Formal Education at Secondary Vocational Schools

István Szőköl[1], Miroslav Osifčin[2], Silvia Tóth[3]

Abstract

The article explores the relationship between theory and practice within the school environment. To a certain extent, schools can create an environment that resembles the real working conditions in companies within a given subject area. For instance, this could apply to a vocational subject focused on production and business. Such a subject can function effectively if the necessary quality conditions for running a business are established. It is essential to ensure access to appropriate work equipment, techniques, and technology, as well as qualified staff and suitable working conditions. Each work environment, job position, and function are influenced by specific factors, which should be incorporated into the curriculum of this subject. The article examines the practical implementation of a classroom model designed to integrate theoretical knowledge with production and business activities. The study employs a questionnaire-based approach to assess students' satisfaction with this teaching method, particularly in the context of dual education. The outcomes of this process are then evaluated.

Keywords: Production, Technology, Enterprise, Business, Economy, Education

1   Introduction

Schools and other educational institutions are constantly educating new graduates, who are trying to gain an enforce in their professional and personal lives with the help of the acquired knowledge. Some former students become successful employees in various companies or in

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[1] Trnava University, Faculty of Education, Department of School Education, Priemyselná 4, 918 43 Trnava, Slovakia.
E-mail: istvan.szokol@truni.sk
[2] DTI University, Sládkovičova 533/20, 018 41 Dubnica nad Váhom, Slovakia.
E-mail: miroslavosifcin@gmail.com
[3] DTI University, Sládkovičova 533/20, 018 41 Dubnica nad Váhom, Slovakia.
E-mail: tothsilvia007@gmail.com

the state sector, others start businesses and employ other graduates. Businesses and entrepreneurs are essential components of the national economy. They produce goods, provide services, and generate employment. While entrepreneurship can be an attractive prospect for young people, they must also anticipate various challenges. The desired outcomes do not always materialise as expected. However, it is important to maintain a positive mindset and not lose optimism.

Labor markets and employment rates in Slovakia and abroad are more than ever affected by rapid technological progress, such as digital and automated technologies (Huľová, Tokoš, Bolčová, Hrmo, Krištofiaková, 2024).

Creativity, flexibility, communication, imagination, and many other qualities are prerequisites for successful business. Various internal and external factors can play a significant role in influencing success in business life. To secure the necessary financial resources, to create a suitable technical and personnel background, to assert oneself in the competitive struggle with other companies and to adapt to various rules, laws, and economic situations. Currently, due to changes in Slovak education, the concept of competencies—particularly key competencies—is increasingly discussed. Key competencies are often regarded as a new phenomenon in education. The term originated in the 1970s in the field of economics, where it referred to a set of specific requirements for job seekers. It was later adopted in the field of education in the late 1990s, serving as a bridge between the demands of employers in the labour market and the profile of graduates. The term competence is used both in professional and common language; and ability, skill, capability, effectiveness, capacity, desired quality, and others are used as synonyms for the group of terms. A person who has the abilities and skills, motivation, knowledge, etc. to carry out tasks well in a particular field is considered competent. Competence is usually applied to individuals, social groups, and institutions in case they successfully fulfil requirements and achieve goals set by their environment. The theory of key competences has not yet been completely formulated and neither does a comprehensive and widely accepted definition exist.

As Hrmo at al. (2020) state in their publication *Key Competences*:

> "Competence is the behaviour (an activity or a set of activities) that characterises excellent performance in a specific field. Key competences are the core competences within a broader set of competences. They enable individuals to address a wide range of mostly unforeseen problems, allowing them to adapt to rapid changes in the workplace, as well as in their personal and social lives."

According to Hrmo-Turek (2003): "Key competences are a set of interiorised, interconnected group of acquired knowledge, skills, abilities, attitudes and valuing approaches that are important for the qualitative personal development of the individual, their active participation in society, application in employment and lifelong learning."

