

# Further education of secondary school teachers in the context of their professional development

Petr Adamec



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A blue graphic in the top-left corner consisting of several rectangular blocks of varying sizes arranged in a descending staircase pattern.

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# 1 Introduction

This monograph focuses on further education of teachers as a relevant part of teachers' professional development and the relevant circumstances that currently surround it. Pedagogy as a science is a system within which it collaborates with other specific disciplines and uses their knowledge to address issues of education, personal and social development. This monograph deals with a topic that in the system of pedagogical sciences could be classified in the area of borderline disciplines, namely at the borderline of pedeutology and the theory of school management or economics of education. At the same time, connotations can be found in this work to the newly emerging sub-discipline of professional andragogy – teacher andragogy (cf. Pavlov, 2014; 2018). All the above-mentioned disciplines are then connected by the paradigm of lifelong learning.

The personality of a teacher is generally considered to be the embodiment of education and cultivation. A teacher is a person who facilitates the process of education, imparting his knowledge, skills and moral values. Teacher education generally has two phases. The first phase is initial professional preparation – study (undergraduate, college preparatory education), while in the second phase teachers undergo various forms of continuing education. Teachers' self-education is thus becoming increasingly important, as the knowledge acquired during their studies is often insufficient for the lifelong performance of the teaching profession, without being continuously supplemented, developed and updated in line with the pace and requirements of the times. There is a long history of teacher further education in Central Europe and its is demonstrably linked to the emergence of modern school systems in Central Europe at the end of the 18<sup>th</sup> century. Further teacher education is an important stage in teacher education and in the career of a teacher, and it has been more or less at the forefront of educational policy, the projects of international institutions and pedagogy as a science.

The second phase of teacher education is currently also referred to as professional development, which can be divided into professional development through one's own teaching practice, self-study and further teacher education. During the first decade of the 21<sup>st</sup> century, the term *Continuing Professional Development* (CPD) has become established and teacher education is seen as one of its main components. The concept of professional development encompasses the motivation, initiative and activity of the teacher as a subject and at the same time allows to consider the various opportunities and incentives provided to pedagogical staff as an object of professional support (Starý et al., 2012).

The Czech school legislation<sup>1</sup> does not use the term “further teacher education”. Teacher education is regulated by *Act No. 563/2004 Sb., on pedagogical staff*. But who is a *pedagogical staff member*? Section 2 of the Act states that a pedagogical staff member is “...*who carries out direct teaching, direct educational, direct special pedagogical or direct pedagogical-psychological activities by direct action on the person to be educated, by which they carry out education and training on the basis of a special legal regulation (hereinafter referred to as “direct pedagogical activity”); they are employees of a legal person carrying out the activities of a school or the employees of the State, or a school director, unless they are in an employment relationship with the legal person carrying out the activities of a school or are employees of the State. A pedagogical worker is also an employee who carries out direct pedagogical activities in social service institutions*” (Czech Republic, 2004b).

Based on the aforementioned law, a pedagogical worker in the Czech Republic is considered to be: *a teacher, a worker in a pedagogical staff training facility, an educator, a special educator, a psychologist, a leisure-time educator, a pedagogical assistant, a coach, a prevention methodologist in a pedagogical-psychological counselling centre, and a senior pedagogical worker*. The aforementioned Act states (in Article 24, paragraphs 1 and 2) that pedagogical staff are obliged to undergo further education during the period of their pedagogical activity, by which they renew, maintain, supplement their qualifications; and may participate in further education, by which they increase their qualifications. The acquisition or extension of qualifications is also understood to mean the acquisition or extension of qualifications in line with a specific legal regulation. Paragraph 7 of the same section states that pedagogical staff shall be entitled to a leave of absence of 12 working days per school year, unless serious operational reasons prevent it, or to participate in further education as referred to in paragraph 1 or 2; the duration of the leave shall be determined by the school principal.

Teacher education can be broadly divided into *qualification education*, i.e., that which leads to the ability to act as a teacher according to the applicable laws, and *further education*, i.e., that which supports teachers’ professional development and innovation in school education. Qualification and continuing education in the Czech Republic is organised by pedagogical and some other faculties, in further educational institutions for pedagogical staff, professional and interest organisations and private agencies on the basis of accreditation.

Mostly, teacher educational activities take the form of lectures and seminars with different hourly subsidies, ranging from one-off lectures or courses and workshops of a few hours to a year-long cycles, complex programmes and specific projects. The extent to which teachers make use of the different options for continuing education is influenced by various factors. In general, these can be

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1 Czech school legislation is described in more detail in Chapter 5.4.



divided into contextual or personal factors. *Contextual factors* include, in particular, the availability and content of the activities on offer, the school climate, the attitude of the school management, the amount of funding, the organisation of educational events, but also the voluntariness or obligation to participate. *Personal factors* include mainly the teacher's personal characteristics, age, length of practice, experience, current mental and health condition, family situation, workload, etc. In general, we also talk about the teacher's activities, interests, needs, willingness, attitudes and values towards further education.

There are certainly many other factors that could be listed that are related not only to continuing teacher education, but also to lifelong learning in general. This monograph focuses on the determinants that are specifically related to the further education of secondary school teachers, i.e., in particular, attitudes and willingness, experiences, preferences, attributes of satisfaction (e.g., with the offer, organisation, forms, methods, etc.). Furthermore, the focus lies on the motivational factors that influence the decision to undertake further teacher education within this group. The author does not forget to compare them with professional demographic characteristics such as age, gender, length of experience, teacher's professional focus, etc.

The main objective of the monograph is to describe the relevant aspects influencing the conditions, circumstances and process of continuing education of *secondary school teachers* today. The monograph also includes selected data from the research conducted as part of the author's dissertation thesis (Adamec, 2014a). At the same time, the author also attempts to describe the practical aspects of *teachers' professional development* in individual chapters and summarises the latest concrete findings from other researches on this topic conducted so far. Terminology in the field of teacher education is not yet consistent or uniform across countries. In the text of this monograph, we refer to "continuing teacher education" and "further teacher education" as an integral part of "Continuing Professional Development" and consider these terms to be synonymous.

The author believes that it is important to obtain information from this promising professional group about their views, attitudes, motivations, experiences and preferences in further education. The monograph provides insights into teachers' views on the current system of further education, the approach of school management or the actual factors influencing teachers' decisions to undertake further education, etc. The author does not forget to include information on possible differences in attitudes, opinions, preferences, barriers, etc. among teachers.

## 2 The concept of lifelong education and learning

Nowadays, the knowledge acquired during the initial educational phase will no longer suffice for the rest of one's life. We live in a constant interaction between the world of education, learning, work, and the problems of personal life. Lifelong learning and its components, adult education, have become immanent parts of modern life in the 21<sup>st</sup> century.

### 2.1 Historical and political context

Palán (1997, p. 120) refers to a learning society as one in which “*universal access to education is ensured without any discrimination, where citizens are universally motivated, encouraged and supported to learn by all public institutions, and progress in learning is certified and recognized by society as a basic unit. At the heart of this philosophy is the individual's right to personal improvement and growth.*” The contradiction between the growing amount of information and the limited cognitive abilities of human beings is becoming more and more evident. This is also reflected in current education systems. In this context, our society is referred to as a *learning society*, or a learning or *knowledge society* (Cejpek, 2002).

Only those who keep permanent pace with the development of knowledge will succeed. Logically, the concept of the knowledge society<sup>2</sup> goes hand in hand with the concept of lifelong learning and, within it, adult education. Modern societies are thus becoming, as stated by Rabušicová and Rabušic (2008, p. 26), “societies of permanently learning individuals – learning societies.” It is assumed (cf. Průcha, Walterová & Mareš, 2013) that the idea of lifelong learning will be implemented in a long-term perspective, in the direction of a learning society. Today, the implementation of the idea of lifelong learning is significantly contributed to by making schools, secondary and tertiary education more accessible on the one hand, and various forms of further and adult education

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2 The term “knowledge society” was first used in 1969 by Peter Drucker (1909–2005), an American theorist and philosopher, also known as the founder of modern management.

on the other. Many UNESCO<sup>3</sup>, OECD<sup>4</sup> and European Union documents are devoted to these trends. In the Czech Republic, it is a part of *the National Programme for the Development of Education: White Paper* (Ministry of Education, Youth and Sports, further referred to as MoEYS, 2001) or *the Strategy of the Education Policy of the Czech Republic up to 2030+* (MoEYS, 2020a). According to their authors, the implementation of the Strategy 2030+ will lead to the creation and development of an open education system that responds to the changing external environment and provides relevant educational content in a lifelong perspective.

*Lifelong learning* represents a fundamental conceptual change in the way education is conceived, whereby all learning opportunities – whether in traditional institutions within the education system or outside it – are seen as a single interconnected whole that allows for diverse and multiple transitions between education and employment, and that allows for the acquisition of the same qualifications and competences through different routes and at different times in life. Lifelong learning is intended to provide people with the opportunity to learn at different stages of their development up to their potential in accordance with their interests, tasks and needs. Lifelong learning understands all learning as an unbroken continuum “from cradle to grave” (Palán & Langer, 2008). The personal development of a person is at the centre of lifelong learning, together with the strengthening of their civic functions and their preparation as a skilled professional.

Lifelong learning is ideally considered a continuous process. In reality, it is a continuous readiness to learn rather than a continuous learning process. It is therefore referred to as lifelong learning rather than education, in order to emphasise the importance of each individual’s learning activities that are not organised, i.e., independent learning, e.g., at work, in nature, at cultural events, etc. (MoEYS, 2007b). Thus, the author understands the concept of lifelong education and learning as initial, historically and socially significant. He believes that it derives from the teachings of J. A. Comenius (education and learning in childhood, boyhood, youth in manhood and old age), as well as from the current organisational set-up of the Czech educational system. The author considers it to be essential that the emphasis is placed on learning that arises on the basis of not only external but internal motives (Mrhač, 2005).

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3 UNESCO – *The United Nations Educational, Scientific and Cultural Organization*, is one of the 14 interstate professional agencies of the United Nations. It is based in Paris. UNESCO’s main task is to strive to maintain international peace by developing cooperation in the fields of education, science and culture and by promoting respect for human rights and the rule of law.

4 OECD – *Organisation for Economic Co-operation and Development* is an intergovernmental organisation of the world’s most economically developed countries that have adopted the principles of democracy and market economy. The OECD is also known as one of the best statistical agencies, publishing very interesting surveys with a wealth of information and a broad focus including education (e.g., Education at a Glance).

Reflections on the concept of lifelong learning began to develop intensively in Europe at the beginning of the 1970s in the context of fundamental economic and political changes, changes in technology, and changes in the position of man in the world. The immediate impetus was then UNESCO's response to the student demonstrations of 1968 – *the International Commission for the Development of Education* was established, with Edgar Faure as its chairman<sup>5</sup> (Palán & Langer, 2008). The year 1970 proved to be a turning point, declared by the United Nations<sup>6</sup> as *the Year of Education and Training*, when UNESCO published the concept of lifelong learning. This was then elaborated in the report of the *International Commission for the Development of Education of UNESCO* under the leadership of the aforementioned Edgar Faure, entitled *Learning to be: The World of Education Today and Tomorrow* (Faure et al., 1972) and subsequently gained worldwide popularity (Šerák, 2009). In it, Faure advocated a holistic view of the human being more than five decades ago and emphasized that the goal of education is physical, intellectual, emotional, and ethical integration of the individual (Hloušková & Pol, 2008). In 1996, UNESCO in Paris published the report *Learning: the Treasure Within* – the so-called *Delors*<sup>7</sup> report (Delors et al., 1996), which puts lifelong learning in the context of human personality development. Learning, in accordance with this document, is based on four pillars: (1) *learning to know*, (2) *learning to do*, (3) *learning to live together*, (4) *learning to be* (Šerák, 2009). In the same year, the OECD publishes a report entitled *Learning at Every Age: Meeting of the Education Committee at Ministerial Level*. Here it emphasises partnerships between public administrations, businesses, social partners and learners. Since then, there has been a change in terminology – the term “lifelong education” is replaced by “lifelong learning”, which emphasises the learning process as an activity of the individual learner. It is based on the logic that experience and knowledge cannot be mechanically transferred, but only mediated. The year 1996 was also declared *the European Year of Lifelong Learning* and

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- 5 Edgar Faure (1908–1988) was a French politician and historian. He held a number of government posts – he was Minister of the Budget (1950–1951), Minister of Justice (1951–1952), Minister of Finance (1953–1955, 1958), Minister of Planning (1954–1955), Minister of Foreign Affairs (1955), Minister of Agriculture (1966–1968), Minister of Education (1968–1969), Minister of Social Affairs (1972–1973), and served two terms as Prime Minister of France. Available from: <http://www.edgarfaure.fr>
  - 6 The United Nations (UN) is an international organisation of which most of the internationally recognised states of the world are members (the exception being the Vatican). As of June 2022, the UN had 193 member states. It was founded on 24 October 1945 in San Francisco by the adoption of the Charter of the United Nations by 51 states. It replaced the League of Nations, which had failed as a guarantor of collective security and peaceful conflict resolution. The goal of the UN is to preserve international peace and security and ensure international cooperation.
  - 7 Jacques Delors (born 1925) is a French economist and left-wing politician who was President of the European Commission from 1985 to 1995. During his presidency, Delors led important budget reforms, laying important foundations for the introduction of the single currency (CHES, 2004).

the activities associated with it were accompanied by *the White Paper on Education and Training* (European Commission, 1995). This document proposes, among other things, a system for the recognition of acquired knowledge and skills as an element of job mobility and lifelong learning (Šerák, 2009).

The current mainstream in the pursuit of these pillars is the so-called *Lisbon Process*, which has been guiding policy and action in the European Union since 2000. Its priorities include, in particular, efforts to improve the quality and efficiency of member countries' education systems, to ensure access to education for all and to open up education systems to the outside world (MoEYS, 2007a). *The Copenhagen Process*, which deals with vocational education and training, and the Bologna Process, which concerns developments in tertiary education, also derive from the so-called Lisbon Process. The above ideas have so far found their culmination in the now widely accepted *A Memorandum on Lifelong Learning* (European Commission, 2000), which sets out six basic ideas on which lifelong learning should be based. These are: (1) *new basic skills for all*, (2) *more investment in human resources*, (3) *innovation in teaching and learning*, (4) *valuing learning*, (5) *rethinking guidance*, (6) *bringing learning closer to home*. The document both declares and formalises the thesis that the required skills and competences can be acquired in different ways, and that society should support and value all these types of learning equally.

The logical follow-up to *a Memorandum, Making a European area of lifelong learning a reality* (European Commission, 2001), provides, in addition to the above, a definition of lifelong learning in its main forms and principles. These forms can be characterised as follows:

- *Formal education* leads to diplomas and qualifications within the formal education system.
- *Non-formal education* takes place alongside the formal education system, does not lead to higher education and is provided in the context of employment or civil society activities.
- *Informal learning* is a natural part of everyday life, it may not be directed learning, it may not even be recognised by individuals themselves as something that contributes to the development of their knowledge or skills, yet it does happen (Rabušicová & Rabušic, 2008).

In the Czech Republic, several strategic documents have been prepared in the past 15 years in connection with the concept of lifelong education and learning. They deal either with more general issues of the development of society, the labour market and human resources – contextual documents or are directly focused on education issues. For example, *the Strategy for Lifelong Learning* (MoEYS, 2007b) is a conceptual document on lifelong learning in the field of initial, tertiary and



further education, which covers initiatives aimed at the development of human resources in the Czech Republic in 2007–2015 in line with the objectives of the Lisbon Strategy. In the field of further education, these objectives relate primarily to stimulating the demand for further education, setting up and implementing a system of recognition of different educational pathways to obtain qualifications, aligning the supply of education with the needs of the labour market, expanding the supply of further education and ensuring its accessibility, increasing and ensuring the quality of further education and developing the field of career guidance in a lifelong perspective. This document is a programme document, which includes an analytical (current situation) and a strategic (identification of main directions) part. *The Strategy* sees the following as the main strategic directions for the development of lifelong learning: *recognition and permeability, equal access, functional literacy, social partnerships, demand stimulation, quality and guidance* (Palán & Langer, 2008).

The latest document of this nature is *Long-term plan of education and development of the education system of the Czech Republic 2019–2023* (MoEYS, 2019a). This document emphasizes the fact that *the Fourth Industrial Revolution* brings the rapid emergence and transformation of technologies, ways and organization of work and the related emergence of new occupations, the specifics of which cannot be identified in the framework of initial education. It will therefore be necessary to change qualifications several times in the course of a lifetime. In this context, more attention is being paid to the formal recognition (certification) of informally and non-formally acquired qualifications and competences.

It is important to distinguish *the concept of adult education*, that is considered to be part of lifelong learning. Hiemstrová (2002 as cited in Rabušicová & Rabušic, 2008, p. 26) describes that “...*the need for adult education as part of lifelong learning has evolved as a result of three forces: the speed of ongoing social change, the obsolescence of a range of traditional occupations, and the transformation of value systems.*” Czech programme documents also emphasise the role of adult education. Both the *National Programme for the Development of Education in the Czech Republic: White Paper* (MoEYS, 2001) and the *Long-term Plan of Education and Educational System of the Czech Republic* (MoEYS, 2002) agree that the *concept of lifelong learning* requires the development of further adult education as a way to acquire education and qualifications and as an instrument of employment policy and business development strategy.

The interest in the development of adult education has an international dimension. It is supported by a series of meetings that have a common denominator – adult education as an important means of addressing global challenges. The most important of these meetings is the UNESCO conference called *CONFINTEA*. UNESCO has held seven international conferences so far – in 1949 in Elsinor (Denmark), 1960 in Montreal (Canada), 1972 in Tokyo (Japan), 1985 in Paris

(France). The penultimate conference was held in Hamburg (Germany) in June 1997 and dealt with education in the 21<sup>st</sup> century. It adopted an *Agenda for the Future* (MoEYS, 1997) focusing on infrastructure, international networks and financing of adult education. The penultimate CONFINTEA conference was held in Belém, Brazil, in December 2009, bringing together more than 1 500 experts from 156 countries and providing an important platform for policy dialogue on adult and non-formal education at the global level. From 15 to 17 June 2022, participants from around the world gathered in Marrakech, Kingdom of Morocco, for the Seventh International Conference on Adult Learning. They reviewed the achievements made in the field of adult learning and education, discussed the challenges and developed a new framework for action to make adult learning and education a reality worldwide.<sup>8</sup>

The meaning of education has been transformed and pragmatized to some extent over time. If we generalise its mission, we can say that while in the Socratic conception education was almost an ethical category, in the Renaissance a philosophical category, in times of social change a political category, in the post-war development (after the Second World War) it slowly became an economic category. It came to be seen as a means of solving problems and achieving economic prosperity. Today, however, a different process is taking place – the dehumanization of the economy, its alienation in relation to man and nature (Palán & Langer, 2008). The Czech Republic also participates in most of the activities at various levels from European, national, regional to local and recently a number of partial steps can be noted that lead to the promotion of lifelong learning. These include, for example, the adoption of new legislation with the potential to create more favourable conditions for the development of lifelong learning – e.g., the adoption of *The Act on Verification and Recognition of Further Education Results and on the Amendment to Some Other Acts (the Act on the Recognition of Further Education Results)* or the adoption of the new *Education Act*. This is linked to the introduction of the so-called *National Qualifications Framework*. The *National Qualifications Framework*<sup>9</sup> is a state-supported system that plays an important role in the education system and labour market in the Czech Republic.

As declared by Beneš (2009), the response to the concept of lifelong education and learning from the educational sciences and academia has been mixed. Many standard educational works do not address this issue. They argue that it is not a scientific theory with clearly defined concepts, but a vague concept, suitable

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8 More information about the conference can be found here: <https://www.uil.unesco.org/en/seventh-international-conference-adult-education>

9 More detailed information can be found here: <https://www.narodnikvalifikace.cz/en-us/> and here: <http://www.msmt.cz/dokumenty/zakon-o-overovani-a-uznavani-vysledku-dalsiho-vzdelavani>

only for educational policy, as it can cover any measure. It is understandable that the ideas of political parties, employers' associations, trade unions, churches, social movements, etc. differ.

Depending on the current context, lifelong learning and education can be aimed at personal development, democratisation of society, elimination of social selection, increasing profit and competitiveness, etc. Socially and culturally critical authors point out that lifelong learning can also serve as an instrument of social control, increasing social inequality and individualisation. They warn of the emergence of an era of a permanently unprepared person, living in constant fear of losing qualifications or of the danger of total "pedagogization of society". It is this argument that led, for example, the leading American education expert S. Brookfield<sup>10</sup> in 1994 to claim that the idea of lifelong learning is alien to Americans, since the USA recognises the freedom of the individual and therefore prefers *self-organised learning*. While the criticism is in many ways justified, it does not change the fact that education and learning have come to the fore, and this has been widely welcomed by the educational sciences.

Lifelong learning therefore means a fundamental change in the orientation of the education system in the sense that it meets the different needs, interests and abilities of learners with the greatest possible differentiation and individualization of education and with a view to the maximum development of each individual using their potential. According to Komárek (2006), however, the economic and technological shift in the demands of education eliminates the questioning of the meaning of life, eliminating "care for the soul". This economic-technological conception of education is especially evident in the field of lifelong and vocational education, where competitiveness is highlighted as one of the most important functions and one of the main criteria.

## 2.2 Terminology in lifelong learning

One of the most common issues that can be encountered when dealing with the field of lifelong learning is terminology. The education sector today uses a mixture of traditional and modern terminology, which is also spiced with national and international translations and equivalents that have different meanings in different regions and countries. The author would like to define the most important terms in this part of the monograph. The following terms refer in particular to the stages and forms of lifelong learning.

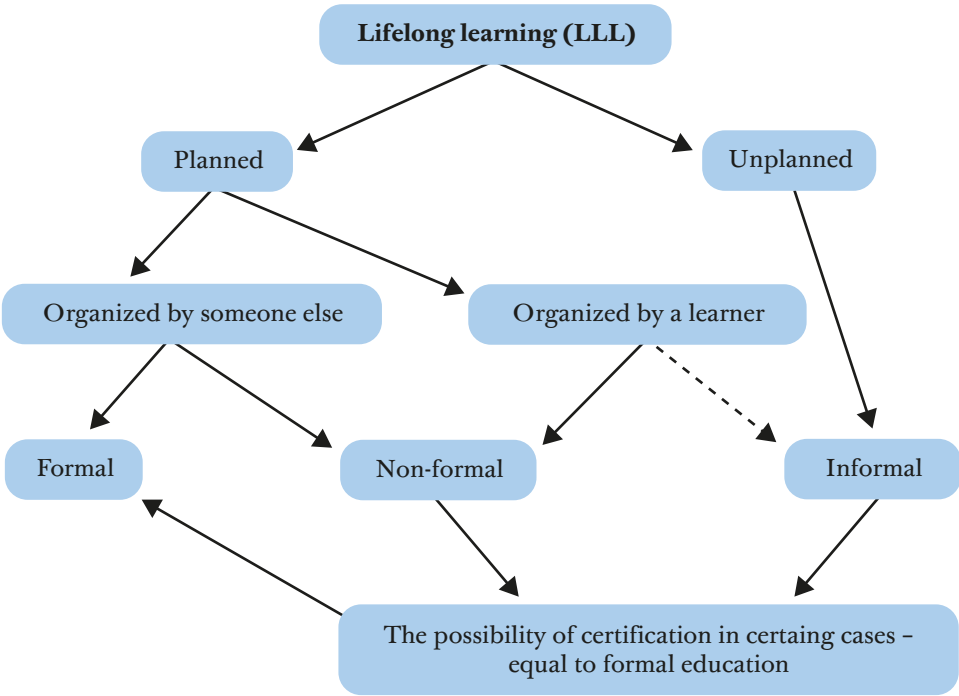
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10 More information can be found here: <https://www.stephenbrookfield.com/>



First, let us consider the meaning of the concepts of learning, education and training, basic concepts of educational theory and practice that are often used inconsistently and inaccurately. The meaning of these terms changes with the context in which we use them. *Education* can be conceptualised as the socialisation of an individual, a curriculum implemented in schooling, an educational system or a category characterising a person’s status. Education is then considered as a process that can include both “upbringing” and educational action, and education is then considered as its outcome (Kohnová, 2007). Education is a deliberate, systematic and externally supported process, it is usually not individualized and the responsibility for this process usually lies with the public sector. In contrast, learning represents the individual’s personal responsibility for education, the process of cultivating personality and creative thinking, and the ability to use the acquired knowledge in practice. The tendency to prefer the

**Figure 1**  
*Diagram of concepts in lifelong learning and education*



( ----> By some definitions, informal learning can be both planned and intentional)

*Source: Modified according to Beneš (2009, p. 31)*

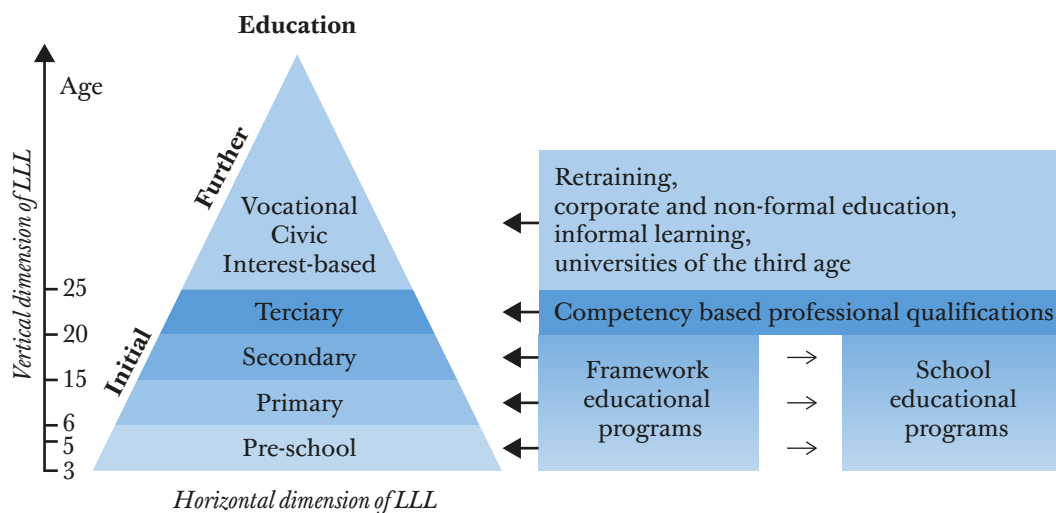
concept of lifelong learning to lifelong education is confirmed by Veteška (2016, p. 96), who adds that the aim of lifelong learning is to build a positive attitude towards learning in the individual and to “teach them to learn”. This means that a person’s personal growth and development, civic and professional fulfilment is determined precisely by the ability to develop their knowledge, competences and attitudes. *Learning* is understood as a psychologically regulated process through which the potential of an individual is fulfilled, at any age, with any talent, social status or interest. Lifelong learning is then institutionalized and implements what is perceived as important by society (Dostálíková, 2021).

