participates in setting corresponding short-term goals aimed at improving own performance. He knows how to verify and interpret information and subsequently establish hypotheses. It creates a value system. The graduate can fulfil a task plan aimed at the given goals and try to improve them through self-control, self-regulation, self-evaluation, and decision-making. At the same time, he can verify the acquired knowledge and critically assess the opinions, attitudes, and behaviour of others. He has a responsible attitude towards his health; he takes care of his physical and mental development and is aware of the consequences of an unhealthy lifestyle.

**Work competences** – the graduate can set goals about his professional interests, critically evaluates his results, and actively approaches the realisation of these goals. He can accept and manage innovative changes. The graduate understands business principles and considers his assumptions when planning and applying them. Can obtain and use information about educational and employment opportunities. The graduate understands and can evaluate his participation in the educational process and its outcome, which ensures the citizen's right to free movement to live, study and work in the conditions of an open market. He knows how to
assess the professional offer on the Slovak and European labour markets and flexibly respond to them through further education. He knows how to present himself and act appropriately during a job interview. He can search for and assess business opportunities by the reality of the market environment, his assumptions, and other possibilities.

Competencies aimed at initiative and entrepreneurship – the graduate can innovate the usual procedures for solving tasks and plan and manage new projects to achieve goals in work and everyday life. He knows how to navigate various statistical data and know how to use them for his own business. The graduate recognises and develops the qualities of a managerial employee with communication skills, assertiveness, creativity, and resistance to stress. Uses the principles of constructive criticism, being able to criticise appropriately and tolerate criticism from others. He knows the principles of safety and health protection at work.

Competencies to perceive and understand the culture and to express oneself with the tools of culture – the graduate can express himself at a higher level of artistic literacy through the expressive means of visual and musical arts. He is aware of the importance of art and cultural communication in his life and the life of the whole society. The graduate knows the rules of social behaviour and, at the same time, behaves in a cultured manner appropriate to the situation’s circumstances. He is tolerant and empathetic towards expressions of other cultures.

4 Conclusion

All OECD countries agree on the importance of key competencies. The need to develop key competencies at all levels and lifelong learning has been a topical topic for a long time. According to the information presented in our article, the most critical knowledge, skills and abilities required to achieve success in employment as well as in personal life are listed. Significant attention is paid to working with key competencies. It is known that the need for key competencies and their lifelong development means potential for a better workplace, personal life or personal development. In the school educational program and subsequently, in the study and teaching fields, the graduate’s key competences are developed by making knowledge available in an appropriate and comprehensible manner with an emphasis on developing all key competences without prioritising one key competence over another. Appropriate key competencies are activated in new situations and subsequently offer a wide range of possibilities for quickly and successfully solving the given problem and coping with the changes that new situations have brought.
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