Another definition states (Kissné Zsámboki, 2021):

> "Having competence means possessing a comprehensive set of personal attributes that enables an individual to successfully address challenges and situations in life. It allows one to orient oneself effectively, take appropriate actions, and adopt a constructive attitude. Key competences should enable individuals to continually update the skills and knowledge applicable in daily life. For a person in training not all educational activities (cognitive, training, and educative) need to be beneficial, but especially those, which are useful in standard practice, provide quality education and correspond with company requirements in the labour market. Not only the attended educative process or certificate of the attended educative process are crucial, but also the learning outcomes."

2 Vocational Secondary Schools in Slovakia

The school can be generally defined as "an institution that specialises in training as opposed to a company that offers training in conjunction with the production of goods. Some schools, such as those for barbers, specialise in one skill, while others, such as universities, they offer a wide and diverse set. Schools and companies act as substitute sources for specific skills" (Porubčanová, 2018). A secondary vocational school that offers opportunities for enhancing the employability of its graduates refers to a school where students can obtain upper secondary education, culminating in the matriculation exam. When evaluating a specific secondary vocational school, it is important to consider that its competencies are, to some extent, constrained by applicable legislation. With the education reform in 2008, state educational programmes (hereafter referred to as ŠVP) were introduced. These programmes define and delineate the content of education and training in schools, ensuring alignment with internationally recognised standards.

ŠVP 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 as well as 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 are obliged to 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, with through professional training and extension studies, there is one ŠVP, 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, we see that the law responds to new trends in technology and the economy and focuses on the development of 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 child'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 objectives and contents, the overcrowding of which leads to the uniformity of forms and methods of education" (Marks-Lajčin, 2017).

3 Key Competences of a Secondary Vocational School Graduate

According to the ŠVP, 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, is able to reflect on the process of own learning when acquiring and processing new knowledge, and applies various learning strategies. The graduate can think critically and evaluate information and use it practically and subsequently knows how to accept feedback (Barnová et all, 2019). The graduate can become familiar with

motivational programmes that are 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, including adequate oral and written expression. The graduate demonstrates proficiency in self-presentation and can communicate the results of their work to the public using professional language. They understand the significance of effective communication and apply appropriate forms of communication skills that serve as the foundation for successful collaboration. This is based on mutual respect for rights and responsibilities, as well as a commitment to personal accountability.

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

Competences in the field of information and communication technologies – the graduate effectively uses information and communication technologies in his education, creative activities, project teaching, expressing his thoughts and attitudes when solving real-life problems. The graduate realises the importance of recognising virtual and real life and understands the opportunities and possible risks associated with the use of the Internet and information and communication technologies. Furthermore, the graduate knows how to think algorithmically and controls the operation of peripheral devices necessary for the operation of the used program. The graduate can assess the credibility of information sources, proceed critically to obtain information and then record, sort and store this information in such a way 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. The graduate formulates arguments and evidence to defend their results and knows the pros and cons of individual solutions while considering their risk levels. In addition, the graduate can resolve conflicts constructively and cooperatively and can clarify the most serious features of problems in the form of systematic knowledge including the use of various generally applicable rules for this purpose. The graduate can evaluate the meaning of various information, independently collect information, sort it and use only those that are most important for clarifying the problem. The graduate can take creative risks, adequately criticise, take a clear approach

towards solving problems, make quick decisions, be consistent, inspire others when seeking for ideas, initiatives and creating possibilities.

Civic competences – the graduate is aware of basic humanist values, the meaning of the national cultural heritage, applies and protects the principles of democracy. The graduate understands their personal interests in connection within the interests of the wider group. The graduate is aware of their rights in the context of a responsible approach to their duties, contributes to the fulfilment of the rights of others and can understand the systemic nature of the world. The graduate recognises that decisions made, and actions taken by individuals or groups will have an impact on the global present and future (Marks-Lajčin, 2016). The graduate is knowledgeable about issues related to uneven economic development, as well as ethnic, religious, and racial conflicts, including terrorism, and can propose ways to address these challenges. They understand the concepts of justice, human rights, and responsibility and can apply them within a global context. The graduate adheres to the law, respects the rights and individuality of others, acknowledges cultural specificities, and actively speaks out against intolerance, xenophobia, and discrimination. Additionally, they demonstrate an active interest in political and social events both in Slovakia and globally.