In accordance with theoretical interpretations (see Rabušicová & Rabušic, 2008), *formal education* is more effective when the educational function is cognitive, abstract and evaluative and is best represented by school education in particular. *Non-formal education* is more effective if the educational function is psychomotor, concrete and skill-oriented. They are represented by learning technologies that are mainly job-related. Finally, *informal learning* is more effective if its function is affective learning related to values and beliefs. It is represented by socio-cultural learning in the family, among peers and in the community. Thus, the first type helps to create and accumulate knowledge, the second type supports practical skills and the last type strengthens emotions. It has already been pointed out in the previous text that lifelong learning represents a major conceptual change in the notion of education. In terms of life stages, we encounter a division of education and learning activities into initial education and continuing education.

*Initial education* is considered to be the backbone of lifelong learning. Initial education should provide the foundations for a person to “learn to learn” and also induce a positive attitude towards learning, which is consistent with Kolář and Valisová’s (2009, p. 159) statement that “*The ability of the school should be to equip each individual with the value of education and thus prepare them for the processes we call lifelong learning*”. Initial education includes primary, secondary and tertiary education. This division is dealt with in detail in the *Lifelong Learning Strategy of the Czech Republic* (MoEYS, 2007b), which states that initial education can be terminated at any time, either by completing compulsory schooling, entering the labour market or moving into the economically inactive population. Initial education should lead to positive attitudes towards learning and education, because if a person’s experience in the initial phase of education are negative, they are unlikely to want to continue learning in adulthood. They will not want to learn if learning opportunities are not practically available, they will not feel motivated to learn if their knowledge, skills and expertise are not tangibly recognised. Initial education must therefore be designed to prepare young people not only for their expertise but also for a flexible approach to work and civic problems.

**Figure 2**

*Pyramidal concept of lifelong learning – application to the Czech Republic*



Source: Modified according to Průcha and Veteška (2012, p. 53)

*Further education* is the second basic stage of education after initial education. It takes place (1.) after the attainment of a certain level of formal (school) education, (2.) after leaving the education system or (3.) after the first entry into the labour market. It can be implemented either in institutions of the formal education system (secondary or higher education) or in out-of-school non-formal educational institutions (Průcha & Veteška, 2012). Thus, in addition to schools, further education is also provided by employers, public and local authorities and their educational institutions, non-governmental non-profit organisations, including professional and commercial entities. According to Beneš (2008, p. 82), the following factors influence participation in further education: *social climate and social attitude to learning, epochal challenges and topics, environment and relationships, life situation, personal characteristics*.

Further education can focus on a diverse range of knowledge, skills and competences relevant for employment and personal life. It can be defined as “...a complex system of institutionally organised and individual activities that replace, supplement, innovate or otherwise enrich the initial education of adults, and which develop the knowledge and skills, value attitudes, interests and other personal and social qualities needed for a fulfilling working and non-working life” (Pavlík et al., 1997, p. 4).

Průcha, Walterová and Mareš (2013) in the *Pedagogical Dictionary* confirm that the term *further education* has a broad meaning and includes various forms of education and vocational training of persons (youth and adults) who have already undergone some level of formal school education. Further education is

widely differentiated in terms of subject groups, providers, content and methods, funding, etc.

The most important reasons for further education are not only the need to acquire new knowledge, but also the need to acquire new skills in order to adapt to the transforming living conditions. Most people either have to update their knowledge in their field of study or change their occupation several times during their lifetime and therefore have to learn completely new knowledge and skills, which may be in a completely different field than the one they studied in their initial education phase. Today, it is often highlighted that continuing education is an important factor in increasing the productivity and competitiveness of an economy. In particular, vocationally oriented further education should have positive consequences for the economy, contributing to greater capacity for innovation, flexibility of the workforce, rapid adaptation to new technologies and technological processes, working methods, etc. The Ministry of Education, Youth and Sports of the Czech Republic (hereafter referred to as MoEYS) recognizes this importance and in the *Guide to Further Education* (MoEYS, 2010, p. 3) states that the primary interest of MoEYS in the field of further education “...is such education that leads directly or indirectly to an increase in the competitiveness of the individual, to an improvement of their position in the labour market, and thus to an increase in the productivity and competitiveness of the entire Czech Republic.” Further education can be further divided into (1) *vocational*, (2) *interest-based* and (3) *civic*.

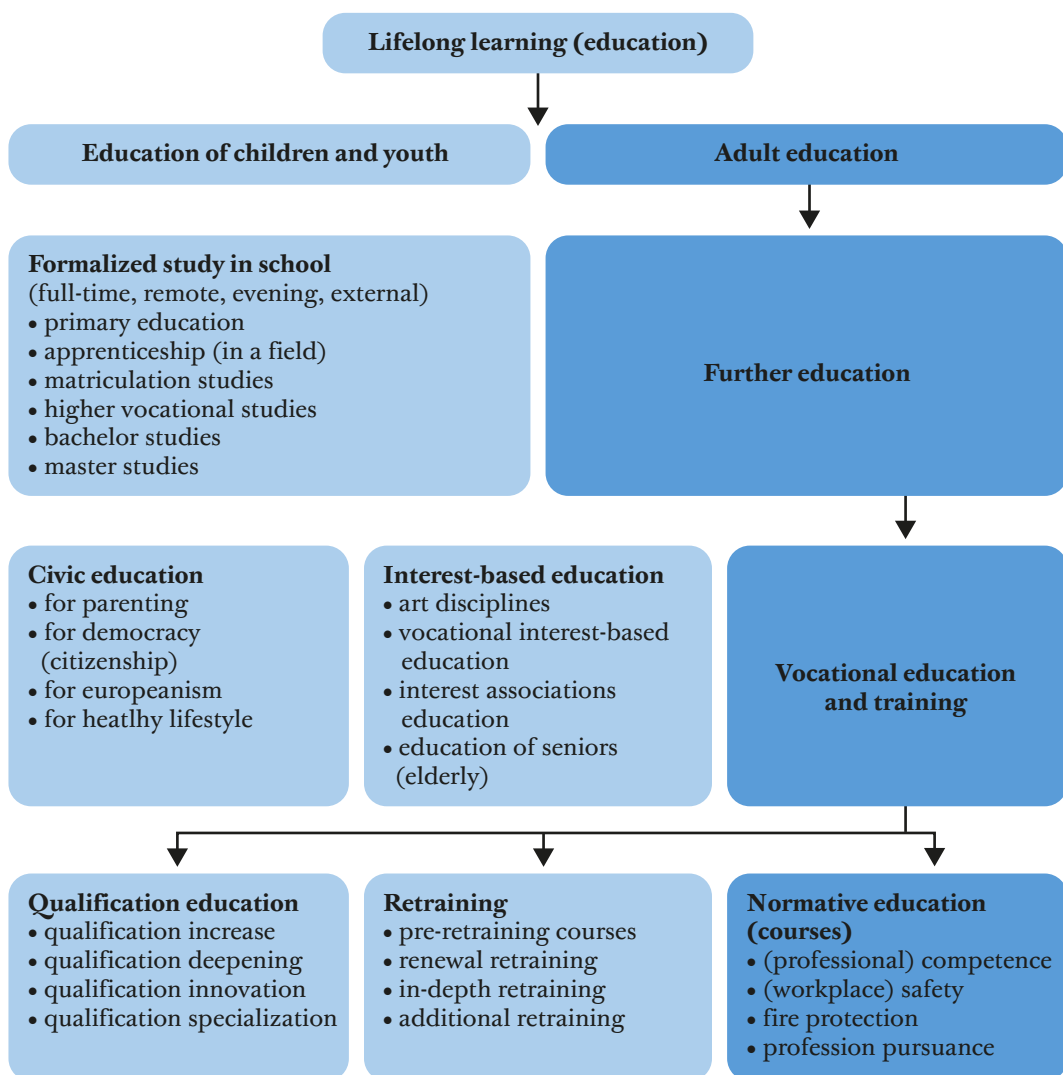
*Vocational education* refers to all forms of vocational and professional education and training during active working life after vocational education and training for a profession in initial – formal education. Its mission is to develop attitudes, knowledge, skills and required (expected) behaviour necessary for employment in the labour market (Průcha & Veteška, 2012). Its essence is to create and maintain, as far as possible, an optimal match between the subjective qualification (the real competence of the individual) and the objective qualification (the requirements for the performance of a specific profession). Further vocational education includes qualification, retraining and normative education:

- *qualification education* – used to deepen or broaden existing qualifications;
- *retraining* – aimed at changing the original qualification for another one;
- *normative education* – is a special type of qualification and retraining education, the completion of which is required, for example, by a legal standard.

*Further vocational education* should cover individuals’ needs for employment throughout their lives and must build on the needs of the labour market and the knowledge acquired during initial education. In the Czech Republic, there are several *sub-systems of continuing vocational education* for adults. Each of them has its own

**Figure 3**

*Types of lifelong learning (education)*



Source: Grimová (2015, s.18); MoEYS<sup>11</sup>

<sup>11</sup> Further information available from: <https://www.msmt.cz/vzdelavani/dalsi-vzdelavani/dokumenty-o-dalsim-vzdelavani-a-celozivotnim-uceni>

specificities and requirements, as well as its own legislative support, terminology, forms and contents. The most important and well-known ones include:

- *further education of pedagogical staff*;
- *retraining*;
- *training of public officials*;
- *education of health care workers*;
- *education of social service workers* (Mužík, 2012).

In this monograph, due to its focus and scope, the author focuses only on the first group listed, namely the pedagogical staff, or rather its largest group – teachers. The concepts of *teacher* and *pedagogical worker* will be explained in Chapter 5.

*Interest-based education* is a set of educational, cognitive, recreational and other systematic and one-off activities and events. It aims at the purposeful fulfilment of leisure time and enables people to acquire knowledge and skills outside school education. In accordance with *the Andragogic Dictionary*, the characteristic features include – interest of the individual, free time, voluntariness, freedom of choice, variety of offer, satisfaction of needs and activity (Průcha & Veteška, 2012). Interest-based education is provided by schools and school institutions, as well as by non-school educational institutions (foundations, trade unions, enterprises, etc.), various non-formal education institutions (libraries, museums, galleries, etc.). Interest-based education can also take the form of self-education. According to Palán and Langer (2008), interest-based education creates wider conditions for cultivating personality based on their interests, satisfies educational needs, and shapes personality and its value orientation. This type of education includes, for example, the widespread universities or third age academies.<sup>12</sup>

*Civic education* is aimed at forming an awareness of the rights and obligations of persons in their civic, political, social and family roles and how to fulfil these roles responsibly and effectively. It includes education in public issues oriented towards meeting the social needs and interests of citizens, improving the life of their communities and building group integrity. It serves to complete socialization and civic value orientation (Palán & Langer, 2008). Civic education represents educational activities that empower citizens to take an informed, responsible and active part in governance and the development of a democratic society. Civic education helps people to live in democracy and protects democracy against totalitarian systems. A certain analogy of such education is established in all traditional Western democracies and in the Czech Republic it forms the third pillar of *the Strategy of Lifelong Learning in the Czech Republic*, alongside vocational and

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12 See, for example, activities at Mendel University in Brno: *University of the Third Age*. Available from: <http://www.u3v.mendelu.cz>



special interest education (MoEYS, 2007b). Civic education is based, among other aspects, on the historical experience that without the active participation of citizens, democratic institutions remain empty shells. In addition, it also significantly develops civic self-awareness so that citizens become freer and not subject to various types of manipulation, frustration with political events or political extremism. Naturally, civic education also touches on issues that are topical and subject to political debate.<sup>13</sup>

The disciplines are intertwined, related and complementary. The topics of lifelong education and learning are interlinked with all the core pedagogical disciplines. *Pedagogy* as a discipline does not exist in isolation. Sub-disciplines related to the development of lifelong education and learning described above emerged during the nineteenth and twentieth centuries. Pedagogy focuses attention on the education and upbringing of children. However, education and learning are now understood as a lifelong process. *Andragogy* deals with the education of adults of working age. *The Pedagogical Dictionary* (Průcha, Walterová & Mareš, 2013, p. 17) defines andragogy as “...the theory of adult education that is developing as a separate discipline alongside classical (school) pedagogy. Andragogy has an interdisciplinary character, it has been developing scientifically especially since the 1960s in universities, it has its own infrastructure, professional journals, conferences, etc.” The *Andragogic Dictionary* then states that “...as an inclusive science, it primarily investigates the theory and practice of adult education and the field of counselling and care of adult individuals” (Průcha & Veteška, 2012, p. 33).

*Gerontopedagogy* (sometimes also *gerontagogics*) focuses on the application of pedagogical programs aimed at the education and training of the elderly. This pedagogical science was defined from gerontology, or the science that deals with the issue of old age and the aging process. It is a multidisciplinary field, where knowledge from psychology, pedagogy, andragogy, law, social work and others are intertwined. The subject of this discipline is mainly the education of the elderly. Its origins can be found in the second half of the 20<sup>th</sup> century. This implies that education and upbringing must respect age peculiarities and differences. In the education of children and young people, we cannot start from gerontology and vice versa.

*Adult education* is a phenomenon that is not new, but it began to receive systematic attention especially after the Second World War. The development and growth of demands on the theory and practice of adult education have triggered the need for new political, organisational, administrative and legislative measures and have aroused the interest of governments and international organisations such as the World Bank, OECD, EU, UN, etc. Nowadays, we understand adult

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13 See e.g., Charles University: *Centre for Civic Education*. Available from: <http://www.obcanskevzdelavani.cz/>

education as: (1.) an educational process that includes all educational activities carried out by adult individuals within formal and non-formal education, (2.) a part of the educational system together with the education of children and youth, (3.) a scientific and study field at universities focused on a specific area of adult education (Průcha & Veteška, 2012).

Recently, the *concept of competence* orientation, or *competence models*, has been gaining ground in the field of adult education. The understanding of competences is now not linked to a specific qualification but goes beyond it. The general structure of competences consists of knowledge and skills, character traits, attitudes, skills, experience, and possibly specific types of competences such as social, technical, vocational and others. *Competence* itself comprises a set of abilities, knowledge, skills, experience and attitudes. In agreement with Beneš (2002, in Veteška & Tureckiová, 2008, p. 31) it can be stated that *“The concept of competence is increasingly part of the professional, political and public debate. However, its unambiguous and universally acceptable definition causes difficulties. Competence is the subject of research in various disciplines. At the same time, their development is an objective of educational, social, economic and human resources policy in organisations”*. Competences have also found a significant place in the requirements placed on managers, their training and development. Through further education, training, workshops, sharing of good practice examples, etc., employees (not only managers) can acquire knowledge and skills. By putting them into practice, they build experience and subsequently develop competence.

Today, competences are also part of strategic and conceptual curricular documents. They are no longer handled only by professional organizations and institutes, but by specific educational entities and particular people: teachers, school principals, education specialists, managers, human resources professionals, lecturers, university teachers and students of higher vocational and higher education – especially in the humanities (Veteška & Tureckiová, 2008). Every employer, would imagine that their employees will abound with competences, which Belz and Siegrist (2001 in Veteška & Tureckiová, 2008) divided into six components:

- the ability to solve problems and be creative;
- the ability to accept responsibility;
- the ability to think and learn;
- the ability to reason and evaluate;
- the ability to communicate and cooperate;
- independence and efficiency.



Each employer sets requirements for the performance of its activities that an employee should meet for one or another job. It therefore sets certain *qualification requirements*. As stated by Veteška and Tureckiová (2008), competency-based/HR/management or CBM is now considered a progressive system of HR work. A *qualification* is a set of abilities, knowledge, skills, experience, and habits needed to acquire an officially confirmed competence (usually recognised by the state) to perform a certain activity (profession, function). It is acquired through preparation for a profession or graduation from school and subsequent work experience, possibly also during further education (Palán & Langer, 2008). The concept of qualification can also be understood as, “*the ability to perform a particular occupation or an agreed type of work activity, with a prescribed degree of complexity, precision and difficulty of work and in the required quality*”, whereas in retraining the aim is “*to change the participant’s existing qualification so that they acquire knowledge, skills and can find a new job*” (Průcha et al, 2013, p. 110, 199).

*Retraining* is the acquisition of a new qualification and the increase, extension or deepening of an existing qualification, including its maintenance or renewal. Retraining is intended to lead to the acquisition of new theoretical knowledge and practical skills within the framework of further professional education of an individual (Kudělková, 2006). It is an instrument of active employment policy. Retraining is offered by various entities, such as schools, educational institutions, civic and professional associations, on the basis of accreditation. The accreditation of educational programmes in the framework of retraining is the responsibility of the relevant line ministries. Retraining is most often used (not only) by the unemployed, who after completing it receive a certificate and authorization to perform a specific job activity (Průcha & Veteška, 2012). *Normative training* is then defined as training that is mandated by a law or legal regulation – most often, for example, training in the areas of occupational safety, fire protection, first aid, etc.

In the foreign literature, we can currently encounter new concepts, which the author will try to explain in the following paragraph. *Lifewide learning* turns attention to the extension of learning that can take place over the full range of our lives and at any stage. Lifelong learning draws attention to the complementarity of formal, informal and non-formal learning and the need for the purposeful creation of “learning environments”. *World learning* is a philosophical category based on the Socratic identification of ignorance and evil: if we educate all the people of the world, we will eliminate the negative phenomena of the world today. *Development learning* does not yet have a Czech conceptual equivalent. It is based on the multicultural and intercultural manifestations of the contemporary world caused by migration, integration and mobility. It emphasises the need for mutual knowledge and understanding and thus avoid negative interpersonal

and international manifestations. *Lifedeep learning* is a concept that was introduced by the CONFINTEA World Conference on Adult Education in 2009. It adds a third dimension to lifelong learning – quality and depth of understanding (Palán, 2013).

## **2.3 Lifelong learning in international comparison and research**

Under the influence of political, economic and social factors, research on further education is beginning to receive more attention than it used to. As a result of turbulent changes in labour markets and society in general, analysis and research on national education systems is becoming a priority highlighted in strategic documents. Precise comparisons have not yet been systematically carried out and are not analysed to the same extent as, for example, international comparisons of child and youth education. According to Průcha (1999), one possible explanation is that the forms of adult education are highly variable. The field of further education is not a field detached from other education systems, but on the contrary it is very closely linked to them and logically follows or complements the field of initial education.

According to Rabušicová and Rabušic (2008), there is still a lack of a specific set of quantitative (data on participation in adult education programmes, socio-economic characteristics of participants, sectoral distribution) and qualitative (content and methodological characteristics of programmes, their effectiveness, benefits) indicators of adult education in the Czech Republic (let alone in the world, note by the author). The authors also state in their work that practically nothing is known about the educational needs of adults and point to the fact that, especially in the non-work area, the offer is based on the educational institutions, not on the analysis of the educational needs of the target groups. It can be assumed that needs may vary in relation to life roles, work orientation, life stages, leisure activities, etc. Today, the situation has already shifted.

The author did not find the required data for the purposes of this monograph in the OECD statistical publications, so the attention has been turned, among others, to the database of the Statistical Office of the European Union – *Eurostat*<sup>14</sup>. The author was led to do so by the awareness of the objectives set by the European Union in the field of lifelong learning in 2000 and anchored in the aforementioned *Memorandum*. One of these was that by 2010, 12.5% of

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14 Eurostat is the statistical office of the European Union, based in Luxembourg. Its mission is to provide high quality statistics for Europe. More information about this statistical service can be found here: <https://ec.europa.eu/eurostat>

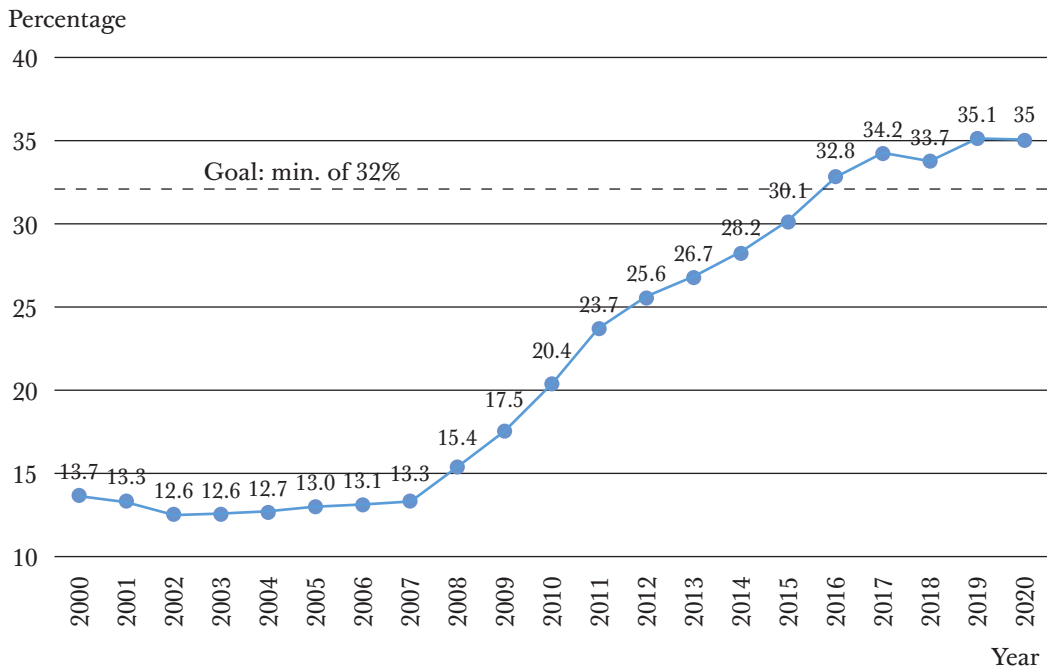
the population aged between 25 and 64 should be involved in some form of lifelong learning. In this context, the EU has formulated objectives, including: (1) to widen access to LLL by providing sufficient information and guidance; (2) to create a form of learning that enables adults to combine learning with employment and other activities; (3) to ensure that, given the challenges ahead, everyone has the opportunity to pursue further education; (4) to promote diverse and flexible learning practices; (5) to promote the pooling and mutual cooperation of educational and training institutions at different levels.

For all educational institutions, and in particular universities, the opportunity to contribute to the development of lifelong learning and thus contribute to meeting the EU's challenges is a great opportunity. Increasing access to lifelong learning is linked to the growing proportion of adults already in employment who want to supplement their missing education or wish to repeat, update or extend their knowledge in a particular field. This is the so-called "second educational pathway" (Cimbálníková, 2006). The second educational pathway is called the acquisition of a comprehensive school education in adulthood, usually in one of the forms intended for adult education (evening, distance, external, etc.).

One of the key indicators of successful implementation of the concept of lifelong learning in practice is the *participation of adults in education*. It is primarily a question of the readiness and willingness of adults to participate in lifelong learning programmes and how they adapt to new learning requirements. However, on the basis of many statistical surveys, it can be concluded that the ambition of European education policy to achieve at least 12.5% adult participation in education by 2010 has not yet been met. The following document, *the Europe 2020 Strategy* (European Commission, 2010), represented the EU's main economic strategy over the past decade. It replaced the so-called Lisbon Strategy, which expired in 2010. In accordance with the June 2010 European Council conclusions, Member States were to set national targets in cooperation with the European Commission and taking into account the economic and social specificities of each Member State. One of the objectives was, for example, to improve educational attainment, in particular by aiming to reduce the early school leaving rate to below 10% and to increase the share of 30–34 year olds with at least 40% tertiary or equivalent education (Government of the Czech Republic, 2022b).

# Chart 1

Share of people aged 30–34 with tertiary education in the Czech Republic (%)



Source: the Government of the Czech Republic (2022b)

The evolution of the share of the population aged 30–34 with tertiary education shows that the Czech Republic’s national target (32%) has been consistently met since 2016, and the share has generally continued to increase since then. However, in that year, the share of the population aged 30–34 with tertiary education was the sixth lowest compared to other EU Member States (the Government of the Czech Republic, 2022b).

*Participation in further education* plays an important role both economically and in terms of the development of individuals’ *quality of life*, which is why the number of people enrolled in this form of education is increasing in all developed countries. According to international comparative analyses, the Czech Republic shows relatively lower participation rates in further non-formal education than some of the most developed OECD countries (Finland, Sweden, Denmark, etc.), but with a similar trend: people with higher levels of formal education participate in further non-formal education significantly more often than people with lower levels of education (Průcha, Walterová & Mareš, 2013).

There are several important *international surveys* on adult continuing education, which support the preparation of analyses or strategic and conceptual documents

in the field of education or employment. These include PIAAC<sup>15</sup> (*Programme for the International Assessment of Adult Competencies*) – focusing on reading and numeracy skills, or CVTS<sup>16</sup> (*Continuing Vocational Training Survey*) – focusing exclusively on vocational education and training. The two other surveys described below provide more general data on adult participation in lifelong learning.

Results from the LFS<sup>17</sup> (*Labour Force Survey*) is an international labour force survey that regularly tracks the level of participation in formal and non-formal education. The survey is carried out in the Member States of the European Union and implemented by Eurostat) shows how participation in adult education has changed in recent years. Participation in further education is defined in the survey as the number of people aged 25 to 64 who have received education in the four weeks preceding the survey. The trend in participation in further education of the adult population in the Czech Republic and the EU is shown in the graph below. While in the European Union (EU28) there has been a clear trend of increasing mean levels of participation in further education since 2011, in the Czech Republic participation in further education decreased from 2011 to 2015, but there was a gradual increase in 2016 and 2017. While the EU28 average showed a slight increase in participation in further education in 2019, in the Czech Republic participation in further education has fallen for the second year, to 8.1%. Participation in further education is defined in the research as the number of people aged 25 to 64 years who were in education in the last four weeks before the survey (MoEYS, 2020a).

The AES<sup>18</sup> (*Adult Education Survey*) is a labour force sample survey conducted by Eurostat. Adult participation in education is defined in the survey as the number of people aged 25–64 who have been in education in the 12 months prior to the survey. It is carried out over a five-year period and the latest data are from a survey carried out in 2016. The overall participation in further (formal, non-formal and informal) learning in the Czech Republic among 25–64 year olds was 46%. A large majority of people (64%) did not participate in any education during the period under review because they considered their existing education to be sufficient. In international comparison, the Czech Republic has a relatively low potential for further education, represented by a low share of people who would like to extend their current participation in education (CZSO, 2018).

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15 More information about the survey can be found here: <https://www.oecd.org/skills/piaac/>

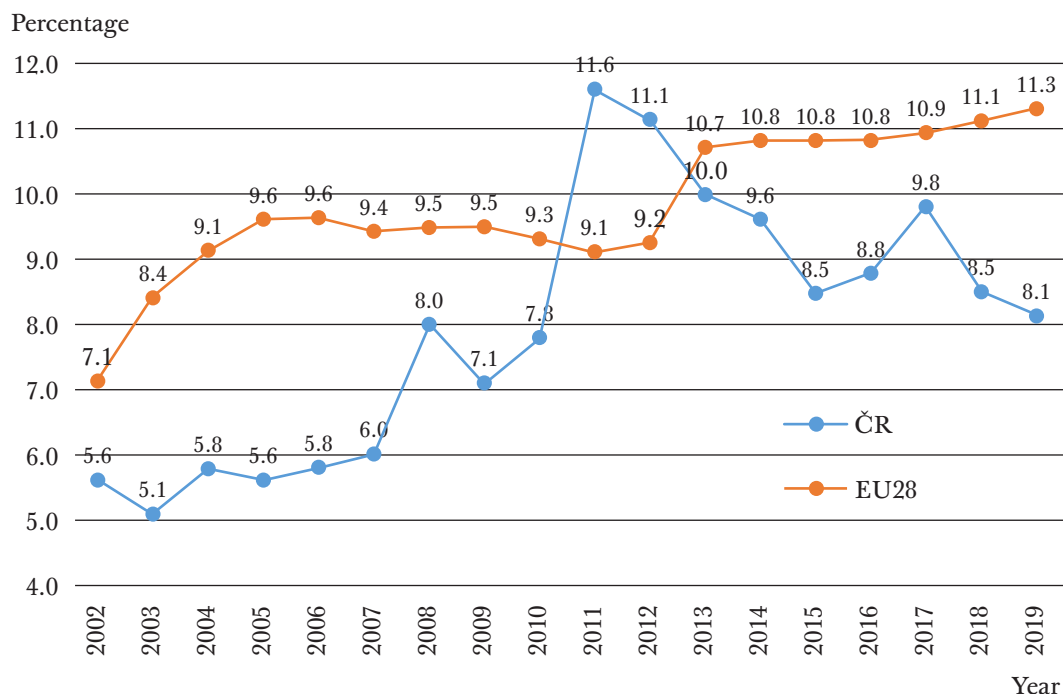
16 More information about the survey <https://ec.europa.eu/eurostat/web/microdata/continuing-vocational-training-survey>

17 More information about the survey can be found here: <https://ec.europa.eu/eurostat/web/microdata/european-union-labour-force-survey>

18 More detailed information about the survey can be found here: <https://ec.europa.eu/eurostat/web/microdata/adult-education-survey>

**Chart 2**

*Share of the adult population in further education in the Czech Republic and the EU between 2002 and 2019 (in %)*

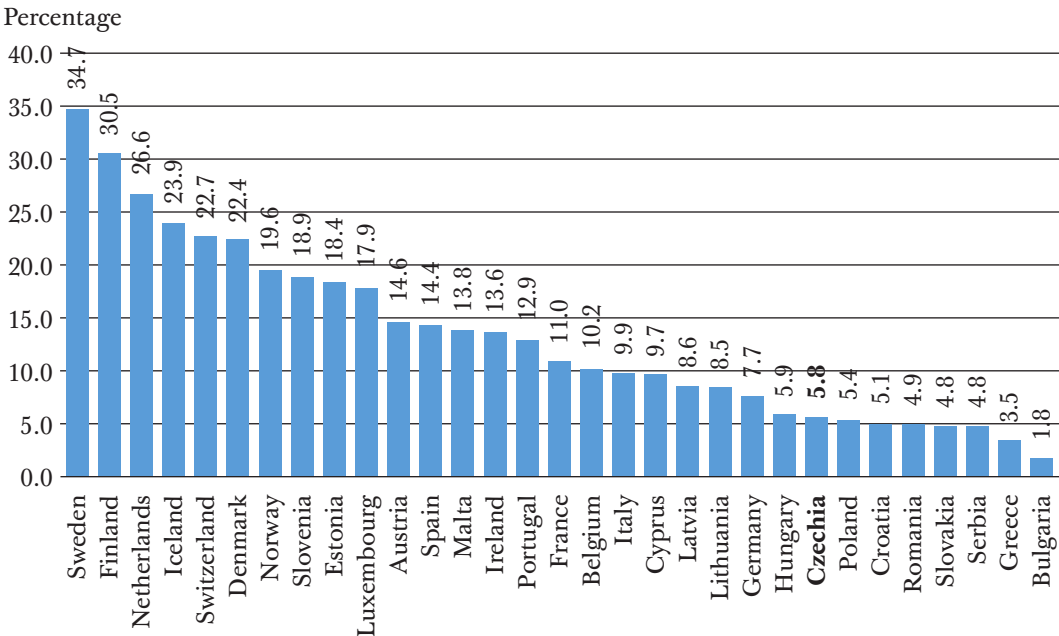


Source: Eurostat (Labour Force Survey)

The COVID-19 pandemic has interrupted the already slow progress in adult learning across the EU. While the increase in distance learning for adults in 2020 may have prevented an even steeper decline in participation rates, it does not change the low average participation rates or the uneven situation across Member States. However, the pandemic has given adult learning a new impetus as a policy objective. Member States have agreed on a target of at least 47% adult learning by 2025. A further target of 60% by 2030 was set at the Porto Summit in 2021, when the *European Pillar of Social Rights Action Plan* was agreed. The AES survey results show a significant increase in the number of adult learners in the EU from 2007 (32.8%) to 2011 (40.2%) and a more moderate progress in 2016 (43.7%). However, they also show large differences between Member States and some significant changes over time (Education and training monitor, 2021).

### Chart 3

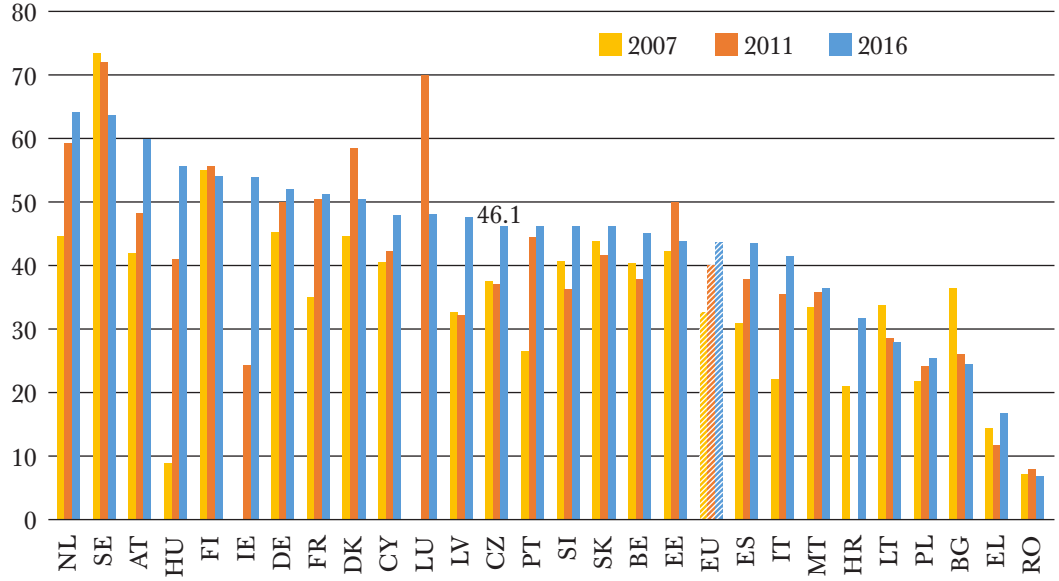
Participation rate in education and training by sex and age from 25 to 64 years (last 4 weeks) in 2021



Source: Eurostat (Labour Force Survey)

### Chart 4

Participation of adults in further education in 2007, 2011, 2016 (%)



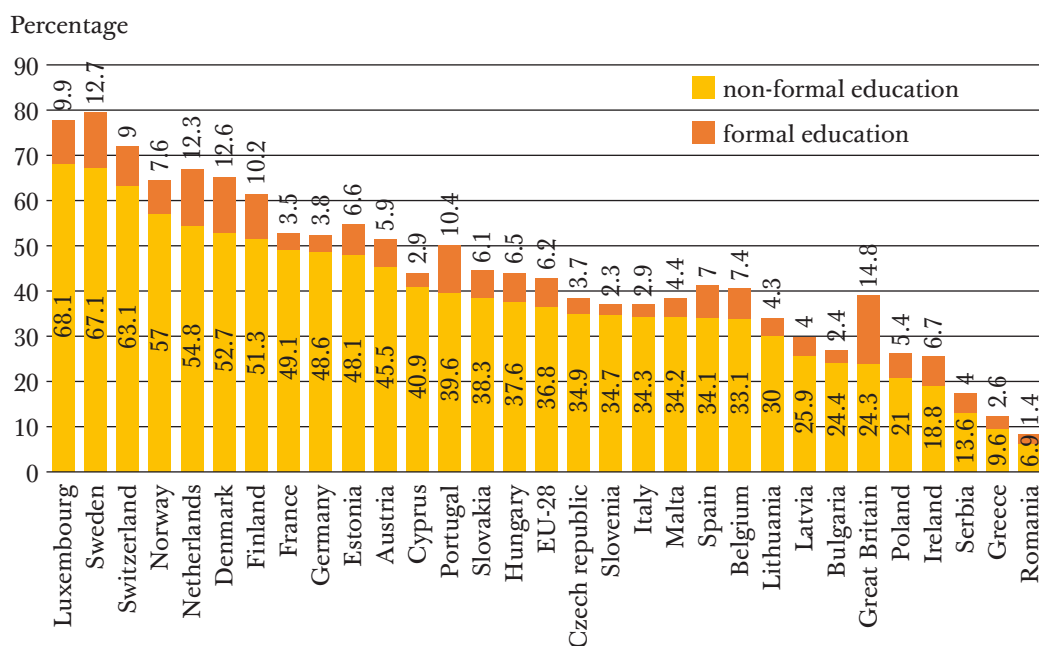
Source: Education and training monitor 2021 (Adult Education Survey)



According to professional statistics, there are differences in the level of participation in different forms of further education. As can be seen from the Chart 5 below – the participation rate of adults in formal education is significantly lower than participation in non-formal education. In both categories, the Czech Republic is slightly below the European average. Through the results of a statistical survey conducted in the framework of research led by Prof. Rabušicová and Prof. Rabušic (2008), we learn about a certain tendency towards increasing participation of adults in further education in all its forms. They report 9% of formal and 34% of non-formal learners. Each research in this area is specific in its focus, objective, problem question, data processing and interpretation, and therefore it is often difficult to compare their results.

### Chart 5

*Participation of the adult population in further education in the European Union countries in 2011 (%)*



Source: Eurostat (Adult Education Survey 2011)

According to the *AES 2016 results for the Czech Republic* (CZSO, 2018), formal education is the least common type of adult education compared to non-formal education and informal learning. In the one-year period under review, 9% of people aged 18–69 years participated in formal education, among whom initial education students clearly dominated. Among 25–64-year-olds, only 3% of people in the Czech Republic participate in formal education. In an international comparison of EU countries, this is clearly below average; we are among the four



countries with the lowest participation of adults in formal education. Compared to 2011, there has been a decline in the number of (“older”) students in formal education at both secondary and tertiary level, which is also confirmed by administrative data from the MoEYS. In higher education, the decline in “older” students is most noticeable at the bachelor’s level. Formal education, in which participation in tertiary education programmes is predominant among adults, is mainly undertaken by highly motivated individuals seeking to improve their qualifications, or their level of highest educational attainment, and to broaden their knowledge and skills.

A significant majority of non-formal education activities (86%, even 91% for men) are related to working life and are motivated by gaining better qualifications for a profession, improving work performance, or improving their position on the labour market. In the 18–69 age group, 38% of men, but only 29% of women, have participated in some work-related learning. Women, on the other hand, are more likely to participate in non-work, i.e., privately oriented education (13% of women compared to 6% of men). Participation in non-formal education increases with increasing levels of highest educational attainment, which is reflected in the differences in participation between differently qualified groups. For women, the impact of the highest level of education is stronger than for men: the participation rate of female university graduates (61%) is up to five times higher than that of women with primary education (12%) and more than twice as high as that of those with an apprenticeship (26%). It can be said that the extent of further education in adulthood in our country is largely determined by the level of education attained in initial formal education. Almost one in two (48%) of the employed participated in work-oriented non-formal education, while only a negligible proportion of employees participated in work-oriented education outside paid working hours or without financial support from their employer. Thus, in general, the vast majority of non-formal education in the Czech Republic is carried out during working hours and at the instigation of the employer, with employees reporting that almost 70% of their work-oriented non-formal education activities were required by their employer (CZSO, 2018)

Participation in education declines with age. This trend is not typical only for the Czech Republic. According to the former *Institute for Information in Education*<sup>19</sup> (IIE), the group of people aged 40 and over accounted for 14% of the total number of students in other forms of education in the 2010/2011 school year, while the age group aged up to 29 accounted for 43%. In terms of the structure of students in

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19 The Institute for Information in Education (IIE) was abolished by decision of the Minister of Education, Youth and Sports as of 31 December 2011. Since 1 January 2012, the Ministry of Education, Youth and Sports of the Czech Republic has taken over the agendas of the Institute of Information and Education related to data collection and processing.

higher education in all forms of study, people aged up to 24 predominate. This age group accounted for a total of 65% of the total number of students in the academic year 2010/2011, while the population aged 35 years and over accounted for 10% of students in higher education (MoLSA, 2013).

In *the Background Study for the National Action Plan for Positive Ageing*, we can find information that in 2011, 10% of the population aged 45–54 was educated in the Czech Republic, but only 5.1% of the population aged 55–64 was educated. Research has identified willingness, educational attainment, type of occupation, employer influence, but also the availability of courses as factors influencing lower participation in education. As regards barriers to participation in further education, age groups perceive them differently. According to the above-mentioned *Background Study*, people aged 55–64 consider age and/or health to be the biggest barrier (31%), followed by the problem of clashing between training courses and working hours (27%), and family care responsibilities (25%). Participation in further education is linked to the offer of education, not only in terms of its scope and subject matter, but also in terms of accessibility in terms of the time required to achieve the relevant type of education. A positive message is the relatively strong confidence of the older generation in their own abilities – only 9% of the population aged 55–64 report that they feel they are insufficiently equipped to participate in education (MoLSA, 2013, pp. 10–15).

Research conducted by Novotný (2008) shows that employees who are supported in these activities by their employer are the closest to training – 39.4%. Private entrepreneurs came second in the ranking (30.4%), while the unemployed and people on parental leave showed the lowest participation. Participation of university educated persons (68%) was significantly higher than other groups by educational level. Thus, the most frequent participants in training were mainly professionals and managers. The survey results also showed that high participation rates in further education are found in the fields of education and training, finance and banking or health.

Increasing participation in education with rising levels of initial educational attainment is being promoted in all countries. In the Czech Republic, only 3% of the population with primary education aged 25–64 was in further education in 2011. The potential for motivation and participation of people with this level of education can be seen, for example, in data from Sweden, where the differences in participation in further education are not as marked as in the Czech Republic. In Sweden, for example, a full 17% of the population with primary education has been educated (MoLSA, 2013). However, it is important for individuals, regardless of their level of education, to learn to learn in order to recognise and acquire effective ways of learning. We can say, together with Smékalová (2006), that the art of learning means to know one's cognitive style, to respect experience

and to deliberately shape learning strategies according to the respective learning goals, for which the individual chooses the appropriate learning methods as a means of acquisition.

Similar conclusions are confirmed by the survey of Czesaná, Kofroňová and Vymazal (2006), which investigated the participation of individual social groups in education – participation in non-formal education increased with the increase in the level of education attained, and the share of participation of economically active persons, especially managers and professionals, was also higher. As a partial result of the research, the link between participation in non-formal education resulting from employer or legal requirements was confirmed. Czesaná, Kofroňová and Vymazal (2005) also found that participation in non-formal vocational education was comparatively higher than average for skill-intensive occupations such as public administration, justice, management, scientific and professional staff members, technical, health and pedagogical staff and employees in related fields in their research results.

Statistical data show, as mentioned above (see Eurostat; Rabušicová & Rabušic, 2008), that a more educated population is more likely to pursue further education. Populations that have achieved higher levels of education also tend to have a positive attitude towards further education. This is particularly evidenced by differences in participation in further education by educational attainment. Of course, there are other factors at work here, such as labour market status (employed/unemployed), the sector in which the individual is employed, the profession they hold, their family situation, the availability of suitable courses and many others. However, the level of initial education attained plays the biggest role. In order to increase participation rates in further education in the Czech Republic, there is still a lack of greater coherence with the initial education system. Setting up a system of recognition of formal and non-formal education and informal learning is very important in this respect. A number of steps have already been taken in this direction. The main barriers to the development of further education are insufficient financial resources to support motivation for further education, lack of support for career counselling for better orientation in the changing requirements of the labour market. Another serious shortcoming is the lack of a comprehensive legal framework that would enable permeability between forms of education and at the same time act as a link between educational, social and employment policies (Matějů, Straková & Basl, 2006).

### **3 The position of a secondary school teacher in the Czech school system**

The school system in the Czech Republic is an interconnected complex of schools and educational institutions providing *formal education*. Its development and current form are influenced by economic, political, cultural and other factors of the respective society. In casual and non-professional communication, we consider a teacher as a person who teaches in a school. However, for professional and scholarly discussion, the matter is not so clear-cut. *The teaching profession* is one of the *regulated professions* and the conditions for its exercise, including the requirements for professional qualifications, education or experience, are defined in the Czech Republic by *Act No. 563/2004 on pedagogical staff*.

#### **3.1 Secondary education in the Czech school system**

The functioning of the school system is governed by the country's education policy and is wholly or largely financed by the state. The school system is a major part of the overall education system, which, among other things, provides also non-formal education. The concept of school system largely coincides with the concept of *regional education*, which came into use in this country after 1989. *The regional education system* comprises both educational institutions for pre-school, primary, secondary and higher vocational education, including special educational institutions, and educational establishments providing services for the education of children and young people (institutions for institutional and protective education, counselling facilities, school libraries, accommodation facilities, primary art schools, language schools, etc.). The regional education sector does not include universities.

The reform of public administration in the Czech Republic has brought significant changes in the area of school establishment since 1 January 2000. Most primary schools are established by municipalities (or a union of municipalities). Secondary schools, higher vocational schools and a significant number of special schools are established by regional authorities. Some ministries (e.g., of the interior, justice, defence) may also be the founder of schools. All these schools can be described as publicly administered (state) schools. In addition, there are schools established by churches (church schools), or by private entities or foundations – non-state schools (Vališová, Kasíková & Bureš, 2011).

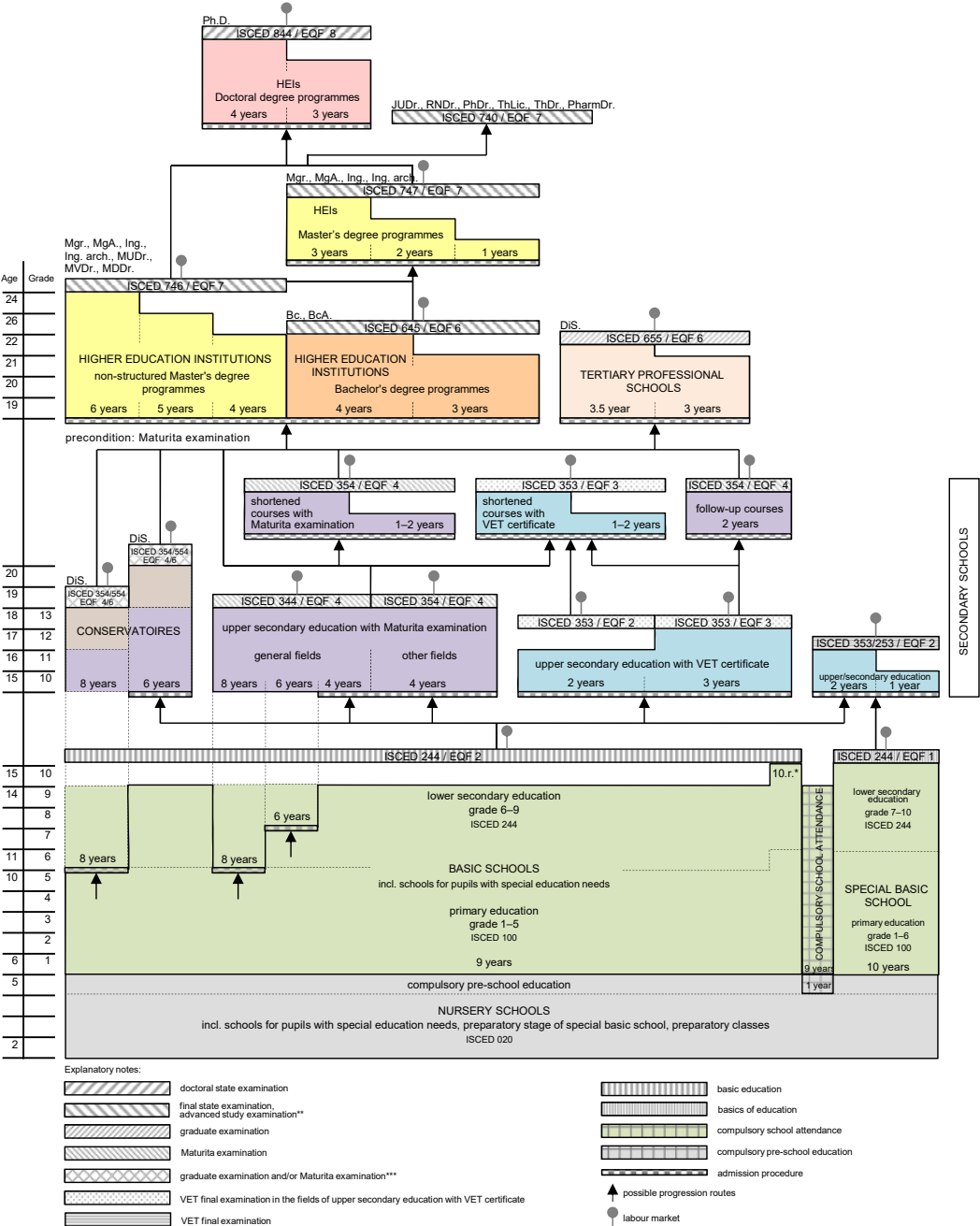
The structure of the school system is divided into types of schools, which are hierarchically related to each other. The term “types of schools” reflects two criteria for classification: (1.) *the criterion of the age of the learners*, derived from the age limit determining the entry of children into compulsory primary education; and (2.) *the criterion of the level of education* – currently schools are divided into different levels in accord with the type and intensity of education. A precise tool is used to define the level of education – The International Standard Classification of Education, ISCED<sup>20</sup>, which has been adopted by UNESCO member states as a unified document for describing and classifying education (Průcha, 2009). The diagram of the Czech Republic’s education system is shown in the diagram below.

The term “secondary education”, which is used in Czech legal norms and educational policy documents, covers a broader complex of schools providing “secondary education” – this term is used, for example, in Act No. 561/2004 Sb., the so-called “School Act” (Czech Republic, 2004a). In the international classification, it corresponds to the term “upper secondary education”, which can be defined as declared in the *Pedagogical Encyclopaedia* (Průcha, 2009, p. 59) as follows: “*Secondary education is either general or vocational education following the completion of primary (lower secondary) education. Its length varies from 2 to 5 years. It is either a final stage of education (its graduates move directly into the labour market) or a transitional stage of education (it prepares graduates for entry into tertiary and other further education)*”.

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20 ISCED (*International Standard Classification of Education*) is an international standard classification of education that belongs to the United Nations (UN) family of economic and social classifications. These classifications are used in statistics worldwide to collect, compile, and analyse internationally comparable data. ISCED is the result of international agreement and is officially adopted by the General Conference of UNESCO Member States. The ISCED 2011 classification is a revision of the ISCED 1997 education levels. The mapping of educational programmes and corresponding qualifications to ISCED is a fundamental tool for organising information on national education systems, their programmes, and corresponding qualifications, with the aim of ensuring the comparability of information on ISCED levels and facilitating their interpretation for international statistical purposes. The ISCED classification contains two parallel coding systems: for *the level of educational programmes* (ISCED-Programmes) and for *the levels of educational attainment* based on qualifications (ISCED-Attainment). Nine separate levels are defined in both systems (the tenth level is for education not elsewhere specified). A three-digit coding system is used for the coding of educational programmes and attainment. The first code number indicates the level of the programme or educational attainment, the second code number indicates the category of specialization, and the third number further indicates the extent to which the programme allows further study (in the case of ISCED 2011-P) or the extent to which the education has been achieved and allows access to further study (in the case of ISCED 2011-A). The 2013 revision focused on education and training domains (ISCED-F-2013). The detailed ISCED 2011 methodology is available both in the English original on the UNESCO (2012; 2015) website and in the Czech version on the CZSO (2022b; 2022c) website.

**Figure 4**  
*Diagram of the education system of the Czech Republic*



Source: Czech National Agency for International Education and Research (DZS, 2022)



In the Czech Republic, secondary education has a long tradition and the majority of the population is enrolled in it. In international comparison, the Czech Republic has one of the highest proportions of the population with upper secondary education among OECD countries (92%). The average for OECD countries is 75% and the average for EU countries that are members of the OECD is 76%. In the last decade, the proportion of the population with only primary education in the Czech Republic has fallen from 14% to 8% (MoEYS, 2013a).

In the Czech system, secondary education is then differentiated based on the focus, content and intensity of education into *general education* (designed primarily to lead participants to a deeper understanding of a subject or group of subjects, especially, but not necessarily, to prepare participants for further education at the same or higher level) and *vocational education* (designed primarily to lead participants to acquire the practical skills, know-how and knowledge necessary for the pursuit of a particular occupation or profession, or for the pursuit of occupations or professions of a particular category). In addition, secondary education performs another function – it provides specific forms of post-secondary education that do not fall under tertiary education. This is education that serves to broaden knowledge or to retrain those who have already completed some type of secondary education. It is provided by secondary schools or special institutions in the following forms: post-secondary education for candidates who have completed secondary education with a school leaving certificate of completion and wish to obtain a school leaving certificate. The founder of secondary schools may be a county, a private entity, a church, MoEYS, a municipality or another department.