Social and personal competences – the graduate reflects his own identity, builds his own autonomy and independence as a member of the whole. Based on self-reflection, they set their goals and priorities in accordance with their real abilities, interests and needs. Significantly, the graduate participates in setting corresponding short-term goals aimed at improving own performance and knows how to verify and interpret information and subsequently establish hypotheses while creating a value system (Porubčanová, 2018). The graduate can fulfil a task plan aimed at the given goals and try to improve them using self-control, self-regulation, self-evaluation and own decision-making. At the same time, they can verify the acquired knowledge, critically assess the opinions, attitudes, and behaviour of others. Additionally, the graduate has a responsible attitude towards own health and takes care of their physical and mental development and is aware of the consequences of an unhealthy lifestyle.

Work competences – the graduate can set goals regarding their professional interests, critically evaluates their results and actively approaches the realisation of these goals. The graduate can accept and manage innovative changes, understands the principles of business and considers their assumptions when planning and applying them. The graduate can obtain and use information about educational and employment opportunities, understands and evaluates their participation in the educational process, including its outcome, which ensures the citizen's right to free movement to live, study and work in the conditions of an open market. The graduate knows how to assess the professional offer on the Slovak and European labour market and flexibly respond to it through further education. The graduate knows how

to self-present and acts appropriately during a job interview, furthermore, can seek and assess business opportunities in accordance with the reality of the market environment, own assumptions, and other possibilities (Kissné Zsámboki, 2021).

Competencies aimed at initiative and entrepreneurship – the graduate can innovate the usual procedures for solving tasks, plan and manage new projects with the intention of achieving goals, not only in work, but also in everyday life. The graduate knows how to navigate various statistical data, knows how to use them for own business and both recognises and develops the qualities of a managerial employee with an aspect of communication skills, assertiveness, creativity and resistance to stress. The graduate uses the principles of constructive criticism while being able to criticise appropriately but also being tolerant facing criticism from others. In addition, the graduate knows the principles of safety and health protection at work (Ugrai, 2020).

Competencies related to perceiving and understanding culture, as well as expressing oneself through cultural tools, enable the graduate to demonstrate a higher level of artistic literacy through the expressive means of visual and musical arts. The graduate recognises the importance of art and cultural communication both in personal life and within the broader society. Furthermore, the graduate is familiar with the rules of social behaviour and consistently behaves in a cultured manner, appropriate to the context of the situation. He or she is tolerant and empathetic towards expressions of other cultures.

4   Conclusion

We know how important motivation is in the teaching process, how it can positively influence the student's view of the subject matter, how it can increase his interest in new knowledge and thereby increase his knowledge, skills and, in the future, the ability to achieve success on the labour market. On the other hand, we also know that there is no need to exaggerate the motivation, because it can lose its charm, and we easily fall into the pit of over motivation. For each lesson, you need to prepare a few activating spells that will work with the greatest certainty. They must be tested, because not every student, every class perceives motivational impulses in the same way. Each lesson, each topic and each group of students needs an individual approach when examining and choosing appropriate methods and means of motivation. We must consider many things that are an important basis for student activation. These are human qualities, but also the school's technical and personnel capabilities. We, teachers, must also keep up with the developing world and gain new experiences. It is also necessary to discuss with colleagues what experiences, feelings and results we have after applying a wide range of motivational methods and aids.

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 for the development of lifelong learning.

Knowledge is only the basis of preferred core competencies of the individual and may not be sufficiently beneficial for individuals, even if they were associated with other components of competences. Acquiring key competencies is a life-long process. For these competencies to be developed qualitatively, we need to achieve a quality education system.

In applying for an e-learning course the process of initial motivation, the evaluation and classification of individual modules, and the process of exposure of the new curriculum are bound to be dealt with.

Acknowledgments

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