Secondary education programmes are differentiated based on the intensity of study, its nature and length of study:

- *Secondary education with a school leaving examination* can be achieved by successfully completing a six-year, eight-year or four-year grammar school education programme or a four-year full-time secondary school education programme. The aim of this educational programme is to prepare students for more demanding skilled occupations or for study at tertiary level. The studies are completed by a school leaving examination and are evidenced by a school leaving certificate.
- *Secondary education with an apprenticeship certificate* lasts two or three years in full-time education. The aim of this education programme is to prepare students to perform skilled activities where manual work predominates. It ends with a final examination. It is evidenced by a final examination certificate and an apprenticeship certificate. Graduates of three-year secondary education with an apprenticeship certificate have the option of continuing their studies

in a related field. This study lasts for two years in full-time education and is completed by a school leaving examination.

- *Secondary education* lasts one or two years in full-time education. This educational programme is designed primarily for pupils with special educational needs. It ends with a final examination. Proof is provided by the final examination certificate.
- *The conservatory's educational programme* represents a very specific type of education. It prepares students to perform demanding artistic or pedagogical activities in the fields of music, dance, singing and dramatic arts. The studies last eight (in the case of dance) or six years and are completed with a diploma.
- *The higher vocational education programme* belongs to tertiary education, develops and deepens the knowledge and skills acquired in secondary education and provides practical training for demanding jobs that do not require a university degree. It is aimed at school-leavers who prefer a practical and applied approach to theoretically oriented academic studies. The study lasts 3 years in full-time form including professional practice, up to 3.5 years for medical education. The educational programme ends with a graduation ceremony, during which the graduation thesis is defended. Graduates are awarded the title of 'diploma specialist' (NVF, 2006).

**Table 1**

*Number of secondary schools in the Czech Republic by founder*

Form of education Founder		2010/11	2012/13	2014/15	2016/17	2018/19	2020/21
<b>Total</b>		<b>1,423</b>	<b>1,347</b>	<b>1,310</b>	<b>1,307</b>	<b>1,290</b>	<b>1,280</b>
In that	Public	1,062	997	972	973	962	954
	In that						
	MoEYS	35	32	31	30	29	29
	Municipality	25	24	26	27	28	28
	Region	998	937	912	912	901	893
	Other founder	4	4	3	4	4	4
	Non-public	361	350	338	334	328	326
In that	Private sector	325	313	299	294	286	284
	Church	36	37	39	40	42	42

*Source: MoEYS (2022b); author's own processing*



**Table 2***Number of secondary schools and pupils by type of secondary education*

		Schools		Pupils	
School year		2012/13	2020/21	2012/13	2020/21
<b>Total</b>		<b>1,347</b>	<b>1,280</b>	<b>470,754</b>	<b>432,906</b>
Of which full-time education		1,337	1,269	443,719	417,302
In that	Secondary education	123	140	1965	2,720
	Secondary education with an apprenticeship certificate	522	510	100,558	90,641
	Secondary education with an apprenticeship certificate – of which abbreviated	28	54	850	2,188
	Secondary education with the school leaving examination	1,148	1,071	338,065	326,007

Source: MoEYS (2022b); author's own processing

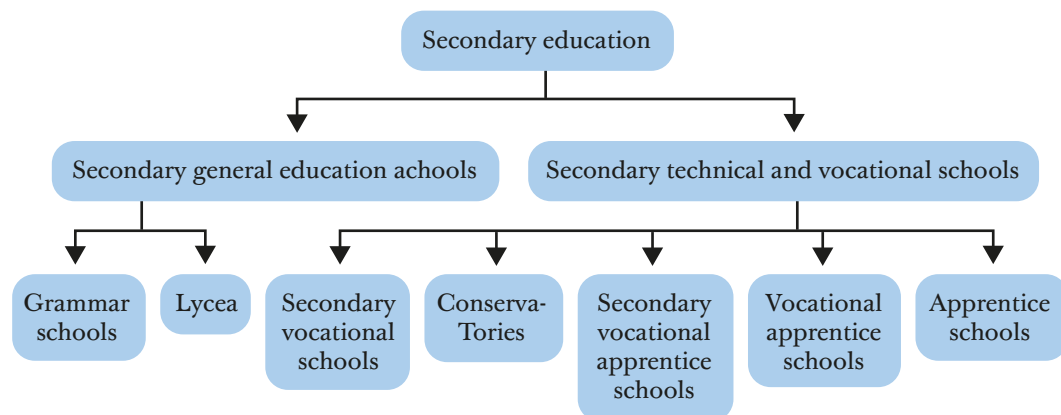
Individual *secondary education curricula* are implemented and fulfilled in the following *types of secondary schools* in the Czech Republic:

*Grammar school* is a type of secondary school that prepares graduates for further study at universities and higher vocational schools, not directly for a profession as a secondary vocational school. Legally, a grammar school is defined by Act No. 561/2004 Sb. (the Education Act) as a school providing secondary education with a school leaving examination in the educational programmes of a 4-year, 6-year or 8-year grammar school (i.e., higher secondary education). According to Průcha, Walterová and Mareš (2013, p. 71), a grammar school is a type of “*selective secondary school providing full secondary education ending with a secondary school leaving certificate. The main function is preparation for university studies. It also prepares for post-secondary studies and for occupations requiring a higher level of general education without specific qualification requirements. In our country, it is a type of school with a long tradition.*”

*Secondary vocational schools* provide four-year vocational secondary education ending with the school leaving examination. This entitles the graduate to apply for university studies. They can also organise a two-year extension course for graduates of vocational secondary education with a certificate of completion of the school-leaving examination. Secondary schools prepare for the performance of professional activities, in particular technical-economic, economic, pedagogical, medical, socio-legal, administrative, artistic and cultural activities. They provide secondary vocational education (in studies of less than four years) and full secondary vocational education (in studies of four or five years) ending with the school leaving examination.

**Figure 5**

*Structure of school types in secondary education in the Czech Republic*



*Source: Author's own processing*

Secondary vocational schools provide education mainly in three-year or two-year courses, whose graduates obtain an apprenticeship certificate and qualification for blue-collar and similar occupations. In a small number of four-year courses ending with the baccalaureate examination, qualifications for demanding blue-collar jobs and operational functions can be obtained, while also opening the way to higher education. Secondary vocational schools can also provide one- and two-year educational programmes for pupils who have completed compulsory schooling below the 9<sup>th</sup> grade of primary school or have not successfully completed this grade, or for young people with special educational needs and graduates of special or auxiliary primary school programmes.

*Conservatories* develop the knowledge, skills and other abilities of pupils acquired in primary and elementary arts education, provide general education and prepare pupils for the performance of demanding artistic activities in music, dance, singing and music-drama. By successfully completing the conservatory, pupils can obtain a secondary education ending with a school leaving examination or a higher vocational education ending with a diploma (Průcha, 2009 in Průcha et al., 2009).

*Lyceum* is a new type of secondary school in the Czech Republic, which combines a general education component with vocational education. The most common type of lyceum is the economic lyceum (attached to business academies), but there are also pedagogical, technical, medical, and other lyceums.

Based on the data from the Czech School Inspectorate, in the 2012/2013 school year there were 1 346 secondary schools registered in the school register, of which 145 were special schools and 369 were grammar schools. Secondary education with the school leaving examination (without extension studies) was provided by

1 048 vocational secondary schools. There were 400 secondary schools providing post-secondary studies. Artistic education was provided in 18 conservatories, as in the 2011/2012 school year (CSI, 2013). In the 2020/2021 school year, according to data from MoEYS, 1 280 secondary schools were registered, including 354 grammar schools and 986 vocational secondary schools. There were 273 schools providing post-secondary education and the number of conservatories remained the same. There were 432 906 pupils in secondary schools in the Czech Republic in the school year 2020/21. A total of 44.9% of them were enrolled in vocational education with a school leaving examination, 30.5% were pupils of grammar schools, and 20.9% were pupils of secondary vocational schools (Kašparová, 2021, p. 28).

Secondary and higher vocational education in the Czech Republic is carried out in so-called fields of education, the system of which is established by government regulation (Czech Republic, 2010). A *framework curriculum* is issued for each field of education in primary and secondary education. In the framework, all fields of study are systematically classified in accordance with their code into categories of education (determining the level of education obtained by completing a given field of study) and into groups of fields of study (grouping fields of study according to the educational content related to future employment). For each field of education, a framework curriculum is issued, which defines the compulsory content, scope and conditions of education, and is binding for the development of school curricula, the assessment of learning outcomes and the development and assessment of textbooks (NPI CR, 2022a; Czech Republic, 2010).

## **3.2 Objectives and content of Czech secondary education**

Curricular reforms of school education systems at the end of the 20<sup>th</sup> century have influenced paradigm shifts in education and learning in the spirit of the European phenomenon of lifelong learning (LLL) and life-wide learning. They were mainly triggered by the emergence of new social, cultural and, above all, economic needs and new demands in the field of scientific, technical and knowledge reality. Currently, the content and objectives of initial education are influenced by the *concept of Industry 4.0*, computerisation, digitalisation, the development of artificial intelligence, etc. Therefore, one of the pillars of curriculum reforms is logically becoming primary and secondary education. In addition to the emphasis on modernisation and the objectives and content of education, including methods and assessment of pupils, attention is also being paid to the role of the teacher

and the school principal. The teacher is now seen as a guide or mentor rather than a mere bearer or transmitter of knowledge (Veteška & Tureckiová, 2020, pp. 47–50).

The Czech education system has undergone a dynamic development over the past thirty years, which was triggered by socio-economic changes in the early 1990s. There were significant changes in the state education policy, such as attitudes, concepts, documents, school founders. Educational theory also changed, in the form of a plurality of theories, the continuity with reformist pedagogy, the reflection of “Western” concepts of education or theoretical reflection on changes in practice. Pedagogical practice has also changed to some extent, both within the classroom and within the school. The initiative of teachers and school principals has also had a significant impact on the processes taking place in schools.

Dvořáková and Tvrzová (In Kryrkorková & Váňová, 2010) distinguish three significant developmental stages in the post-1989 period: (1) in 1990–2001, the school was mainly internally transformed, based on the individual efforts of individual teachers. This was a period of natural experimentation, driven mainly by the enthusiasm of some innovator teachers; (2) the period 2001–2005 was strongly influenced by *the National Programme for the Development of Education: White Paper* (MoEYS, 2001) and the discussions on the framework and school curricula, and later their validation in pilot schools; (3) the third period from 2005 onwards is still ongoing and is the result of the adoption of the new Education Act and with it the full-scale introduction of the two-level curriculum with all the changes that go with it – the definition of *general educational objectives* and *key competences*, the development of curricula, innovations in methods and forms of work in schools, the introduction of new school leaving examinations, etc.

*The Czech Republic’s Education Policy Strategy to 2020* (MoEYS, 2014a), which has become the cornerstone of the current national education policy, was approved in 2014 and builds on *the White Paper*. In relation to pupils, the document envisages the development of digital competences and IT thinking, which are also specified in more detail in *the Digital Education Strategy to 2020* (MoEYS, 2014a) and *the Digital Literacy Strategy of the Czech Republic for the period 2015 – 2020* (MoEYS, 2015). Currently, the main document is *the Guidelines for the Education Policy of the Czech Republic 2030+* (MoEYS, 2019), which is to define the vision, priorities and goals of education policy in the period beyond the horizon of 2030 in the new *Strategy for the Education Policy of the Czech Republic 2030+* (MoEYS, 2020a; Veteška & Tureckiová, 2020, p. 51).

In other words, the previously uniform, binding and normatively defined curricula and syllabuses have taken over. *Curriculum documents* continue to be developed at two levels: state (national) and school. *The national level* is represented by the

*National Programme of Education* (hereafter referred to as the NPE) and the *Framework Education Programmes* (hereafter referred to as the FEPs). *The NPE* formulates the ideas, general objectives and requirements for education that are valid in initial education as a whole and are intended to guide the development of the education system in the medium term. The Framework Education Programmes are based on a new education strategy that emphasises key competences, their interconnection with educational content and the application of acquired knowledge and skills in practical life, promoting the pedagogical autonomy of schools and the professional responsibility of teachers for educational results. Both documents are based on the concept of lifelong learning and formulate the expected level of education set for all graduates of each stage of education. *The School Education Programmes* (SEPs) is the second stage of a curriculum document, prepared by teachers and binding on the school, which specifies the objectives, contents and expected outcomes of education in a way that respects the relevant FEPs and at the same time considers the specific conditions of the school in which they are implemented, including the needs and interests of pupils, parents and teachers. Thus, space was created for pedagogical autonomy and creativity of schools supporting teachers' professional responsibility for educational outcomes (Vališová, Kasíková, & Bureš, 2011; Průcha, 2009).

The changes over the last 35 years have not been straightforward and have varied in content and scope. Great differences have developed among teachers, both in their knowledge and understanding of the new measures and in their own teaching. From a didactic point of view, teachers' freedom to choose their own methods and forms of work, to select and structure the curriculum, and to use different forms of assessment has increased. Hand in hand with this, however, is the teacher's personal responsibility for the quality of pupils' education and the context of inclusion, internal differentiation of schools, etc.

There are a large number of educational programmes in general secondary education and specialised education. They are specified in schools and *the National Institute of Vocational Training*<sup>21</sup> has been entrusted with their development and innovation and has provided methodological support to schools in this area. The framework education programmes set the minimum number of teaching hours and the minimum proportion of vocational practice or vocational training, define

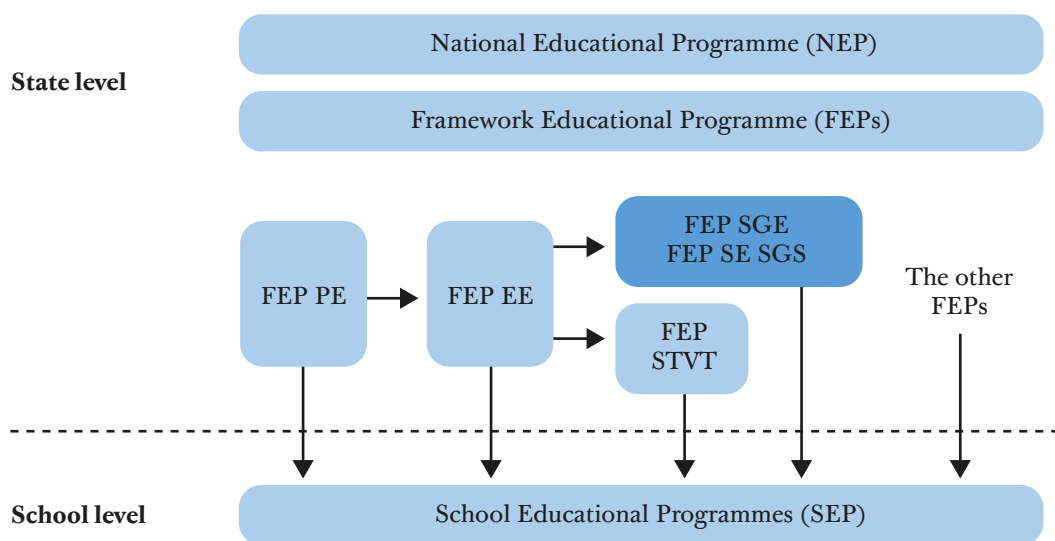
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21 With effect from 1 July 2011, the three directly managed organisations of the Ministry of Education and Science of the Czech Republic were merged: *the National Institute of Vocational Education* (NÚOV), *the Pedagogical Research Institute in Prague* (VÚP) and *the Institute of Pedagogical and Psychological Counselling* (IPPP). The successor organisation was named *the National Institute for Education*, School Counselling Facilities and Facilities for Further Education of Pedagogical Staff (NÚV). The NÚV was subsequently merged with *the National Institute for Further Education* (NIDV), which was transformed into *the National Pedagogical Institute of the Czech Republic* (NPI CR) in 2020.

the basic conditions for the course and organisation of education, its material and personnel provision in schools. Furthermore, the curriculum framework lays down the principles for the development of School Educational Programmes. The curricula are constructed as cross-curricular based on educational areas divided into content areas or topics.

**Figure 6**

*The system of curriculum documents in the Czech Republic<sup>22</sup>*



Source: VÚP (2007)

As of September 1<sup>st</sup>, 2009, all four-year grammar schools and higher levels of multi-year grammar schools began teaching according to *the Framework Educational Programme for Grammar Schools (FEP SGE)* or *the Framework Educational Programme for Grammar Schools with Sports Training (FEP SE SGS)*. The Framework Educational Programmes for *Secondary Vocational Education (FEPSTVT)* were developed gradually from 2007 to 2012. In 2012, the approval of the FEPs for secondary schools was completed and from 2014 secondary schools started to teach pursuant to the GSP (MoEYS, 2013b). School curricula are developed by schools according to the FEP the level and field of education they wish to teach, and the principal is

22 FEP PE – Framework Education Programme for Preschool Education; FEP EE – Framework Education Programme for Elementary Education; FEP SGE – Framework Education Programme for Secondary General Education (Grammar Schools); FEP SE SGS – Framework Education Programme for Secondary Education at Sports Grammar Schools; FEP STVT – Framework Education Programme (Programmes) for Secondary Technical and Vocational Training. \* The other FEPs – other framework education programmes which are also delimited by the Education Act and have not been listed above.



responsible for their quality. They can be developed either on the basis of a *set of subjects* and curricula or as *modular*. By *school subject*, we mean a form of curriculum arrangement, a component of the content of education in schools. In the traditional subject curriculum, subjects are distinguished based on their content, such as language, humanities, possibly social sciences, natural sciences, aesthetic and educational, physical education and technical subjects. In vocational schools, subjects are distinguished into *general education* and *vocational subjects*. The author uses this distinction in this work. There is also a division between theoretical and practical subjects. Depending on whether they are intended for all pupils or only for certain groups of pupils, there is a distinction between compulsory subjects, optional subjects, and elective subjects (Průcha, Mareš & Walterová, 2003).

From September 1<sup>st</sup>, 2020, the Ministry of Education, Youth and Sports has issued updated Framework Education Programmes (FEPs) for secondary vocational education (further referred as SVE). Schools have two years from the publication of the updated FEPs (until 1 September 2022 at the latest) to incorporate the changes into their School Education Programmes (SEPs). The update of the FEPs was prepared on the basis of the material *Proposal for the concept of revisions of curriculum documents for general education and secondary vocational education in 2016–2020* and the material *Creation and revision of curriculum documents for preschool, primary and secondary education at the national level*, which formulated the need for systematic activities in the creation and revision of curriculum documents at all levels of education. In September 2021, MoEYS, by measures of the Minister, issued the *Framework Curricula for Secondary Schools* revised in the digital field. *The measures* come into force on 1 September 2022, and grammar schools will start education in accordance with the issued FEP no later than September 1<sup>st</sup>, 2025. This deadline is now also valid for lower grades of multi-year grammar schools. A public consultation on the new content preceded the publication of the FEP and the suggestions from this consultation were incorporated into the FEP. The reason for the ongoing changes is the large backwardness of the Framework Education Programmes in the digital field. The requirements for competences in the use of digital technologies in the RQF were in line with the time of their creation (NPI CR, 2022b).

### **3.2.1 Characteristics of selected framework educational programmes**

The Framework Programmes are usually made up of the parts listed in the bullet points below, and in the following we characterise some of them against the background of the two most relevant *Framework Programmes* for this monograph – for *grammar schools* and for *vocational education and training (VET)*. The educational objectives set out in the VET Framework express the societal requirements for the overall educational and personal development of pupils. They define the



aims of teaching and its outputs and results. They include values and attitudes, productive activities and practical skills, knowledge and understanding. The extent to which they are met will vary according to the level of education and the abilities and other aptitudes of the pupils. Educational objectives are expressed in the FEP at three levels: as *general objectives of secondary education* (the so-called “Delors objectives”), as *competences of a graduate* in the field of education, and as *learning objectives* (learning outcomes) of individual educational areas (curriculum frameworks). The general educational objectives are expressed from the point of view of the pedagogical staff and express what education should aim at, what teachers should strive for with their teaching. Graduate competences and learning objectives are expressed from the learner’s point of view and indicate how the learner can apply the knowledge and skills acquired at the end of the study programme.

- *Definition of the Framework Educational Programme*

- *Characteristics of education*

- *Concept and objectives of education*

- ***Key competences***

- ***Educational areas***

- ***Cross-curricular topics***

- ***Framework curriculum***

- *Principles for the development of the school curriculum*

- *Education of pupils with special educational needs*

- *Education of exceptionally gifted pupils*

- *Conditions for education.*

- *Glossary of terms used*

*Key competences* are defined in the FEP for grammar schools as a set of knowledge, skills, abilities, attitudes, and values that are important for the personal development of an individual, their active participation in society and future employment in life. The key competences in the FEP are treated individually, but in practice they intertwine and complement each other. The FEP defines the individual competences and specifies the extent to which the pupil is expected to master them at the end. The level of key competences described in the RQF represents a desirable state to which all pupils should gradually approach on the basis of their individual aptitudes. The development of key competences should be a lifelong process for each individual.

In the VET curriculum, *key competences* are a set of educational requirements; they include knowledge, skills, attitudes and values that are important for an individual’s personal development, active participation in society and

employment. They are universally applicable in different situations. In teaching, they are not tied to specific subjects; they can be developed through general and vocational education, in theoretical and practical teaching, as well as through various other activities complementing teaching in which pupils themselves actively participate. They are based on *the European Framework of Reference for Key Competences for Lifelong Learning* and build on the key competences of the EQF. At the same time, the content also includes vocational competences which relate to the performance of work activities and express the professional profile of the graduate in the field of education, their competence for the performance of a profession. They derive from the qualification requirements for the performance of a specific profession and characterise the graduate's competence for a work activity. They constitute a set of professional knowledge, skills, attitudes and values necessary for the performance of the work activities of a given occupation or group of related occupations. For example, the FEP for the field of education 63-41-M/01 *Economics and Business* (NÚOV, 2007b) defines the following professional competences of a graduate:

- a) provide typical corporate activities;
- b) efficient management of financial resources;
- c) ensure the business activities of the company;
- d) take care of occupational safety and health at work;
- e) strive for the highest quality of your work, products, or services;
- f) act economically and in accordance with the sustainable development strategy.

**Table 3**

*Comparison of key competences in the Framework Educational Programmes for grammar schools and secondary vocational schools*

<b>FEP-SGE</b>	<b>FEP-STVT</b>
Competence to learn	Competence to learn
Problem-solving competence	Competence to solve problems
Communicative competence	Communicative competence
Social and personal competences	Personal and social competences
Civic competence	Civic competence and cultural awareness
Competence for entrepreneurship	Competence for employment
	Mathematical competences
	Competence to use information and communication technologies and work with information

*Source: VÚP (2007); NÚOV (2007b)*

*The educational content* in the FEP is defined in *educational areas*. Each educational area is elaborated on two levels: by defining the curriculum and the expected outcomes for pupils. *Expected outcomes* express the level of learning that pupils are expected to achieve at the end of their education at a given level, i.e., the desired knowledge, skills, attitudes, and values. They tell not only about knowledge, but more importantly about the ability and skills to use the knowledge acquired in more complex thought processes and practical activities. They represent learning outcomes that are applicable to life and further learning and verifiable by appropriate assessment tools. The expected outcomes formulated in the FEP are binding for the development of the school curriculum. Like the expected outcomes, the curriculum as defined in the curriculum frameworks is binding on the school curriculum and is seen as a means to achieve the stated expected outcomes. The entire educational content in FEP is binding on all pupils. It is assumed that additional or more demanding expected outcomes and a broader range of curriculum content will be set by the school in its own school curriculum (for example, due to its profile or specific local conditions). The educational content is divided into thematic areas, thematic units or topics, but the division and order of these may not be respected in the school curriculum.

*Cross-curricular topics* are topics that are currently perceived as topical. These are the educational contents that are emphasised by contemporary society. They should therefore be cross-curricular and permeate the entire school curriculum. The cross-curricular topics defined in the FEP are compulsory; their scope and method of implementation are determined by the school curriculum. Cross-curricular topics can be implemented as part of the educational content of subjects, they can be the subject of separate projects, seminars, courses, discussions, etc., or they can be implemented as a separate subject. The above forms can be freely combined. The effectiveness of the educational impact of the cross-curricular topics is also supported by creating an appropriate classroom and school climate and, in addition, by making use of other appropriate opportunities (e.g., theatre and film performances, television and radio programmes, exhibitions, lectures, talks, tutorials) that pupils encounter outside school (VÚP, 2007; NÚOV, 2007b).

The content of the cross-curricular topics recommended for education at grammar school is developed into *thematic headings*, which contain a range of topics (activities, issues). All thematic headings are compulsory (the school must include all thematic headings in its curriculum), the depth, scope (selection of topics) and forms of their implementation are entirely within the competence of the school and are specified in the curriculum. The Framework Curriculum sets out the minimum time allocations for each educational area. It gives only the basic parameters for the organisation of education; it thus creates room for variability in the curriculum design of school education programmes. The school

**Table 4**

*Cross-curricular topics in the Framework Educational Programmes for grammar schools and vocational education*

Cross-curricular topics FEP SGE	Cross-curricular topics FEP STVT
Personal and social education	Citizen in a democratic society
Education for thinking in European and global contexts	Man and the environment
Multicultural education	Man and the world of work
Environmental education	Information and communication technologies
Media education	

Source: VÚP (2007); NÚOV (2007b)

can thus decide to a certain extent on the number of subjects, their title and content, the time allocation for each subject and the form of processing and subsequent implementation of the educational content. Different use of the available time allocation (beyond the mandatory minimum allocation) and the integration of educational content, including the use of cross-curricular topics, allows schools to effectively implement their own educational plans, to support and respond flexibly to the needs and interests of pupils (VÚP, 2007; NÚOV, 2007b).

### 3.3 Profession of a secondary school teacher

Let us first clarify *the concept of profession*. This term is described by Průcha (2002, p. 17) as: “*an occupation associated with certain qualifications or professional knowledge and skills, usually exercised on the basis of legal authorization*”. The meaning of the term *teacher* can also be found in the Pedagogical Dictionary: “*One of the basic agents of the educational process, a professionally qualified pedagogical worker, co-responsible for the preparation, management, organisation and results of this process. To exercise the teaching profession, pedagogical competence is necessary. Traditionally, the teacher has been regarded as the main subject of education ensuring the transmission of knowledge to pupils in the classroom. The current conception of the teacher, based on an expanded professional model, emphasises subject-object roles in interaction with the learner and the environment. The teacher co-creates the educational environment, the classroom climate, organizes and coordinates the activities of pupils, and manages and evaluates the learning process*” (Průcha, Mareš & Walterová, 2003, p. 261). The socio-professional group of teachers in the Czech Republic is very differentiated and the concept of a teacher is extensive. There is quite a wide internal differentiation of teachers, especially according to the level and type of

school they teach at. The object of this monograph are *teachers working in grammar schools and secondary vocational schools*, so the author will continue to describe and analyse this group of teachers in particular.

There is a consistently high interest in the study of teaching, with a long-term predominance of women among applicants. Graduates of these studies then enter schools and their first year of work is considered a crucial period for the development of their professional skills and for adapting to the tasks and conditions in which they carry out their profession. In this context, Průcha (2002, pp. 23–29) describes the different stages through which a teacher develops in their profession: (1) *the choice of the teaching profession*; (2) *professional start*; (3) *professional adaptation*; (4) *professional stabilization*; (5) *professional extinction*. For *novice teachers*, there is a reality shock – a professional jolt – where teachers find that they are not adequately prepared for all that schoolwork requires of them. After about five or more years, the teacher becomes *an experienced professional*. It is probably at this stage that teachers have the greatest influence on the nature of educational processes in the school environment, as they act not only on pupils but also as role models for aspiring teachers. The professional workload of Czech teachers is roughly at the average level of European countries, and the didactic procedures and teaching methods used by Czech teachers are at a good level, in some respects even higher than those of teachers in other countries. The proportion of women in the teaching profession has long been significantly higher than that of men. The final stage of a teacher's career is characterised by *burnout syndrome*, when a professional loses interest in their work, performs it routinely and without enthusiasm, and becomes tired and exhausted. The burnout phase is sometimes linked to the alleged conservatism of teachers, with older teachers reported to be more reticent to innovate, for example. However, this cannot be confirmed unequivocally.

In this context, the results of a survey conducted by Kurelová and Krejčí (in Blížkovský, Kučerová & Kurelová, 2000) on the structure of teachers' working time can be mentioned. At that time, the average total weekly working hours of Czech teachers were determined to be 45.4 hours for primary school teachers, 44.7 hours for primary school teachers, and 46.2 hours for secondary school teachers. Table 5 shows the structure of working time of primary 2 teachers as a result of the survey described above. Given the time lag since this survey, it can be assumed that these time ratios may have changed in relative terms.

**Table 5***Structure of working time of teachers of 2<sup>nd</sup> grade of primary schools*

<b>Activity category/ Percentage of weekly working time T = 44.7 hours</b>	<b>%</b>
Teaching	36.8
Additional school service, on call, supervision	11.8
Tutoring, remedial exercises	0.6
Interest groups	1.4
Preparing for classes, correcting student work, preparing and maintaining supplies	33.5
Participation in school administration and self-government, meetings and consultations with teachers, experts	2.0
Cooperation with parents	1.9
Public activities of the teacher (education, etc.)	0.6
Study, self-education	7.3
Teachers' agenda, administration, etc.	3.7

*Source: Kurelová and Krejčí (2000)*

Most prominent is *the typology of teachers* based on *the level and type of school* they work at. This is conditioned by the type of their professional field, and, on the other hand, it affects working conditions, salary evaluation and prestige. In accordance with long-term surveys, the teaching profession in the Czech Republic ranks third (university teacher) and fourth (primary and secondary school teacher) in the prestige ranking of selected professions (IEB, 2011). The basic categories of teachers in Czech regional education are:

- kindergarten teacher,
- first grade teacher at primary school,
- a second-grade teacher at an elementary school,
- *secondary school teacher*,
- teacher of art vocational subjects in primary art school, secondary vocational school, and conservatory,
- teacher at a higher vocational school,
- language schoolteacher with the right to take the state language exam,
- a teacher at a teacher educational centre,
- religion teacher,
- teacher of vocational education in social services (Czech Republic, 2004b).

**Table 6**

*Mean converted numbers of teachers by type of school in the regional education system*

Type of school		2010/11	2012/13	2014/15	2016/17	2018/19	2020/21
<b>Regional education in total</b>		<b>132,015.7</b>	<b>130,199.5</b>	<b>130,288.1</b>	<b>131,920.0</b>	<b>135,548.3</b>	<b>145,149.4</b>
In that	Kinder-gartens	25,736.8	27,739.2	29,283.4	29,629.5	30,580.8	33,156.7
	Primary schools	58,023.0	57,668.9	59,128.7	61,634.9	64,345.3	69,534.9
	Secondary schools	<b>45,384.9</b>	<b>41,788.8</b>	<b>39,070.1</b>	<b>38,069.6</b>	<b>38,223.4</b>	<b>40,193.3</b>
	Conservatories	1,030.0	1,126.6	1,063.4	1,059.7	1,035.8	1,023.0
	Higher vocational schools	1,841.0	1,876.0	1,742.5	1,526.3	1,363.0	1,241.5

*Source: MoEYS (2022b); author's own processing*

Section 9 of the Act No. 563/2004 Sb., on pedagogical staff regulates the conditions for obtaining the qualification of *a secondary school teacher*. At the same time, in its nine paragraphs, it divides secondary school teachers into

- *teachers of general education subjects,*
- *teachers of vocational subjects,*
- practical teacher,
- teachers of practical training in health care,
- vocational training teachers,
- teachers of vocational education in the health professions,
- teachers teaching in a class or school set up for pupils with special educational needs,
- teachers of artistic subjects.

This monograph focuses within its research part mainly on the first two groups of teachers. Typical subjects from *the vocational education component* are, for example, technical drawing, mechanical engineering, electrical engineering, engineering technology, accounting, business economics and others according to the nature and specialisation of the secondary school (economics, agricultural, veterinary, mechanical, construction, chemical, medical, textile, etc.). The vocational education component used to include subjects with content relating to the basics of information and communication technology (computing). Nowadays,



however, they are already considered part of everyone's general education (Adamec, 2014b). Typical subjects belonging to *the general education component* include, for example, Czech language and literature, foreign languages, civics, history, geography, mathematics, physics, chemistry, biology (basics of natural sciences), basics of ecology, physical education, etc.

Another differentiation of teachers that cannot be overlooked is *gender*. The considerable feminisation of Czech education is evident in both primary and secondary education. As the level of education increases, the proportion of male teachers also increases. Almost 36% of teachers in secondary schools, including conservatories and vocational schools, are men, as a large number of secondary schools are vocationally oriented, and men teach vocational and practical subjects to a greater extent than women (IEB, 2010). Based on the data from MoEYS, almost 60% of teachers in secondary education in the 2011/2012 school year were women. In the same period, according to MoEYS statistics, approximately 12% of unskilled teachers were working in secondary education. More than 20 years ago, with regards to Průcha (2002), the greatest feminisation was evident in kindergartens – up to 99.8% of female teachers, 84.5% in primary education, 81% in lower secondary education and 56.3% in upper secondary education. While female teachers in secondary schools mostly teach humanities subjects, male teachers teach science and technical subjects.

Even in secondary schools there is a noticeable predominance of women in the pedagogical staff. However, it is not as significant as in preschool education or primary schools. On average, women account for 60% of secondary school teachers. The proportion of men varies considerably according to the type and field of education. For example, two-thirds of teachers of practical education and vocational training are men. Women predominate in the teaching of vocational subjects (56%) and among teachers of general education subjects in secondary schools the female dominance is even higher (68%). The proportion of men and women teaching in conservatoires differed only slightly, 52% women vs. 48% men. In 2018, there were 1,000 teachers in conservatories and 1,400 in higher vocational schools. The number of teachers at conservatories has not changed much over the last ten years, and in the case of higher vocational schools, a quarter (450) fewer teachers taught in 2018 than ten years ago (CZSO, 2020).

*Age* is an important indicator of the state of the Czech teaching force. It is generally claimed that the teaching population is ageing. In the article *Age and Gender Structure of Secondary School Teachers*, Kleňhová (2009) stated that male and female teachers aged 56 years and older make up 20% of all teachers in secondary schools, colleges, and conservatories. The 46–55 age group comprises 32%, the 36–45 age group comprises 26%, and the youngest age group, under 35, comprises 21% of male and female teachers. Teachers in secondary schools, colleges and

**Table 7**

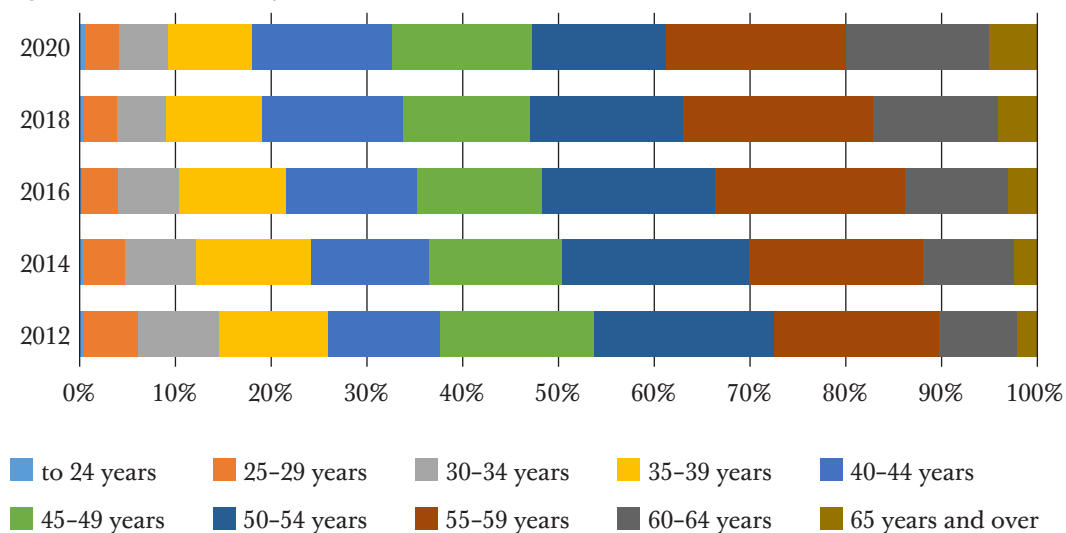
*Converted number of secondary school teachers in the 2018/2019 school year by gender and their mean age*

	Converted number					
	Men		Women		Total	
Teachers of general education subjects	7,155.5	31.8%	15,329.1	68.2%	22,484.6	58.8%
Teachers of vocational subjects	4,151.3	44.3%	5,216.3	55.7%	9,367.6	24.5%
Teachers of vocational training	3,492	63.3%	2,028.4	36.7%	5,520.4	14.4%
Teachers of practical teaching	401.4	45.1%	489.4	54.9%	890.9	2.3%
<b>Total</b>	<b>15,200.2</b>	<b>39.7%</b>	<b>23,063.2</b>	<b>60.3%</b>	<b>38,263.5</b>	<b>1</b>

	Mean age		
	Men	Women	Total
Teachers of general education subjects	47.8	48.8	48.4
Teachers of vocational subjects	52	50.1	50.9
Teachers of vocational training	51.1	48.8	50.3
Teachers of practical teaching	51.9	49	50.3
<b>Total</b>	<b>49.8</b>	<b>49.1</b>	<b>49.4</b>

*Source: Maršíková and Jelen (2020); author's own processing*

conservatoires were almost 38% female in 2010, with a share of 46–55 years old (their share has been gradually increasing since 2006, from 34%). The group of female teachers aged 56 and older is also growing relatively, although their share is not as high, at more than 16% in 2010. On the other hand, the proportion of teachers aged under 45 is decreasing. In the period under review, the proportion of female teachers aged under 25 fell from 2.2% to 1.4%, 26–35-year-olds from 19.3% to 18.6%– and 36–45-year-olds from 30.7% to 25.8%. The trend among men is similar, with only differences in the number of men in each age group. In particular, the almost 30% and increasing proportion of male teachers aged 56 and older can be considered negative.

**Chart 6***Age structure of secondary school teachers from 2012 to 2020**Source: MoEYS (2022b); author's own processing***Table 8***Age structure of regional education teachers in 2015 and 2020*

Indicator	2015				2020			
	> 30 years	30-49 years old	50-59 years old	60+ years	> 30 years	30-49 years old	50-59 years old	60+ years
<b>Kinder-gartens</b>	<b>15.8</b>	<b>42.1</b>	<b>37.4</b>	<b>4.8</b>	<b>16.7</b>	<b>42.8</b>	<b>30.4</b>	<b>10.1</b>
Female	-	-	-	-	16.6	42.7	30.6	10.2
Male	-	-	-	-	30.5	57.1	9.3	3.1
<b>Primary schools</b>	<b>8.0</b>	<b>54.1</b>	<b>31.1</b>	<b>6.8</b>	<b>8.4</b>	<b>50.5</b>	<b>30.1</b>	<b>11.0</b>
Female	7.8	53.4	32.5	6.3	7.8	50.0	31.4	10.9
Male	9.8	58.0	22.7	9.6	12.2	53.5	22.2	12.0
<b>Secondary schools</b>	<b>4.2</b>	<b>45.2</b>	<b>38.0</b>	<b>12.6</b>	<b>4.3</b>	<b>43.0</b>	<b>32.9</b>	<b>19.9</b>
Female	3.9	47.9	40.3	7.9	3.5	44.3	35.7	16.5
Male	4.6	41.2	34.7	19.5	5.3	41.1	28.9	24.6

*Source: CZSO (2021c)*

One factor that can be used to differentiate a group of teachers is *the length of experience*. Referring to the publication *Education under the magnifying glass* (IEB, 2011), only 21.1% of the young<sup>23</sup> teachers in 2010 were male, with the remaining proportion being female. Since 2006, the proportion of men among young teachers has fallen by more than 5 percentage points (from 26.5%). In kindergartens, male young teachers accounted for around 1% between 2006 and 2010; in primary schools, their share fell from 23.8% to 19.8%; in secondary schools, including conservatories and vocational colleges, from 35.7% to 33.6%; in schools for pupils with special educational needs, from 23.6% to 21.2%; and among vocational teachers, it ranged between 54.7% and 58.6% over the period under review. According to Průcha (2002), there are two basic measures of the length of experience of teachers: (1) teachers with shorter experience are more progressive, they are not mentally and physically so worn out, and they introduce new trends into their teaching; (2) teachers with long experience are experts trained by years of practice, they are more effective, and their pupils show better results. However, based on one of his investigations, he contradicted these claims when he concluded that the best results in the subject of mathematics were shown by 8<sup>th</sup> grade students under the guidance of teachers with the shortest experience of up to 5 years. Pupils under teachers with up to 20 years of experience came second. The pupils under teachers with more than 20 years of experience came last.

### **3.4 Secondary school teachers' professional education and qualification**

The first phase of teacher education is *professional preparation* – study (undergraduate, university preparatory education), while in the second phase teachers undergo various forms of further education. Teachers' preparatory education is determined by the level of education for which they are preparing and their professional field. Depending on this, teachers are required to have a university degree (master's or bachelor's), a higher vocational or secondary education, or at least a basic education in the case of a teaching assistant. *The qualification conditions* for working as a teacher in each type of school are described in *the Pedagogical Staff Act*. This monograph is concerned only with secondary school teachers, their qualifications, professional development in connection with further education.

Currently, more than 2.0 thousand (5.3%) of the secondary school teachers who do not meet the qualification requirements are covered by full-time teaching

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23 Young teachers are for this purpose defined as teachers without principals and vice-principals with a maximum of four years of experience.

(FTE). Of the more than 2.0 thousand FTE, more than one-third are in general education subjects (735.7), about one-third in vocational subjects (703.9), one-fourth in vocational training (510.7), and less than four percent in practical teaching (74) (Maršíková & Jelen, 2020).

**Table 9**  
*The level of pedagogical qualification of secondary school teachers in the 2018/2019 school year*

Secondary school teachers	Qualification Considerations 2018/2019				
	Total	In that			
		Qualified	Unqualified		
			Total	In that	
				Complementing further qualification	Not complementing further qualification
Czech Republic	38,263.4	36,239.1 (94.7%)	2,024.3 (5.3%)	1,158.2 (57.2% / 3%)	866,1 (42.8% / 2.3%)

Source: Maršíková and Jelen (2020); author’s own processing

Teachers of general education subjects acquire their *professional qualifications* by studying in an accredited master’s degree programme. Teachers of general education subjects at the second grade of primary schools, secondary schools and conservatories must have a master’s degree. Faculties of Education are the basic institution for the preparation of teachers of general education subjects. However, teachers may also be trained at other faculties, such as the faculties of philosophy, science, mathematics and physics, and physical education and sport, in the fields of secondary school teacher education (the qualification thus obtained is also valid for upper secondary school). Faculties preparing teachers are completely autonomous in terms of the design of the content and nature of individual study programmes.

The curriculum for the preparation of teachers of general education subjects consists of subject-specific education (specialization) and professional pedagogical education (didactic, pedagogical-psycho-logical and practical) or general education training (e.g., foreign language). Most courses are structured studies. Usually, the three-year bachelor’s programme has either a certain pedagogical component or is entirely academic (especially in non-teaching faculties). It is only in the follow-up master’s degree, usually two years, that one can directly qualify as a teacher of the subject. The study focuses mainly on the didactics of subjects and other pedagogical disciplines, students undergo teaching practice, and previous studies are developed on a professional level.

The qualification can also be obtained in a non-teaching master's degree course that corresponds to the nature of the subject taught and subsequent university studies in a bachelor's degree programme or in a lifelong learning programme in the field of educational sciences aimed at preparing teachers for general education programmes at the required school level. A professional qualification for teaching physical education can also be obtained by completing a master's programme in physical education and sport.

A teacher who has obtained a professional qualification in a teaching programme may teach subjects other than those for which they are approved at a given level of education (this is at the discretion of the school principal). The studies for teachers of the second grade of primary schools and for secondary school/conservatory teachers are usually separate. Teaching practice, according to the curricula, is usually in the range of four weeks of continuous practice per subject per study, with continuous practice at individual schools ranging from 13 to 182 hours per study, depending on the school. Teachers in higher vocational schools are not required to have teaching qualifications acquired through studying a teaching programme or through subsequent studies.

**Table 10**

*Distribution of how teachers obtained their qualification in teaching in secondary schools*

<b>Means of obtaining a teaching qualification</b>	<b>Within university study program</b>	<b>Other pedagogical disciplines at university</b>	<b>Additional pedagogical studies</b>	<b>Without pedagogical education</b>
<b>Total</b>	<b>57.4%</b>	<b>3.6%</b>	<b>33.7%</b>	<b>5.2%</b>
Teachers of general education subjects	83.1%	2.4%	11.6%	2.9%
Teachers of vocational subjects	25.5%	5.5%	61.7%	7.3%
Vocational training teachers	11.2%	4.8%	73.7%	10.3%
Practical teachers	30.9%	7.2%	50.4%	11.5%

*Source: Maršíková and Jelen (2020); author's own processing*

In addition to *teachers of general education subjects*, vocational education also includes *teachers of theoretical vocational subjects* (teachers of vocational subjects in secondary schools, teachers of vocational arts in secondary schools and conservatories), *teachers of practical education and teachers of vocational training*. *Teachers of theoretical vocational subjects* in secondary schools are mainly trained as specialists in their field in master's studies (usually following on from bachelor's studies) at various types of universities (technical, economic, and agricultural universities as well as

medical and theological faculties). At some universities (e.g., economic, technical or science universities), there are concurrent teacher training courses, and two faculties of education run direct programmes in teaching vocational subjects for secondary schools. However, *a follow-up model of preparation* is more common – after the professional master’s degree, teachers must “follow-up” their teaching qualifications with, as a rule, (1) a three-year bachelor’s degree in educational sciences focused on secondary school teacher preparation (see curriculum below), (2) a continuing education programme at a university focused on secondary school teacher preparation of at least 250 teaching hours, or (3) a minimum of 120 hours of studies in pedagogy at teacher training institutions.

*Subsequent pedagogical studies* (unless it is already a master’s programme in teaching professional subjects) focus on pedagogy, psychology and didactics, and the preparation usually includes teaching practice. The educational programme is accredited by MoEYS (in the case of a bachelor’s degree, accreditation is under *the Higher Education Act*, in the case of a lifelong learning programme at a university or a study of pedagogy at a teacher training institution under the Pedagogical Staff Act).

Pursuant to *Act No.111/1998 Sb., on Higher Education*, the Ministry of Education, Youth and Sports (MoEYS), as the recognition body for regulated professions of pedagogical staff, expresses its opinion on university study programmes whose graduates will obtain the professional qualification of a pedagogical staff member. For this purpose, there is a document called *Framework Requirements for Study Programmes, the completion of which will lead to professional qualifications for the performance of regulated professions of pedagogical workers – methodological material on the process of assessment of university study programmes, the graduates of which will obtain professional qualifications of pedagogical workers* (MoEYS, 2017).

This material summarises the general background to the issuing of opinions by the MoEYS as the recognition body in order to provide some predictability in the resulting opinion. The fulfilment of the framework requirements according to this material is a prerequisite for graduates of a given study programme to be adequately prepared to practise a regulated profession. The framework requirements are intended to reflect a balance between the essential components of the education of the categories of pedagogical staff concerned. The lower limit of the range of these components sets an unsurpassable minimum; the upper limit of the range is recommended and can therefore be exceeded, particularly if the college wishes to place emphasis (usually in the form of compulsory electives or elective courses) on a selected component of preparation for the regulated profession. The proportions of the individual components of the study are expressed in percentages (rounded), credits and hours according to *the European Credit Transfer and Accumulation System* (ECTS), whereby the expression in credits



corresponds to 30 hours of the student's study load; the standard cumulative number of credits for a bachelor's degree programme is 180 credits, for a master's degree programme 120 credits and for a master's degree programme 300 credits (MoEYS, 2017).

Table 11 below gives an example of the framework requirements and the ratio of the individual components for a bachelor's degree programme designed for graduates of non-teaching master's programmes or graduates of secondary schools. The bachelor's degree programme is intended for graduates of secondary vocational schools whose education will qualify them as a teacher of practical teaching and a teacher of vocational training, in subjects whose nature corresponds to the field of secondary education with a school-leaving certificate or a field of secondary education with a certificate of education. A graduate of the master's programme may obtain the qualification of a teacher of vocational or general education subjects, the nature of which corresponds to the focus of the master's programme.

**Table 11**

*Framework curriculum of the bachelor's programme Teaching Practical Education*

Framework part	%	Credits	Hours
<b>Teacher propaedeutics</b> (e.g., pedagogy, psychology, general didactics, school pedagogy, educational psychology, developmental psychology, inclusive didactics, methodology, foreign language, university foundation)	35–46	63–83	1,890–2,490
<b>Field and subject didactics</b>	30–40	54–720	1,620–2,160
<b>Practice</b> guided and reflective practice (auditory, ongoing, and continuous)	13–16	23–29	690–870
<b>Preparation of the final thesis</b>	5–10	9–18	270–540

*Source: MoEYS (2017)*

*Teachers of practical education* and *teachers of vocational training* acquire professional (subject) and pedagogical qualifications separately (the subsequent training model). The content of training depends on the level of training. They are trained at universities, colleges of higher education or, most often, secondary schools, which end with a school leaving examination or, in the case of vocational training, a final examination, where graduates obtain a teaching certificate in subjects corresponding to the nature of practical teaching. They must also have a teaching qualification (see teacher of vocational subjects). In the case of secondary school graduates who have obtained a teaching qualification by

studying pedagogy, a minimum of three years' work experience is required. A vocational teacher must also have a secondary school teaching certificate in a field relevant to the nature of the subject taught. Teacher training in practical teaching and vocational training can be completed after four years in secondary school, three years in a higher vocational school or 3–5 years in a university, followed by pedagogical training. Similarly, for *teachers of vocational art subjects*, the content of training depends on the level of education and the pedagogical training is similar in nature to that of teachers of theoretical vocational subjects. Conservatoire education includes general, vocational (artistic) and pedagogical components.<sup>24</sup>

*The Institute for Information in Education* in its publication *Education Under the Magnifying Glass* (IEB, 2011) states that in terms of educational attainment, female teachers in secondary schools, conservatories and colleges are more skilled than male teachers. The proportion of female teachers with a university degree exceeds 91%, while only less than 86% of male teachers have a university degree, and therefore we find a higher proportion of male teachers in the lower educational categories. While only 34% of university-educated teachers were male in 2010, 45–47% of teachers with higher vocational education and secondary education with a high school diploma were male, and in the category of secondary education with a teaching certificate, as many as 62% were male.

In 2019, the educational structure of secondary schools was as follows. We can see an increase in the proportion of teachers with no more than a secondary education with a high school diploma, which is mainly driven by the vocational component of training. The proportion of teachers with a master's degree or higher is about 81%, while lower levels of education account for about 19% (of which 5% are bachelor's degrees), of which secondary education with a baccalaureate is less than 12.5% (Maršíková & Jelen, 2020).

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24 Based on MoEYS, 2022a and CEDEFOP, 2022.

## 4 Motivation in the context of education

Even in contemporary psychology, views on motivation are still very fragmented and there is no universally accepted theory or definition. The following text summarizes the basic knowledge about motivation from a general perspective as well as from the perspective of performance (work) motivation and motivation for further education. At the same time, this chapter summarises the results of current research on motivation for further education, particularly among adults.

### 4.1 General definitions of motivation

In the Dictionary of Psychology (Hartl & Hartlová, 2004, p. 328) we can find the definition that *“...motivation is most often understood as an intrapsychic process of increase or decrease of activity, mobilization of forces, energization of the organism and it is manifested by tension, restlessness, activity directed to the disturbance of balance. The motivational focus then reflects the personality of the individual, his hierarchy of values and his previous experience, abilities and learned skills.”*

The concept of “motivation” comes from Latin: *“The word motivation is derived from the Latin verb movere, i.e., to move, to move. It is a general term for all stimuli that lead to a certain behaviour”* (Homola, 1977 In Jičínská, 2009, p. 41). Motivation is also defined by the Pedagogical Dictionary (Průcha, Walterová & Mareš, 2003, p. 127) as *“...a set of internal and external factors that: (1.) trigger human behaviour, activate it, give it energy; (2.) they direct these actions in a certain direction – an attempt to achieve something or to avoid something; (3.) they keep it going, control its course and the way of achieving results; (4.) they induce the evaluation of one’s own actions and experiences, one’s own successes and failures, relationships with the environment.”*

Palán (2002, p. 125) approaches motivation as *“...a dynamic intrapsychic process in which the interrelationships of the subject’s stimuli and the environment create the tension, focus, and direction of activity that leads to the goal after the decision-making process.”* Motivation can be seen as an internal force that determines behaviour, we may not even perceive it many times, it is an unconscious internal driving force that activates and maintains aroused activity. Motivation of human activity is one of the basic personality structures of a person, we also include abilities, character, attitudes, and temperament. As declared by Nakonečný (2003, p. 195), motivation is a process *“...that empowers, directs and sustains a person’s behaviour, this process ultimately results in a subjectively purposeful focus of an individual’s behaviour that is intended to lead to a set goal.”*

Motivation is also used as an umbrella term for *motives* and their effects. Říčan (2007) conceives of the term motive as anything that leads to an activity that begins with the need for food and ends with the desire of a selfless idealist to save all humanity. Motives determine and regulate the focus of human activity. For Hartl (1999, p. 129), motive is “...*the motive, the cause of a person’s activities or actions directed toward the satisfaction of a need. A motive has a goal and direction, intensity, and permanence. It springs from impulses internal, whether conscious, unconscious or subconscious, or external.*”

In order to understand the issue of motivation in human behaviour, it is very important to explain what the sources of motivation are, what motivation stems from. Bedrnová, Nový and Jarošová (2012) consider the sources of motivation to be those facts that create motivation, i.e., facts that establish dynamic tendencies and the focus of human activity and that significantly influence the persistence of these tendencies. As stated by Provazník and Komárková (1996), the basic sources of motivation include *needs, habits, interests, values and value orientations and ideals*.

We can therefore look at motivation from several perspectives. According to Smékal (2012, p. 260), contemporary psychology offers an explanation of the functioning of motivation based on the following models:

- *Homeostatic model* – assumes that every behaviour aims to restore the balance, which is disturbed by something, the essence of motivation is the tendency to return to the initial state;
- *Incentive model* – is based on the assumption that certain external stimuli have a dynamizing effect, mobilise energy, bring well-being, satisfaction or, on the contrary, induce fear or tension. This model also includes the hedonic principle – a person tries to maximize pleasure and, on the contrary, to avoid displeasure or escape from it;
- *Cognitive model* – understands motivation as the result of the function of cognitive processes. It is based on the assumption that the individual primarily processes information and then makes decisions. The basic driving force is the need for knowledge, curiosity, to reduce uncertainty and ambiguity;
- *Activity model* – considers the source of motivation in an activity that is an end in itself and not just a means to an end.

Motivation is therefore a kind of mechanism of motives (incentives) of various kinds and influences our actions. Within this mechanism, Hartl (1993, p. 151) distinguishes between *habitual* motivation and *actual* motivation. A synonym for habitual motivation is attitude, the latter being defined as “...*the tendency to react in a stable way to objects, persons, situations, oneself...*, the tendency being “...*relatively permanent and containing cognitive, affective and conative components*”. Current motivation is then understood as the sum of current motives that arise as a result of external

and internal stimuli. The individual motivating variables never give rise to a single motive in a given situation, but always to an actual motivation, which can only be understood and explained in interaction with a habitual motivation (Löwe, 1977).

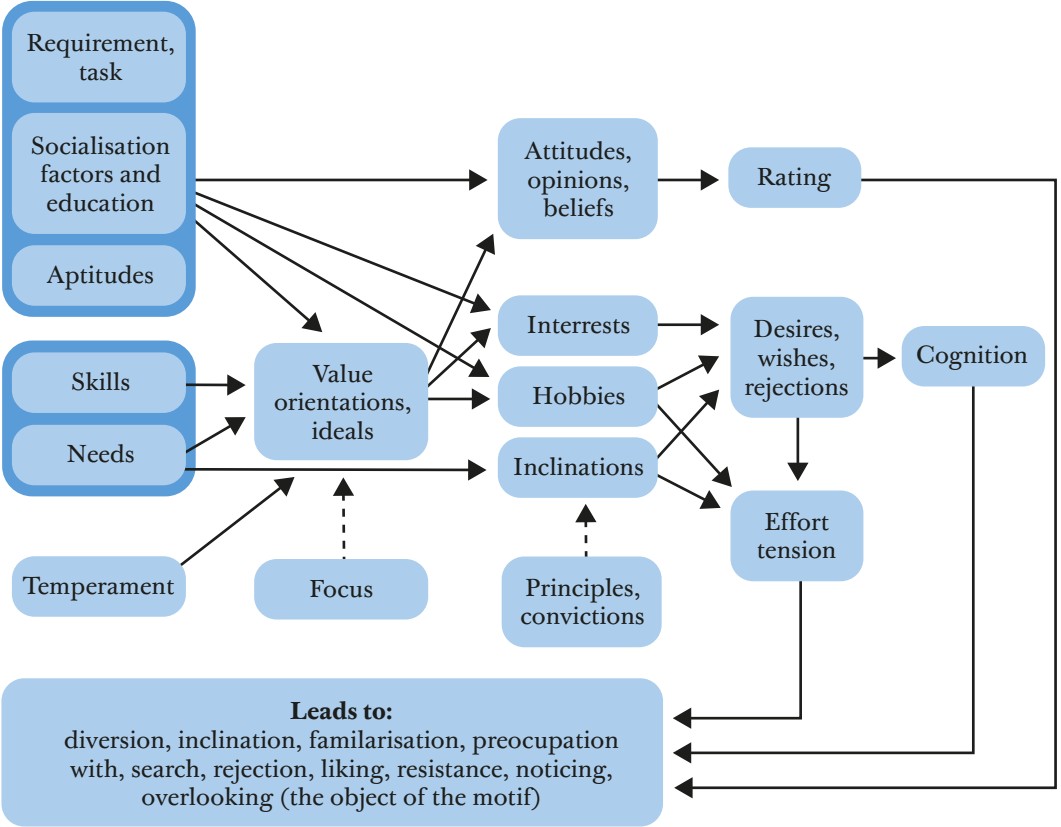
In contemporary psychology, Smékal (2012) notes that motives are most often referred to by the term “need”. The word “tendency”, which can also be expressed as inclination, is also currently used for motives, but the meaning is also contained in the term orientation. The term “motive” expresses the goal of our actions. For example, even Čačka (1998) specifies that a motive can be a mere need – for sleep, for love, for self-actualization, etc. Nakonečný (2009) puts motive in the psychological level, where this concept expresses the general reasons for human behaviour. He also mentions the difference in whether the need for food the motive for a human being or it is hunger instead. What is significant in this issue is the fact that whether the motive for human action is the object of scarcity or the scarcity itself, the result is always some sense of satisfaction. Motives are essentially related to attitudes and evaluations.

Nakonečný (2009) mentions the existence of both *biogenic* motives and *sociogenic* motives. Logically, biogenic motives are associated with the so-called lower needs of an individual (hunger, sleep, exercise, rest, need for love, etc.). Sociogenic motives are higher needs (self-realization, recognition, respect, etc.). This means that motives are directly related to our emotionality, as we try to avoid unpleasant feelings and instead try to bring about pleasant feelings. Smékal (2012) adds *psychogenic* and *ideational motives* to this classification and adds that in practice it is important to distinguish motives into *unconscious* and *conscious ones*, which is due to the contribution of consciousness to the emergence and application of the motive. He states that the structure of a motive is like an iceberg, which Sigmund Freud compared motivation to – that is, that 80–90% of our experience and action occurs automatically without the involvement of awareness. Only 10–20% of the components of motivation enter the space of consciousness, presumably at times when action encounters an obstacle, or when the experience or content of consciousness is painful, incomprehensible, or requires taking a stand.

Motive, according to Armstrong (2007), is the reason for doing something and has three components: *direction*, *effort* and *persistence*. This is also confirmed by Bedrnová, Nový and Jarošová (2012) when she talks about motivation operating simultaneously in these three dimensions: (1) *the dimension of direction* – motivation focuses human activity in a certain direction; (2) *the dimension of intensity* – depending on the intensity (strength) of motivation, human activity is more or less effortful; (3) *the dimension of constancy*, persistence – it is manifested by the degree of an individual’s ability to overcome internal and external obstacles or partial failures standing in the way of the goal of the motivated activity.

In professional circles, a distinction is often made between *intrinsic* and *extrinsic* motivation. Intrinsic motivation stems directly from the individual themselves who finds pleasure and enjoyment in a particular activity. Extrinsic motivation is often seen as the result of external pressures, where the individual enters into an activity even though it is not their personal desire (Rabušicová & Rabušic, 2008). An individual's performance is then motivated by intrinsic factors (mainly *needs*) and extrinsic factors (called *incentives*). The network of concepts that express the different aspects of motivation can be seen in the following logogram:

**Figure 7**  
*Logogram of motivation structure*



Source: Modified according to Smékal (2012, p. 235)

Thus, we can conclude that motivation is a thought construct that can be used to explain certain phenomena. We refer to motivation as a process that is based on change. It consists of a set of individual motives, attitudes, interests, or goals that lead to a particular behaviour. In general, the term motive is defined as the impetus for human action and experience. Motivation is then defined as a set of external and internal factors that activate, focus and guide human action and



experience, and at the same time influence a person's relationship to themselves, to other people and to the world. Motivation and motives are fundamental to the initiation and success of educational processes. Motives are the cause of certain behaviours and are based on the needs a person seeks to satisfy. According to Nakonečný, satisfying the needs of an individual is the basic function of motivation (Jičínská, 2009).

## 4.2 The significant theories of motivation

Among the most famous *theories of human motivation* are those of *Sigmund Freud*, *Abraham Maslow*, and *Frederick Herzberg*. Many of the earliest theories of motivation were based on drives and instincts, which were supported by psychodynamic theories of personality. In these theories, drives are seen as innate tendencies that control behaviour, i.e., these theories of motivation focus only on internal causes and completely neglect and ignore the interrelationships and interactions between the individual and the environment. The motivational theory of *Sigmund Freud* (1856–1939), the Austrian physician and psychiatrist, the founder of psychoanalysis, is based on the claim that the real psychic forces that influence human behaviour are essentially unconscious, since during adolescence and the acceptance of social rules, a person must repress within themselves a number of drives that are never fully under control and manifest themselves in dreams, neurotic behaviour, etc. The word drive gradually began to be replaced by the new terms need, motive, effort, and the first to come up with a theory in which an unlimited number of drives were replaced by a clearly defined set of needs was the American psychologist and one of the founders of the humanistic stream in psychology, *Abraham Herold Maslow* (1908–1970). Maslow hypothesized five levels of needs and then classified these needs according to their importance in *a hierarchical system of needs*. The system is divided into levels – higher order needs and lower order needs. This gradation is applied as an experience of the urgency of a certain satisfaction and always depends on the satisfaction of the lower needs. The different levels of needs represent:

- (1.) *Physiological needs*. This category consists of the primary needs of the human body, such as: water and food needs. If physiological needs are not met, then they dominate, and no other needs motivate the person.
- (2.) *Needs for security and safety*. When the physiological needs are adequately satisfied, the next higher level of needs takes over the baton of importance. Security needs include protection from physical harm, illness, economic hardship, and unexpected disasters.
- (3.) *Social needs*. These needs relate to the social nature of people and their need for association and desire for friendship. At this level, the hierarchy of needs



leaves the realm of the physical or quasi-physical needs of the previous two levels. Failure to meet this level of needs can affect the mental health of an individual.

- (4.) *The needs of recognition.* These include both the need for awareness of importance to other people (self-esteem) and the need for genuine recognition from other people. Recognition from these people must also be felt to be justified and deserved. Satisfying these needs leads to a sense of self-confidence and prestige.
- (5.) *Self-realization needs.* Maslow defines these needs as a person's desire to be more and more than they are, to be all that they are capable of becoming. It means that one wants to fully realize one's talents and abilities. Of course, as an individual's role changes, the external aspects of self-actualization will also change (Donnelly, Gibson & Ivancevich, 1997).

Frederick Herzberg came up with a two-factor theory that distinguishes dissatisfiers (factors that cause dissatisfaction) and satisfiers (factors that cause satisfaction). The mere absence of dissatisfiers is not enough; satisfiers are necessary for motivation. Herzberg found that these two distinct groups of factors – motivators (intrinsic factors, satisfiers – recognition, responsibility, growth) and frustrators (extrinsic factors, hygiene factors – pay, working conditions) – affect job satisfaction. If the motivators are in an unfavourable state, the worker is not satisfied and at the same time not motivated to work. Otherwise, job satisfaction and at the same time higher work motivation are experienced. An unfavourable state of hygiene factors also causes job dissatisfaction and has a negative effect on motivation to work, but otherwise only job satisfaction occurs, not a positive effect on work motivation. This theory implies the fact that job satisfaction is a condition for desirable work motivation. However, it is not true that job satisfaction is always followed by positive work motivation (Kotler & Keller, 2007).

In addition to Maslow and Herzberg, the American psychologist Clayton Alderfer also formulated his *ERG theory of needs* (E – existential needs, R – relational needs, G – growth needs), which deals with the issue of subjective desire states and their satisfaction. Satisfaction refers to the subjective inner state of people who have achieved what they wanted. Desire represents a person's subjective internal state and refers to needs, wants, preferences and motives (Armstrong, 2007).

Herzberg's theory falls into the area of *work theory* or in other words *performance motivation*. One of the first theories of work motivation, which appeared in the second half of the 19<sup>th</sup> century is *the instrumentality theory*. Its emergence was related to the development of machine production and the emphasis on economic results and the need to rationalize work. Instrumentality theory can be understood as a theory that uses rewards and punishments as a means of motivating employees;

it can be simplistically called the 'carrot and stick' method. Instrumentality theory has its roots in the scientific management methods of *Frederick Winslow Taylor* (1856–1915), an American mechanical engineer who sought to improve industrial efficiency; he elevated management to an academic discipline and is the founder of scientific management.

Since the author considers teacher education as part of the job, some more theories related to work behaviour and its motivation will be further presented in this monograph.

In *the theory of competence*, *Robert W. White* understands the motive of competence as "...the need to control one's environment, manifested already in children by the desire to explore everything, to take things apart and put them back together" (Nakonečný, 1992, p. 155). In an adult, the need for competence manifests itself as the need to demonstrate one's abilities, one's professional competence. The effort to satisfy this need should be used by the manager, who should delegate tasks to their colleagues whose difficulty exceeds the level already demonstrated by the worker, while not exceeding the worker's capabilities and capacities.

*Victor H. Vroom*, *Lyman W. Porter*, and *Edward E. Lawler* developed a *theory of expectance* based on cognitive motivational theories, which posit that people act in ways that are influenced by prior problem-solving, decision-making experience. In expectancy theory, the level of motivation can be expressed as a function of *valence* (i.e., the subjective value of the outcome of an action) and *expectancy* (i.e., the expectation that a given work action will lead to the expected outcome). There must be a link between effort and reward.

The concept of *the theory of justice*, whose author is *John Stacey Adams*, is based on the phenomenon of social comparison. One compares one's own input to work and the effect of work with the input of one's co-workers and the effects that comparable work brings to them. The effect may be money, recognition, or favour from a superior, etc. Any discrepancy tends to cause a person to eliminate it. People are more motivated when they are treated fairly and fairly.

*Douglas McGregor*, a representative of humanistic psychology, presents two different ideas of man – *the idea of type X* and *the idea of type Y*. *Bedrnová and Nový* (2002, p. 273) describes that "*The first idea – type X – expresses the view that man is a lazy creature, he has an innate dislike for work, therefore it is necessary to force him to work (under threat of punishment), on the contrary, good work, good performance should be financially rewarded. Moreover, man is mostly an independent creature, he requires constant guidance, control, supervision. The opposite idea – type Y – assumes that the expenditure of physical and spiritual energy at work is something as natural for a person as play or rest, that the sense of responsibility and duty is also something quite natural to a person, that more important than e.g., financial rewards are the feeling of importance and usefulness of one's own work, opportunities to work creatively, etc.*"

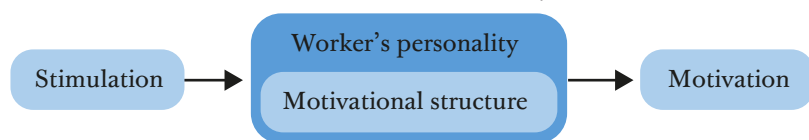
This theory does not divide people into two different types, but expresses two different views of people, their foundations, and characteristics. According to the prevailing idea, a person acts with others. A teacher is assumed to conform to type Y as he is expected to be independent, creative, responsible. Different theories of work behaviour demonstrate that the problem of work motivation can be approached from different perspectives (Kamarádová, 2008).

From the concept of motivation, we have to distinguish *the concept of stimulation*, which Bedrnová and Nový (2002, p. 243) define as “...an external influence on the psyche of a person, as a result of which certain changes in their activity occur through a change in mental processes, especially through a change in their motivation.” The basic difference between motivation and stimulation is in the direction from which the motivation to act comes. Stimulation represents an action on the psyche of a person from the outside; motivation is caused by motives from within.

A stimulus is any stimulus that causes some change in a person’s motivation. However, stimuli may or may not become motives. A person is stimulated to action only by what has acquired subjective value for him. As Buchtová (1999 according to Kamarádová, 2008) states, a stimulus can become a motive only in the process of interiorization (the process of internalizing external stimuli) or internalization (the process of transition from the actual performance of an activity to its imagined performance). External stimuli pass through the motivational structure of an individual, in which innate and acquired needs, values, interests, experiences are reflected. It represents a sieve that selects which stimulus becomes a motive and which does not.

**Figure 8**

*The relationship “stimulation – human personality – motivation”*



Source: Bedrnová and Nový (2002, p. 289)

## 4.3 Motivation for further education

*Motivation for further education* is another important topic that has been the focus of attention not only in major policy documents and academic texts, but also in many research studies in the field of education. It is becoming a factor that undoubtedly has a major impact not only on attitudes towards acquiring and renewing one’s own knowledge and skills, but also on the level of engagement in learning activities.

Attitudes towards further education usually play a significant role when individuals are deciding whether or not to continue to learn throughout their lives. In order to be able to explain adults' motivation for learning, it is important to know what benefits they expect in relation to learning and also what value they place on it. Motives to learn (cf. Rabušicová & Rabušic, 2008) begin to develop in early socialization and are the result of learning and learning experiences.

Kalous and Veselý (2006, p. 30) add that “...*those who want to maintain or improve their standard of living must educate themselves throughout their lives in order to reflect the rapid changes the world is undergoing.*” Thus, the possibility of individual success or, conversely, decline, is becoming increasingly dependent on the degree of personal effort of each individual. The problem is that our population is not very motivated to learn throughout life.

Motivation for further education among adults, and teachers are no exception, is largely utilitarian. This means that the adult needs to gain a specific benefit, e.g., a qualification, retraining or up-to-date knowledge necessary to perform better in the profession. Adults have stronger *intrinsic motivation* and long-term internal goals, which distinguishes them from school-age learners. This results in high *expectations from education*. If education does not lead to their goals and does not meet their expectations, adults become resentful, resigned, or reject education. It is demotivating if further education is made compulsory (mandated) for the adult. It is preferable to make participation conditional on some incentive (career advancement, salary, secondment abroad, etc.). Also, a wide range of topics and programmes to give the adult a choice will facilitate the acceptance of compulsory education (Starý, 2008).

People may study because they want to improve their qualifications, income, or position, or simply to respond to an employer's request. However, they may also study for a sense of self-satisfaction or just because they want to learn something new, broaden their horizons in the field they are most interested in or fill their free time. Many factors influence the issue of motivation for adult learning. A person is almost never motivated by a single motive, but always by a complex of different motives that evolve or change and are often interconnected. Based on extensive research and experience in the field of adult education, Beneš (2008, p. 83) described a structure or *typology of motives* that most often become the impetus for educational activities:

- *social contact* – the desire to make contacts, the need for group activities and friendships;
- *social stimuli* – the desire to gain space unencumbered by everyday pressures and responsibilities;

- *professional reasons* – the desire to secure or develop one's own position in employment;
- *participation in political, especially municipal life* – striving to develop the ability to participate in municipal affairs;
- *external expectations* – response to a request from someone in the environment, e.g., employer, friends, social workers, etc;
- *cognitive interests* – this motivation is based on the intrinsic value of knowledge and its acquisition.

At the same time, in accordance with Beneš (2008), it is possible to note motivational differences according to age, gender, educational attainment, socio-economic status, number of children, marital status, place of residence (city, village), etc. Younger people are more pragmatically motivated; older people are looking for a way to use their free time in connection with education.

In terms of the effectiveness of adult learning, the strength and focus of the participant's motives is often considered to be the decisive factor for successful learning. It can be assumed that potentially almost everyone can, and nowadays must, learn and educate themselves. In reality, however, a significant proportion of the population does not systematically learn and educate, even though the need for lifelong learning is recognised by the majority of citizens. Participation in further education is influenced by several factors: *the social climate and social framework in relation to learning; epochal themes and challenges; environment and relationships; life situation; personal characteristics.*

Life situations and micro-social backgrounds are an area that has only recently been explored. Based on research from Western countries, the main *barriers to participation* are lack of time, lack of childcare, lack of transparency in the system and lack of information. The situation in the Czech Republic is basically similar, however, the financial aspect of further education is more pronounced (cf. Čiháček, et al., 2006; Czesaná, Kofroňová & Vymazal, 2006). The sources of motivation in the field of education are determined by the environment where a person lives and their surroundings. As declared by Nakonečný (2009, p. 347), the most frequently cited sources of motivation are:

- *pressure* – perceived as a large amount of work and responsibilities associated with meeting deadlines;
- *power* – the ability to assert oneself, responsibility, and authority;
- *performance* – meeting set targets, meeting standards within deadlines, a certain work commitment;
- *place in the group* – in the family, work, collective and social world;
- *competitiveness* – teamwork for visibility and achieving results;

- *self-development and learning* – growing your own priorities for the benefit of yourself;
- *recognition* – reward and evaluation in the work and family spheres;
- *reward* – financial, verbal, vouchers, and higher posts;
- *job security* – job, status, stability etc.;
- *prestige* – social recognition;
- *ethics* – personal values and its application in everyday life;
- *status* – permanence of position and status;
- *advancement* – career growth and salary increase;
- *autonomy* – self-control;
- *power* – driving engine.

The issue of perception and awareness of barriers is very important for motivation in adult education. Motivation, then, is the energy that drives human action towards a particular goal. However, there is also a counter-energy, that is, when individuals consider how likely it is that they will be successful enough to achieve a reward (Atkinson, 1978 as cited in Graham et al., 2002). If they consider the possibility of success unlikely, their motivation decreases – this is where the various barriers that adults perceive come into play and which they believe reduce the likelihood of success (the probability of receiving a reward).

According to Cross (1981 in Rabušicová & Rabušic, 2008), perceived *barriers to education* can be divided into three groups: (1) *situational barriers* resulting from the individual's current situation at a given time (e.g., (2) *institutional barriers* (inconvenient schedule, insufficient supply), (3) *personal barriers* – or *dispositional barriers* (cf. Kalenda & Kočvarová, 2017) related to attitudes and self-perception as a learner – e.g., old age, fatigue, lack of self-confidence. Unfortunately, there may be many other barriers to learning. Many more than motivators, i.e., drivers in a positive sense. Leaving aside the lack of time and finances, we have the most serious obstacle, which is laziness. Lack of money thus seems to be a proxy reason rather than a truly serious obstacle. Other obstacles include low awareness of study options, lack of confidence in the effectiveness and reality of completion, and the overall difficulty of the various courses and studies.

However, what plays the role of a major barrier comes out well in analyses of the links between perceived barriers and actual participation in education. For those who do not participate, it is mainly personal factors that stand in the way: they believe that education is meaningless and fear failure. This phenomenon is referred to in motivation theory as *learned helplessness* (Graham et al., 2002). The risk of failure is perceived as too high to be worth investing in an attempt to achieve a particular goal. People with learned helplessness perceive external



conditions as uncontrollable, behave passively, and perform poorly. The fact that a significant proportion of the Czech population exhibits this characteristic in relation to education is not very encouraging, but it also points to a possible solution to the problem. According to Rabušicová and Rabušic (2008), those who have participated at least once in a course of non-formal education find significantly fewer barriers, suggesting that if an individual manages to go through some type of education once, learned helplessness can be broken.

In the field of further education, we can register many motives that more or less influence *the participation of adults in education*. In reference to the conclusions of a research survey (Šedová, Novotný, 2006), which among others deals with the level of participation of adults in non-formal education in its various areas, the motivation of adults is to the greatest extent tied to the sphere of employment. Let us therefore stop with these motives. According to the research of the author's team (Rabušicová, Rabušic & Šedová, 2008), occupationally oriented motivation to participate in adult education is mainly associated with job placement, maintaining a position at the workplace, advancement at the workplace, or expanding job opportunities. In relation to formal and non-formal education, however, this motivation differs fundamentally in one aspect, namely the degree of influence of the direct employer requirement. The motivation of economically active persons to formal education is mainly driven by the desire to improve their employment opportunities, the desire for personal development, and less by the employer's requirement. In contrast, the motivation of adults to enter non-formal vocational training is mainly a direct employer requirement. It is known that a minority of economically active adults in the country participate in adult vocational training. This fact may be related to people's belief that they are sufficiently educated for their work.

Interesting findings in this area are provided by research that assumed a positive effect of low self-assessment of professional knowledge and skills on participation in non-formal professional education (Novotný, 2006). Based on the data obtained, it can be said that the majority of respondents have a considerably high opinion of their knowledge and skills and consider them sufficient (more than 90%). Probably for this reason, this possible source of motivation does not significantly affect their participation in vocational education. As reported by Rabušicová and Rabušic (2008), people who consider their knowledge and skills sufficient for their profession are even more likely to participate in non-formal education than those who do not. Another possible source of adult motivation, namely the respondents' belief that participation in education will change their employment situation, carries somewhat more weight in this case. Although only about 30% of them believe in this positive change, this motive has been shown to actually increase participation in non-formal vocational education (Novotný,



2006, p. 34). As regards participation in non-formal education in the other areas studied, adults draw their motivation mainly from other sources. For example, adults are largely motivated to participate in civic or leisure education by people they know, whereas language education or the desire to improve computer literacy is very often only an individual and intrinsically motivated matter (Rabušicová & Rabušic, 2008, p. 104).

## **4.4 Current research results on teachers' motivation for further education**

The teacher's motivational sphere, which certainly includes the area of continuing education, is made up of a complex set of internal incentives that are both conscious and unconscious. Subsequently, in conjunction with their external counterparts and situations, they activate and focus an individual's behaviour and actions. Teacher motivation is also closely related to the teacher's attitude towards work itself. It is likely that most teachers do not find further education unnecessary. Nevertheless, teachers' motivation for further education can vary considerably and thus affect the effectiveness of further education. Although the law imposes a duty on teachers to undertake further education (see the following section), according to Lazarová (2006), teachers tend to reject such regulations. They recognise the need for and usefulness of further education, but at the same time consider it to be beneficial rather than essential. Some feel that a teacher should be educated for their own good (Havlík, 1999). In a survey by Kohnová et al. (1995), 73% of teachers demanded any further education as voluntary and reject specific mandated training. They consider continuing education a right rather than an obligation. The same research also indicated that about 25% of the teachers indicated a lack of intrinsic motivation, while 75% indicated that external circumstances such as poor level of events, lack of support from the school management discouraged them from educational activities. Havlík (1999) then states that sources of poor motivation include teacher overload, salary conditions, etc. The results of the investigation conducted by Lazarová (2006, pp. 79–80) revealed several categories that can be considered as *determinants of teachers' motivation* for further education:

- *more enduring personality traits* – e.g., openness to learning and change, self-evaluation, self-management, character traits such as conscientiousness, responsibility, diligence, etc.;
- *age of the teacher* – increased fatigue, need for calm, burnout syndrome, intergenerational issues;
- *career advancement of a teacher* – status of a teacher in their school, possibility of career advancement, meeting the requirements for a higher salary, position, etc.;

- *gender of the teacher* – men are more likely to aspire to leadership positions. Male teachers may tend to occupy privileged positions. Issues of the status and role of women in society are also influential;
- *teachers' experience of further education* – some teachers have an attitude based on the belief that it is not worthwhile to educate themselves, they just come to confirm it;
- *personal and family context* – access to education hampered by family situation, own health, travel complications, etc.;
- *management of further education* – at school and school policy level.

The results of another research survey (Lazarová & Prokopová, 2004) indicated that the vast majority of teachers see the biggest barriers to further education in the lack of time, much less in the lack of finances. Teachers pressed for time prefer single-day, short-term educational events that are less financially demanding. More than half of the respondents express at least partial dissatisfaction with the teacher educational system. Teachers confirm that they are aware of the need for further education, but almost 40% of teachers would completely or rather agree that further education is a burden that increases fatigue. Teachers overwhelmingly consider themselves sufficiently motivated to learn and are able to describe a number of external circumstances that make learning difficult. The more or less conscious underlying motivations for learning that influence teachers' professional behaviour and their choice of educational path can take concrete forms. Lazarová (2006, pp. 81–82) based on her research artificially created *motivational types* of teachers who participate in continuing educational events:

- *predator teacher* – aims to see e.g., a headmaster or inspector position, wants to be clearly visible and better than others in their own school, chooses a wide range of topics, is bold, ambitious, combative, and innovative;
- *teacher functionary* – is educated because of their need to perform their function (e.g., educational advisor, ski instructor, head of the cabinet), they do not aspire to more;
- *teacher-scholar* – educated out of a deep interest in the field or in a particular pedagogical-philosophical approach, often involved outside the school, trying to publish;
- *teacher practitioner* – similar to a teacher-scholar, interested in the subject under study, reflects on their educational needs, sees education as a way to improve the quality of their work. Above all, they want to be a good teacher and focus solely on their work for the classroom;
- *teacher collector* – pragmatic, proactive and educate themselves, knowing that “any certificate” can be good for him in the future. They usually educate themselves in any direction without deeper reflection. He suspects that education may eventually help him in a job outside education;

- *teacher seeker* – believe they have some catching up to do (e.g., unqualified, novice teacher) but it is not a requirement. Usually looking for self, professional (and personal) identity;
- *teacher visitor* – educate themselves not to stand out of line, is conforming, passively accepts offers from management or responds to orders. Educating themselves make little sense to them.

Teachers' motivation and attitudes towards education are also reflected in their behaviour at educational events. Vašutová (2002) confirms that a teacher without motivation and willingness to learn, closed to accepting new experiences and to change, carries a high risk of failure, and therefore the educational event will not bring the expected benefits. Motivation for learning in education is related to the creation of didactic conditions that suit the adult population, facilitate learning, promote the achievement of educational goals, and have a positive effect on the learner. Experts in further education have investigated which elements are most conducive to *effective learning* and have come up with *a model of motivation*. The model takes the form of a six-pointed star (see Figure 9). On each arm, the two extreme positions of a particular didactic aspect face each other:

- remote activity versus own activity;
- abstract situations versus concrete situations;
- adult participates versus does not participate in the formulation of the task;
- a task from the present versus a task related to the future;
- problem-solving task versus non-problem-solving task;
- individual solution versus group work solution.

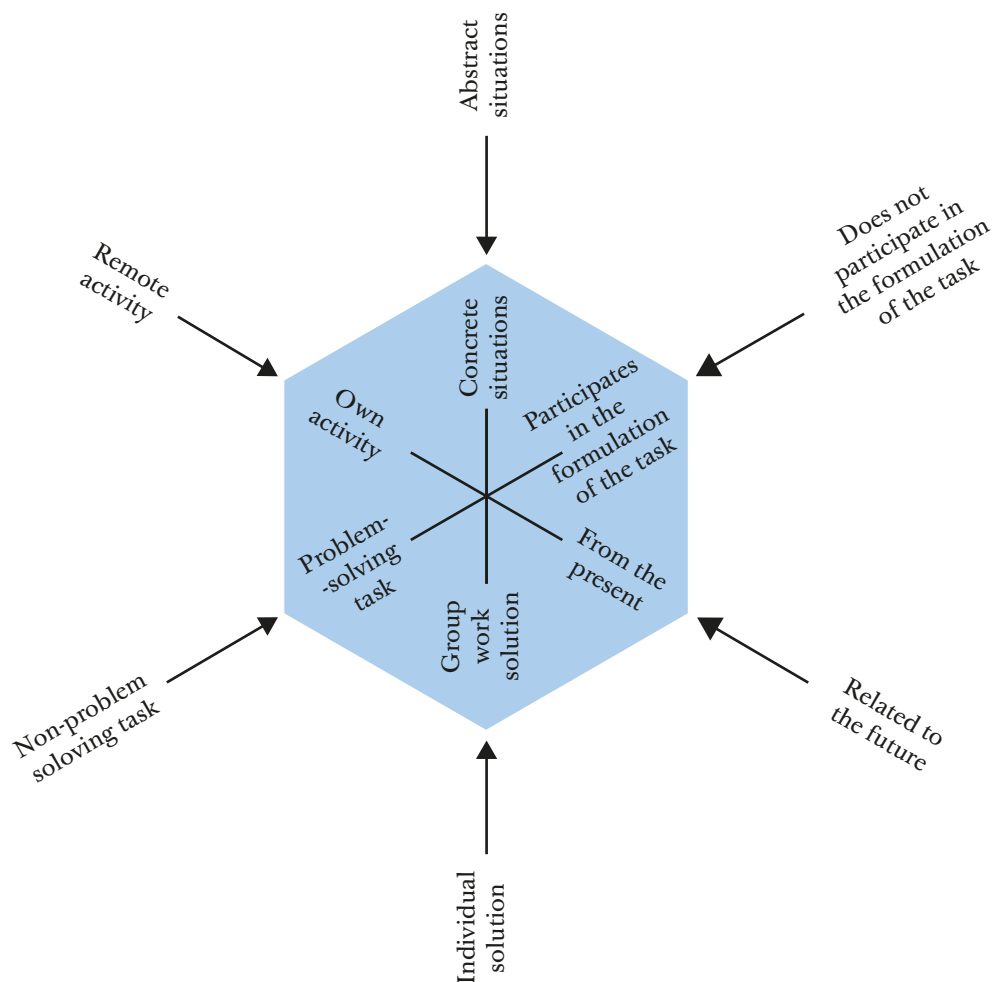
It has been empirically shown that the smaller the internal star pattern, the more effective the adult learning. This means that adult learning is supported by a specific learning situation related primarily to the adult's own practice, active cognition, problem solving, group work, learning related to the current context of the adult's profession, and also by active participation in the design of learning tasks, thus influencing the learning content. In contrast, abstract learning material, passive absorption of knowledge without reference to practice and experience, individual learning within the frontal organisation of learning/teaching, failure to take learning needs into account, traditional tasks – these are elements that reduce adults' motivation to learn.

Beňo et al. (2001, In Starý, 2008) published the following *typology of teachers* who participate in continuing education:

- *weepers* – complaining, lamenting the state of education and their own status. They tend to be fearful, insecure, and small-minded. They trust no one, not even themselves. They are panic-stricken, fearful of their superiors, inept at work, ineffective, and prefer to hide behind other people's opinions;

**Figure 9**

*Model of adult motivation to learn*



Source: Vašutová (2002, p. 177)

- *ignorants* – they either don't care or they pretend to. Education, in their view, has been and will be in inevitable decline, and they only entered it so they wouldn't have to look for anything else;
- *fanatics*, irredeemable idealists – in love with children, with teaching or with their own field. They loath to speak out about the poor pay conditions of teachers. They can be considered one of the pillars of education;
- *tandemists* – they are aware of their “own” qualities, they live only on their ability to hang on to the strongest current and they are scrupulous about the direction and strength of the “wind” they are turning to, they are unprincipled;

- *aristocrats* – they are autonomous, strong, fearless, dignified, well-prepared, creative, thoughtful, self-critical, goal-oriented. They have natural authority with their pupils and are often admired and followed by them. They are constantly studying, improving, and teaching excellently and effectively. They can argue and defend their own views;
- *entrepreneurs* – they have at most one foot in the school, their main field of activity was and will be business – legal and illegal. The school pays their insurance premiums and pays their pocket money every month. Some business teachers like to be involved in the management of cities and towns;
- *defectors* – former teachers who internally could not cope with the contradiction between the demands of qualification, the work of a teacher and the level of remuneration for this work.

Teachers are a very specific group in further education. However, even within their education there can be barriers. On the other hand, teachers have many advantages over other adult learners that are well applicable to their further education. Vašutová (2002) has defined several examples of *barriers to teachers' continuing education and learning*: Teachers' overload and psychological exhaustion; low professional self-esteem; professional rigidity; conservative attitudes; inaccessibility to change and innovation; criticalness; formal authority; unwillingness to learn; demotivation; collective dependence; unwillingness to express oneself in front of colleagues; thinking in terms of school, class, subject; lack of self-reflection; and behavioural patterns of one's own pupils.

On the other hand, according to Křeménková (2010), continuing education itself can be one of the motivating factors for teachers in their profession. A number of teachers complain about the lack of opportunities to further improve their qualifications and professional knowledge. Time commitment, lack of financial resources and lack of support from school management are cited as the most common reasons for this. At the same time, we believe that better education and further education of teachers is one of the key methods of improving the quality of education.

## 5 Further education as a part of professional development

Teaching is a lifelong profession, which means that most graduates will enter the profession after college and work in it for several decades. This phase will certainly be accompanied by various social, economic, technological, political and other changes. Teachers have been, are and will be exposed to constant and complex demands in their work, to which they must respond flexibly. It is important to note that sometimes regardless of age, health or mental state and other attributes. In this context, the concepts of careers, career paths and professional learning have been explored by the professional community.

The personality of the teacher has been in all cultures the embodiment of education and cultivation. A teacher is a person who facilitates the process of education, imparts their knowledge and skills to pupils and students, motivates them to acquire knowledge from other sources and last but not least, should also develop their moral values. In the context of the development of new technologies, methods and scientific disciplines, the self-education of teachers is also becoming increasingly important, as the knowledge acquired during their studies is often insufficient for the lifelong performance of the teaching profession without being continuously developed and updated in line with the pace of the times.

### 5.1 Professional development and its role in the teaching profession

This monograph deals with *the professional development of teachers* with a focus on continuing education. As stated by Pavlov (2018, p. 63), it is “...*a process of permanent coping with changes in the profession, which includes all dimensions of the development of the teacher’s personality and competencies. At the same time, it creates personal prerequisites and intrinsic motivation to be able to lifelong use the opportunities of formal, non-formal education and informal learning to creatively improve the quality of performance of the profession – teaching activity*”.

Teacher education generally has two phases. The first phase is *professional preparation* – study, undergraduate, university preparatory education. The *Pedagogical Dictionary* defines continuing teacher education as “...*the education of teachers during their professional career; the obligation of teachers to educate themselves throughout their teaching career in order to renew, consolidate and supplement their qualifications; the possibility of improving their qualifications*” (Průcha, Mareš & Walterová, 2013, p. 44). The



concept of *further teacher education* is not anchored in Czech education legislation and the law uses a broader definition, namely *further education of pedagogical staff*. It has already been explained who a pedagogical worker is in the introduction to this monograph.

The second phase of teacher education is currently also referred to as *professional development* which can be divided into professional development through one's own teaching practice, self-study, and continuing teacher education. The term *professional development* is historically linked to the concept of in-service / out-of-service teacher training and understands teacher development more broadly than formal education or training. A transitional moment is captured in the OECD publication *In-service teacher training and professional development* (OECD, 1997), where both terms are found under the umbrella term "teacher development". In the first decade of the 21<sup>st</sup> century, the concept of teacher professional development has become established and teacher development is seen as one of its main components. The concept of professional development includes the motivation, initiative, and activity of the teacher as a subject and allows to consider various opportunities and incentives provided to pedagogical staff as an object of professional support (Starý et al., 2012).

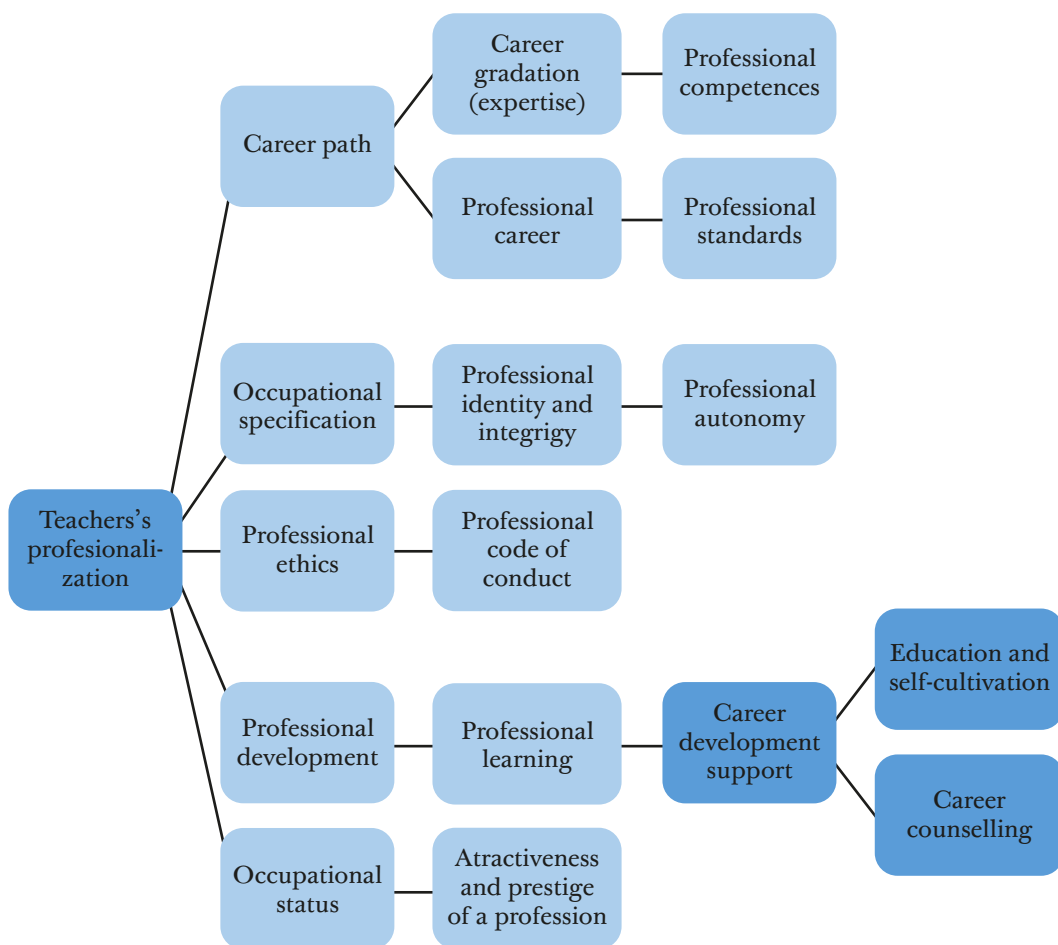
In the research report *Teachers' Perceptions of Continuing Professional Development*, we find a concise definition of professional development by Christopher Day that is relevant to the contemporary context: "...*professional development consists of all natural educational experiences and those planned and deliberate activities that are intended to benefit the individual, group or school, directly or indirectly, and that contribute to improving classroom instruction through the individual, group or school. It is a process by which teachers as agents of change, either self- or collaboratively, assess, renew and extend their commitment to the moral goal of learning. Through these natural learning experiences, planned and deliberate activities, teachers acquire and critically develop their knowledge, skills along with emotional intelligence, which is essential for excellent professional reflection, planning, practice with children, young people and colleagues at every stage of a teaching career*" (Day, 1999 in Hustler et al., 2003, p. 3).

In this context, a special occupational andragogy studying the socio-professional group of teachers – *teacher andragogy* – has been developing for some time. In this context, Pavlov (2018, p. 14), for example, points to the relationship between teacher andragogy and *pedeutology*. Teacher andragogy provides a developed and socially applicable model for the study of the teaching profession. The theoretical foundations are not yet fully settled and there are inaccuracies, especially in theory or terminology, for example in comparison with foreign systems. The object of her research is the teacher in the situation of preparation for the profession or in the course of the profession. The diagram below of concepts related to teacher andragogy places the topic of this monograph very well in a systematic context.



**Figure 10**

*Map of selected system-forming concepts of teacher andragogy*



*Source: Modified according to Pavlov (2018, p. 19)*

Professional development is a process of permanent coping with changes in the profession, which includes all dimensions of teachers' personality and competence development. Professional development is also closely linked to expertise in the teaching profession. Píšová, Najvar and Janík (2011) mention three approaches in research on teachers' professional development: pedagogical-didactic, socio-pedagogical, and socio-pedagogical-didactic. It is also related to the concept of organisational learning, which refers to the fact that teachers live and work in the school environment (community), which is somehow managed, spatially organised, provides conditions for further development, and therefore influences it (cf. Novotný, Pol, Hloušková et al., 2011 in Pavlov, 2018; Lazarová et al., 2012).

Until 30 years ago, professional development was based on learning in the field, which was supposed to lead to pedagogical mastery through one-off training sessions. However, subsequent developments in the field of adult education have shown that learning needs to be understood as an active and constructive process embedded in a social environment and circumstances, which, moreover, needs to be continuous and lifelong (Pavlov, 2018). According to the same author (2014), professional development in the broadest sense includes professional socialization, *professional excellence* and also professional ethics. It is a process of conscious and unconscious development of professional competences through a wide range of methods, forms and means. It involves experience, the capacity for self-reflection, values and attitudes which become the basis for new learning and eventual change.

## 5.2 The role of teachers' further education

Teachers' further education has a long history in Central Europe. Already at the beginning of the 17<sup>th</sup> century, teachers of urban Latin schools, which were subject to the university, underwent some form of further education. The existence of teacher education is clearly linked to the emergence of modern school systems in Central Europe at the end of the 18<sup>th</sup> century; for example, in the countries of the former Habsburg monarchy, teacher education began at the time of the Theresian<sup>25</sup> school reforms.

*Teachers' further education* is usually defined as the provision of organised programmes designed to assist in-service teachers to develop as one possible systematic step. It can also be described, in accordance with Kohnová (2000, p. 131), as “...the training of groups of in-service teachers conceived at different levels, directed and targeted with respect to the pursued school development, educational or broader or specifically identified educational and educational goals.” In the context of the development of technology, new learning theories, mobility opportunities and others, a range of forms of further education are gradually developing, such as self-study, e-learning, international visits and exchanges, in-school activities – in-house training for a team of teachers, projects and team learning within projects, action research,

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25 Maria Theresa (1717–1780) of the House of Habsburg was the Archduchess of Austria, Queen of Hungary, Queen of Bohemia and Margravine of Moravia. She was the only reigning woman on the Bohemian throne. Following military conflicts, she undertook a series of reforms, primarily concerning the army and the centralization of the state administration. Among the most important reforms, which extend up to the present day, was the introduction of compulsory schooling (1774). More information about Maria Theresa can be found here: <https://www.britannica.com/biography/Maria-Theresa>

supervision, visits to colleagues in the classroom, peer review class inspections, discussion groups and, of course, individual or group teacher training based on external offers (lectures, seminars, workshops, courses, internships).

According to Bednaříková (2013, p. 124), in recent years, e-learning is increasingly understood (despite the diversity of definitions and concepts) as an educational process using information and communication technologies, through which a wide range of didactic methods can be functionally used to increase the effectiveness of learning. Pedagogical and andragogic approaches with a focus on the learner's personality are becoming a priority in e-learning. Many educational institutions, as well as individuals, mostly IT enthusiasts, are trying to create e-learning courses or multimedia learning resources. Often these are very impressive combinations of text-based explanations with animations, video, sound, graphics, diagrams and testing tools, but without proper didactic treatment they can be engaging, but with minimal educational effect in terms of meeting the learning objectives.

Further education is an important stage in teacher education. It is linked to both the development of the teacher's own career and the development of the school and is inherently intertwined with school policy, where it acts as an important but controversial topic (Lazarová & Prokopová, 2004). Its strength also lies in its ability to quickly reflect changes in teacher education needs.

The extent to which teachers make use of different *options for further education* is influenced by various factors. In general, these can be divided into personal or contextual factors. *Contextual factors* include in particular the availability and content of the activities on offer, the climate in the school, the attitude of the school management, the amount of funding, the organisation of educational events, but also the voluntariness or obligation to participate. *Personal factors* include mainly the personal characteristics of the teacher, age, length of experience, experience, current psychological and health status, family situation, workload, etc. In general, we could also talk about the teacher's interests, attitudes, and values towards further education.

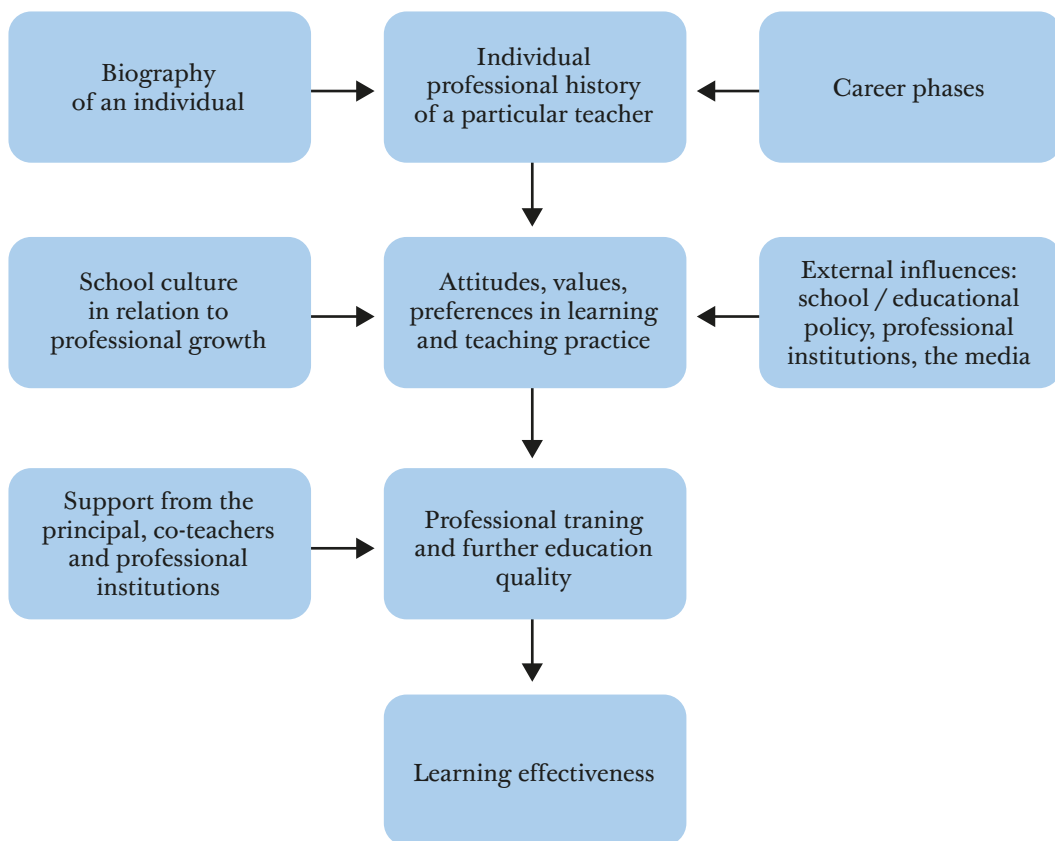
In the *European Economic and Social Committee's opinion on Improving the Quality of Teacher Education* (EESC, 2007, p. 5), the following proclamation can be found: *"To equip teachers with the necessary skills and competences for their new roles, it is essential to have a high level of initial teacher education and a follow-up process of further education that keeps teachers in line with the demands of the knowledge society."*<sup>26</sup>

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26 Author's own translation.

**Figure 9**

*Factors influencing the quality of postgraduate teacher education*



*Source: Day (1999, p. 4)*

At present, the Czech Republic's legislative treatment of further education is very unsystematic, and to a large extent there is also a kind of terminological inconsistency. There is still no basic norm defining further education (or adult education) as part of the education system. The concept of further education of teachers is not enshrined in Czech education legislation and the law uses a broader definition, namely further education of pedagogical staff. The issue of education is addressed in a fragmented manner in various legal norms, for different groups of pedagogical staff. Legislation on further education for this professional group is mainly contained in *Act 563/2004 Sb.*, and *Decree 317/2005 Sb.*, both as amended.

As declared by Kohnová (2009), teacher education should fulfil five objectives:

- (1) *improve teachers' professional skills;*
- (2) *contribute to the internal development of the school;*
- (3) *to help improve the teaching and learning process;*
- (4) *enable innovation and change in education;*
- (5) *support the personal development of teachers.*

Teacher education is increasingly at the forefront of education policy, international institution projects, and pedagogy as a science. One of the most important strategic and conceptual documents of the Czech Republic in the field of education, *the National Programme for the Development of Education in the Czech Republic: White Paper* (MoEYS, 2001, p. 95), emphasises the following:

*"A comprehensive system of further education will serve not only the personal and professional development of individual pedagogical staff (and thus their career and salary advancement), but will also help individual schools to fulfil their new tasks. In particular, the aim will be to prepare them for the changes resulting from school autonomy and the new concept of teaching aimed at developing and motivating pupils to learn independently. Central and regional authorities should seek to bring the network of teacher education and school improvement consultancy facilities closer to their localities."*

Further education creates the conditions for gradual changes in teachers' competences along the way by fulfilling the following functions:

- *adaptive* – helps to adapt to the current conditions and needs, it is important in the initial stages of entering the profession;
- *motivational* – creates the need for learning and self-education in the sense of self-reflection, self-correction, self-affirmation, self-actualization throughout life;
- *developing* – develops teaching competences in the course of professional development in the spirit of the concept of teaching as a helping profession;
- *innovative* – in order for teachers not to lose the professional potential acquired during their undergraduate education, it is necessary for them to continuously educate themselves, to innovate their knowledge by studying pedagogical science and professional knowledge;
- *reflective* – helps to develop one's competencies and skills as a teacher towards educational practice in the sense of the concept of the reflective professional. (Pavlov & Valica, 2006, p. 110)

By the mid-20<sup>th</sup> century, an elaborate system of teacher education had been established in a number of countries. Like continuing education in general, teacher education has become an important topic since the 1960s as part of lifelong learning and has been monitored by the EU, OECD, UNESCO, and

the Council of Europe. Although the forms and systems of continuing teacher education vary from country to country and have their own specificities, the education sector and the field of continuing teacher education are influenced by the documents and recommendations of the relevant EU bodies.

### **5.3 Development and current status of Czech teachers' further education**

As mentioned in the previous text, we currently see teacher education as an institutionalized part of teacher professional development. Institutionalization is understood as a system of institutions or authorities that have a function in the continuing education system in education. Continuing education is implemented in two basic strands: the first strand relates to the maintenance of the existing school system and the level of education; the second strand relates to change, development and transformation or innovation in education and schools.

After November 1989, important legislative and organisational changes took place in the system of further education in the field of education. The current institutional situation in the field of continuing professional teacher education can be described as very pluralistic. For a brief summary of the description of the organisation of teacher education in the Czech Republic after the Velvet Revolution, the author has used the text by J. Kohnová (2008, pp. 18-20), who states that *"The system of teacher education has developed similarly in the Czech Republic and Slovakia since the establishment of Czechoslovakia. A different development occurred after 1989, when the fact that each republic had its own ministry facilitated repeated destructive changes to the system of continuing education in the Czech Ministry of Education, Youth and Sports."* This is how the author refers to the period between 1991–2005. The abolition of the central institution for further education of pedagogical staff, especially the district offices, in 1991, which was restored in 1995 thanks to the initiative of their former staff, teachers and school directors, albeit under different names but with a similar scope of activities, is considered to be significantly negative. Regional workplaces (*Pedagogical Centres*) were reestablished in Prague, Plzeň, České Budějovice and Brno. In 1996, the financing of the system of further education of pedagogical staff was changed. Funding for further education was no longer allocated to the departmental institutions that carried out this activity, but directly to schools so that principals could decide autonomously on its allocation. This is linked to the establishment of *the Accreditation Commission* and the introduction of accreditation of further education programmes. Thus, organisations other than those providing teacher education could enter the system and apply for accreditation certificates.

The year 2000 marked a major intervention in the state administration and local government reform. The education authorities, which were the implementers of education policy, including the guarantee of the further education system, were abolished, often including the buildings that were the place for the provision of education, mutual cooperation and the provision of advisory and service services for schools. At the same time, there has been a gradual departure of many experienced professionals. At the regional level, MoEYS has established 14 contributory organisations – regional facilities for further education of pedagogical staff, or 10 new ones in addition to those mentioned above. The situation then developed differently in each region. *The Pedagogical centres* and the regions (as superior institutions) took different approaches to the continued existence of district facilities (often in opposite directions). Some regions took over either part or the whole network of district facilities, both educational and service (school service centres), and established their own detached workplaces. In these conditions, there was also a need to prepare teachers for curriculum reform.

In 2004, a decision to abolish the regional facilities established by the ministry was being prepared, but due to much criticism it was not issued. The departmental network was not abolished, but reorganised into a centralised model, with all 14 regional pedagogical centres merged into one organisation based in Prague in 2005. This organisation was called *the National Institute for Further Education* (NIDV). As of 1 January 2020, *the National Pedagogical Institute of the Czech Republic* (NPI CR)<sup>27</sup> (a facility for further education of pedagogical staff) was created by merging *the National Institute for Education* and *the National Institute for Further Education*. The aim of *the National Pedagogical Institute* (as the successor organisation of the pedagogical centres) has been to ensure the tasks resulting from the priorities of the state educational policy and leading to systematic professional support of pedagogical staff of schools and educational institutions.

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27 More information about this organisation can be found here: [www.npicr.cz](http://www.npicr.cz)



## 5.4 Czech teachers' further education legislation

At this point the author would like to make a small excursion into history. The so-called *Hasner*<sup>28</sup> *Act* of 1869 is considered to be one of the most significant laws relating to the legislative anchoring of teacher education. It is one of the greatest milestones in the development of the school system in the Czech lands in the 19<sup>th</sup> century. The *Act of 14 May 1869 laying down the rules of teaching in general schools No. 61/1869* dealt not only with the reform of general education, but also with the question of teacher education in § 43–47. In view of the interest of this source, the author takes the liberty of reproducing the aforementioned paragraphs in their authentic form in the following text (see Figure 10). Hasner's education policy was highly criticized by the teaching profession at the time, but according to the contemporary press, teachers were aware of the need to reform teacher education. In the reports of the *Messenger from Budeč*<sup>29</sup> from 1873, one can find the teachers' opinions that the basic education received in the teachers' institutes should be supplemented with other important components: reading professional literature and pedagogical journals, attending teachers' conferences, supporting teachers' further education within teachers' unions and associations. In the first Czechoslovak Republic, teachers' organisations provided continuing education at a high professional level. The introduction of higher education for teachers in 1945 is associated with the establishment of teacher training institutions (Javůrek, 1873 as cited in Kasper & Kasperová, 2010, p. 34).

At present, the Czech Republic's legislative treatment of further education is very unsystematic. There is still no basic norm that would define further education (or adult education) as part of the educational system. The issue of education is dealt with in a fragmented manner in various legal norms, for different groups, professions, etc. Three important pieces of legislation regulate further education for pedagogical staff.

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28 Leopold Hasner (1818–1891) was a pre-Lithuanian lawyer and politician. He was born in Prague, where he worked at the university from 1851 as a professor of political science. From 1865 he was a professor at the University of Vienna. In 1867 and 1868 he was also its rector. From 1861 he was active in high politics – first as a member of the Bohemian Provincial Assembly and later as a member of the Imperial Council. At the end of 1867 he became Minister of Teaching and Cult. From February to April 1870, he was the Prime Minister of Pre-Lithuania (Kasper & Kasperová, 2010, p. 27).

29 The *Messenger from Budeč* (“Posel z Budče” in original) was a magazine for teachers, educators and friends of youth in general published in the middle of the 19<sup>th</sup> century. It presented the view of education at that time, the efforts of teachers and their plans to develop and educate young people, and information about the skills, tools and equipment needed to do so. It was regarded as a pedagogical magazine that elevated Czech education through its activity. Its founder was Dr. Karel Savoj Amerling, an educator, philosopher and physician.

## Figure 10

Excerpt from the "Hasner Act" on teacher education

### 61.

#### Zákon, daný dne 14. května 1869,

jinžto se ustanovují pravidla vyučování ve školách obecných.

(Obsažen v částce XXIX. zák. říšsk. č. 62, str. 277; vyd. a rozesl. dne 20. května 1869.)

S přivolením obojí sněmovny rady říšské vidí se Mi vydati tento zákon.

#### IV. O dalším vzdělávání učitelů.

§. 43. Dalšímu vzdělávání učitelů pedagogickému a vědeckému pomáhati se má časopisy školními, bibliotékami učitelskými, konferencemi periodickými a kursy k tomu konci zřízenými.

§. 44. V každém okrese školním zřízena buď biblioteka učitelská, jejíž správa svěří se komisi, zvolené od okresní konference učitelské (§. 45).

§. 45. V každém okrese školním držena buď alespoň jednou za rok konference učitelská pod správou okresního dozorce školního.

Na té konferenci mají se učitelové raditi a rokovati o věcech školství se týkajících, zvláště o předmětech, jimž se na škole obecné vyučuje, o metodách vyučování, o prostředcích vyučovacích, o zavedení nových knih vyučovacích a čítanek, o kázni školní a věcech pod.

Každý učitel veřejných škol obecných a vzdělavaten učitelských toho okresu jest povinen, míti účastenství v konferenci okresní. Učitelům ústavů soukromých zůstaveno jest na vůli, chtějíli k té konferenci přijíti.

§. 46. V každé zemi konati se bude vždy za tři léta konference učitelů z konferencí okresních vyslaných za předsedání některého zemského dozorce školního (konference zemská).

§. 47. Kursy pro další vzdělání učitelů odbývati se budou na vzdělavatelkách učitelských krom zvláštních případností v čas prázdnin podzimních.

Učitelové, byvše vyzváni od školního úřadu zemského, aby přišli na kurs pro další vzdělání, mají tohoto vyzvání poslušni býti.

Source: Austria-Hungary (1869)

The first of these is *Act No.563/2004 Sb., on pedagogical staff and amendments to certain acts*, which in Section 24 directly stipulates that pedagogical staff are obliged to undertake further education during their teaching activity, by which they renew, consolidate and supplement their qualifications. At the same time, this section defines in its paragraphs the continuing education of pedagogical staff as follows:

- *Pedagogical staff are obliged to undertake further education during their teaching activities to renew, consolidate and supplement their qualifications.*
- *Pedagogical staff can take part in further education to improve their qualifications. In line with a special legal regulation, upgrading of qualifications also means the acquisition or extension of qualifications.*
- *The principal organises further education for pedagogical staff according to a further education plan, which they set after prior consultation with the relevant trade union body. In determining the further education plan, the pedagogical staff member's learning interests, the needs and the school's budget must be taken into account. The development of the educational plan is within the autonomy of the school or its principal (Czech Republic, 2004b).*

The second piece of legislation is *Decree No.317 of 27 July 2005 on further education of pedagogical staff, the accreditation commission and the career system for pedagogical staff*, which supplements Act No. 563/2004 Sb. This Decree, subsequently amended by Decree No. 412/2006 Sb., determines the various types of further education of pedagogical staff.

The third is *Act No.111/1998 Sb., on Higher Education*, in particular Section 60 – Lifelong Learning, which allows universities to provide lifelong learning programmes for a fee, which may include those implemented by faculties as part of the continuing education of teachers (or pedagogical staff).

## **5.5 Content, forms and providers of teachers' further education**

There are many different *forms of teacher education* in the Czech Republic and in some respects (e.g., legislative) it is relatively difficult to distinguish them from each other. In general, for example, according to Průcha et al. (2013), they can be divided into two groups:

- *qualification* (sometimes also *postgraduate*) teacher education, in the form of extension, supplementary or specialisation studies;
- *continuing* education through lectures, seminars, courses, workshops, etc.

A similar categorization is also presented by Walterová (2001), who divides continuing education for pedagogical staff (specifically teachers) into continuing

education leading to certification with general validity and continuing education leading to certification. In the first category she classifies:

- *qualification education* – similarly to Průcha, it includes postgraduate studies, extension, specialisation, differential and functional studies, additional pedagogical studies, accredited study programme completed by state examination;
- *retraining* – here it takes into account training aimed at changing qualifications, qualifications or qualifications for a certain level/type of school;

The second category is made up of one area of further education, which is represented by:

- *normative education* (courses) – this category includes the continuous renewal and deepening of professional competences, either through continuous courses and trainings during a teacher's career or through continuous methodological and service activities of teacher training institutions. It also includes active teacher development activities for the school beyond the normal teaching.

In general, in line with Kohnová (2004; 2009), continuing education programmes can be divided into three types based on the functions they perform for teachers:

- *subject-oriented programmes* – focusing on the development of subject-specific and subject didactic competences for individual subjects, innovations in this area, teaching methodology of inter-subject relations, professional development of teachers, improving the ability to reflect on their own experience with regard to current troubles and needs of pupils in teaching;
- *problem-oriented programmes* – with a focus on overcoming difficulties in school and teaching practice that are determined by social, cultural or individual disposition and disability of pupils, developing the ability to solve problems of a social group together, developing communication skills, flexibility and teamwork skills, current educational topics – e.g., prevention of bullying, racism or xenophobia, environmental education, education for a healthy lifestyle, tolerance, European topics, etc.
- *personality and psycho-hygienic oriented programmes* – focusing on personal development in the broad sense of the word, expanding the cultural and general education of the teacher, foreign language education, psychological regeneration of the teacher.

From a legislative point of view, specifically on the basis of *Decree No. 317/2005 Sb.*, teacher education programmes can be divided as follows:



*a) study to meet the qualification requirements<sup>30</sup>*

- studies leading to the completion of a teaching qualification;
- studies leading to the extension of qualifications for the performance of direct pedagogical activities at another type or level of school, for teaching other subjects, or for the performance of direct special pedagogical activities with disabled children, pupils and students with a different type of disability than that for which the teacher is qualified;
- studies for teaching assistants;
- study for school and school principals.

*b) study to meet other qualifications<sup>31</sup>*

- study for senior pedagogical staff – principals or their deputies;
- studies for educational counsellors;
- studies to meet the qualification requirements for the performance of specialised activities, which are:
  - coordination in the field of information and communication technologies,
  - development and subsequent coordination of school and higher education programmes,
  - prevention of socially pathological phenomena,
  - specialised activities in the field of environmental education.

*c) study to deepen professional qualifications*

It focuses on theoretical and practical issues related to the process of education and upbringing. Its content includes, in particular, new findings from general pedagogy, educational and school psychology, educational theory, general didactics and subject didactics, new findings from scientific, technical and artistic fields, prevention of socially pathological phenomena, safety and health protection.

The study to *meet the qualification requirements* and the study to *meet the other qualification requirements* is completed by a final examination and, for most of the programmes, additionally by the defence of the final written thesis. Successful graduates of all further education programmes receive a certificate issued by the institution that organised the education. Studies to further professional qualifications are generally referred to as continuing education and may include language training.

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30 This is education equivalent to preparatory education. In the vast majority of cases, the study is carried out in a lifelong learning programme (course) at a university or at an institution for further education of pedagogical staff (e.g., NPI CR) or at a college.

31 Most often implemented as a study in a lifelong learning programme (course) at a university.

Educational institutions and programmes aimed at further education are accredited by the Ministry of Education, Youth and Sports of the Czech Republic (MoEYS) on the basis of an application from a natural or legal person; the *Accreditation Commission* at MoEYS serves as an advisory body.<sup>32</sup> Accreditation of an educational institution providing programmes aimed at further education of pedagogical staff is granted for a period of 6 years, accreditation of an educational programme for three years. The MoEYS monitors the activities of accredited programmes and maintains a list of all accredited educational institutions and programmes.

One of the main institutions that deals with and offers further education for pedagogical staff is the *National Pedagogical Institute of the Czech Republic* (NPI CR).<sup>33</sup> The NPI CR has the task of acting as a training organisation for further education of teachers in the areas defined as priorities by MoEYS: management, framework education programmes (support for curriculum reform), foreign languages, secondary education, specialised education programmes and career system. NPI CR is a directly managed organisation of the Ministry of Education, Youth and Sports. It ensures the transfer of educational innovations from the central conceptual level to school practice in the regions. It provides methodological support to schools and teachers and targeted training of pedagogical staff. Regional offices of the NPI CR play an important role in supporting schools in the regions. The *National Pedagogical Institute of the Czech Republic* is an educational, methodological, curricular, research, professional and advisory institution for addressing issues of pre-school, primary, secondary and higher vocational education. It also intervenes in the field of basic arts, language, non-formal, leisure and further education. The NPI CR was established on 1 January 2020 and is the successor organisation to the *National Institute of Further Education*, which has been operating in the Czech Republic since 2005.

Providers of educational services in the system of further education of pedagogical staff are educational organisations established by the regional authorities. These are contributory organisations established by the Regions or public benefit corporations (e.g., Educational Institute for Moravia<sup>34</sup>). They are established in all regions of the Czech Republic. With a few exceptions, they are registered in the register of schools and educational establishments as educational establishments. The scope of their educational activities is wide and covers subject didactics, project training and curriculum reform-oriented education.

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32 Accreditation details: <https://www.msmt.cz/vzdelavani/dalsi-vzdelavani/akreditace-v-systemu-dvpp>

33 For more information about this institution, see here: <https://www.npi.cz/o-nas/o-institutu>

34 The organisation's range of educational activities can be seen here: <https://www.vim-jmk.cz/en>

Courses are also provided by universities, faculties or their units. They offer a number of programmes within the framework of lifelong learning programmes. The conditions for this education are laid down in *the Higher Education Act No 111/1998 Sb.* Within the framework of continuing education, universities offer education according to their professional focus, which is both subject-oriented and oriented towards the development of the professional competences of pedagogical staff. Primary, secondary and higher education schools are also involved in the system of continuing education for pedagogical staff. Primary schools tend to focus on organising education for their own teachers or for teachers from partner schools. Secondary and higher vocational schools focus on lifelong learning in their field (retraining).

Most of these educational organisations are mainly local and often specialise in a relatively narrow range of educational activities. Last but not least, we can mention other educational institutions – non-profit organizations, commercial companies, individuals. Their educational programmes are focused on specific topics that are needed, topical and in demand by schools or teachers (Mužík, 2012).

## **5.6 Teachers' further education research results**

Continuing professional development is largely an obligation in most European countries. Usually, this obligation is stated in legislation or in employment or collective agreements. In Denmark, Ireland, Greece, France, the Netherlands, Poland, Sweden, Iceland, Norway and Ireland there is no legal obligation linked to continuing education, but in France or Poland, professional development is clearly linked to career progression or other positive evaluation. These plans must of course take into account the individual teachers' development needs including current school policy needs and mandates (European Commission, EACEA & Eurydice, 2013, p. 57).

Countries differ in the extent to which continuing education is compulsory and voluntary. In most countries, participation in continuing education courses is not linked to personal evaluation. In many countries, there are discussions about developing criteria for assessing the improvement of teaching competences within *a career system* or *a quality standard for the teaching profession*. There is no shortage of similar activities in the Czech Republic either.

In its report for the school year 2012/2013, the *Czech School Inspectorate* (CSI, 2013) states that, in line with previous school years, there was a steady trend of relatively high involvement of pedagogical staff in further education, especially in studies to meet qualification requirements and to deepen their professional qualifications. In terms of thematic further education, education for the reform



of the school leaving and final examinations, foreign language education and education in the use of ICT dominated. More recent information is not available.

**Table 12**

*Schools' involvement in further education of pedagogical staff in the school year 2012/2013 (in %)*

<b>Types of further education for pedagogical staff</b>	<b>Total secondary schools</b>	<b>Grammar schools</b>	<b>Vocational secondary schools</b>
Study to meet the qualification requirements	73.6	54.3	79.1
Study to meet other qualifications - ICT	21.3	21.7	20.9
Study to meet other qualification requirements - prevention of risky behaviour	23.7	14.9	25.6
Study to deepen professional qualifications	61.4	59.6	62.6

*Source: CSI (2013, p. 87)*

In the Czech Republic, it is not possible to talk about a system of further teacher education, as there are no set objectives, no records of implemented programmes and no way of monitoring educational events, let alone a way of measuring the impact or effectiveness.

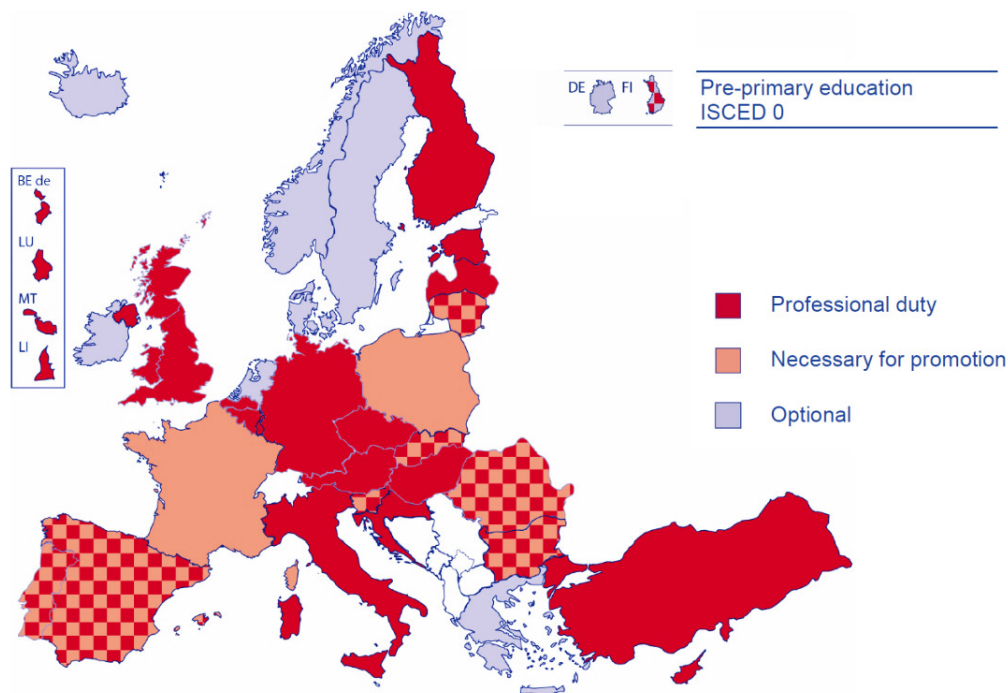
In its reports, the Czech School Inspectorate states that it checks *the further education plans* drawn up by schools. The conclusions of these investigations show that the selection of educational events at schools is rather random and is mainly guided by the current offer and availability of accredited programmes. The *Inspectorate's* recommendations then suggest that teachers' educational pathways and professional development should reflect their individual learning needs and have a specific objective and a relevant conceptual framework.

Mostly, teacher educational activities take the form of lectures and seminars with different hourly subsidies, ranging from one-off lectures or courses and workshops of a few hours to year-long cycles, complex programmes or specific projects. The results of the surveys show that teachers are usually not aware of the full range of further educational opportunities. However, they are willing to consider the educational potential of activities that promote the acquisition of new knowledge and experience (seminars, action research, project work). Meeting colleagues and experts in seminars outside school plays and is likely to play an important role in the future. The literature on teacher education contains a number of treatises on teacher education, mainly focusing on conceptual issues,

or defining the objectives that a teacher should achieve in the course of further education, and at the same time on methods of professional development.

### Figure 10

*Status of continuing professional development for teachers at the levels of education: ISCED 0, 1, 2 and 3 in the 2011/2012 school year in the European Union*



*Source: European Commission, EACEA & Eurydice (2013, p. 57)*

The results of a research survey (Lazarová & Prokopová, 2004) indicated that the vast majority of teachers see the most significant barriers to further education as lack of time, much less lack of funding. Teachers pressed for time prefer one-off, short-term educational events that are less financially demanding. In accordance with the same survey, 49% of respondents (primary school teachers) prefer completing their further education on weekdays after school. A significant number of teachers and school leaders prefer educational events during the school holidays, especially in the preparation week. More than half of the respondents express at least partial dissatisfaction with the teacher educational system. According to another statistical survey (Kohnová, 1995), one-off and short events of three to five hours are the most frequently preferred form. In these cases, the events are not a burden for the teacher, there is no need for staff substitutions, they do not interfere with the teacher's personal life and there is no need to cover accommodation costs. An important research undertaking was

a three-year project (2003–2005) supported by the Czech Science Foundation (GACR) to study some of the circumstances and conditions that significantly affect the success and effectiveness of teacher education. At that time, 109 respondents, teachers of the second grade of primary schools, were approached by questionnaire.<sup>35</sup> The largest number of respondents indicated that they spend no more than 5–10 days per year at educational events (Lazarová, 2006). Other authors and experts who have been involved in teacher education for a long time in our country include R. Havlík, J. Kohnová, J. Koťa, M. Kurelová, B. Lazarová, A. Prokopová, J. Průcha, K. Starý, V. Spilková, V. Švec, J. Vašutová, K. Rýdl, P. Urbánek and others.

The TALIS<sup>36</sup> (*Teaching and Learning International Survey*), which was conducted in 2007–2008 in 24 European countries, focused on teachers' working conditions and one of the areas of inquiry was the roles and functioning of school leadership, teachers' job evaluation, *teachers' professional development*, teachers' attitudes and conceptions of teaching. In an investigation focusing on *teachers' professional development* over the last 18 months, the researchers came to the following conclusions:

Countries with the lowest proportion of teachers not involved in development activities were Spain, Slovenia, Australia and Austria. Conversely, the countries with the lowest proportion of teachers involved in some forms of professional development were Iceland, Denmark, Slovakia or Turkey. On average, teachers spend one day a year on professional development, with the highest proportion in Bulgaria (25–27 days), Italy, Poland and Spain. The lowest, i.e., 5–8 days, are in Ireland, Slovakia, Belgium and Slovenia. Among teachers who have not participated in any professional development, men outnumbered women, while teachers with the lowest level of education have participated in the least amount of professional development. In terms of teaching subjects, teachers who teach more than one subject and teachers of humanities subjects were more likely to have participated in professional development (Starý et al., 2012).

In evaluating the effectiveness of different types of professional development, participants reported that activities taking place on regular basis, in a stable social and collaborative context, preferably in their own school environment, have a more significant and effective impact on school practice. The research also found that 51% of professional development activities were mandatory for teachers, with an mean of 11% of teachers surveyed receiving extra pay or

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35 Grant GACR 406/03/0700 – *Psychological aspects of further teacher education*. The research combined quantitative and qualitative methods. Teachers, school principals, organizers of teacher educational events and lecturers were interviewed.

36 Detailed information on the TALIS survey is available from: <https://www.oecd.org/education/talis/>.

remuneration for participating in professional development. One quarter had to contribute financially to the funding of professional development events and about one tenth covered all costs. Teachers from Italy and Lithuania expressed the greatest need for professional development, while teachers from Denmark and Hungary expressed the least. On average across the European Union, 45% of teachers felt that there was a lack of appropriate professional development activities.

Starý et al. (2012, p. 62) also report that teachers expressed the strongest need for development in the following topic areas: (1.) teaching students with special educational needs, (2.) ICT skills, (3.) managing students with educational difficulties, (4.) teaching strategies, (5.) subject matter knowledge... (10.) school administration and management. Teachers cited the following as major barriers to implementing professional development (in descending order): (1.) scheduling conflicts, (2.) inappropriate content or format (more frequently cited by those who did not participate at all), (3.) family responsibilities, (4.) too high cost of participation, (5.) lack of support from the employer.

The TALIS survey was also organised in 2013 and 2018. The results of the 2018 survey (see OECD, 2019) found that participation in some kind of professional development is common among teachers and principals in OECD countries and economies participating in the TALIS survey, with more than 90% of teachers and principals having undertaken at least one lifelong professional development activity in the year preceding the survey. More than 80% of teachers reported that their education had had a positive impact on their teaching practices. The characteristics of education that teachers found most effective were education focused on subject matter content, collaboration, active learning, and a collaborative approach to teaching. Teachers who reported participating in effective education often reported higher levels of *subjectively perceived proficiency* and job satisfaction. Teachers report a high need for education in information and communication technology (ICT), teaching in a multicultural/multilingual environment, and teaching methods for students with specific needs. Both participation rates and the need for education in these areas have increased over the past five years (between 2013 and 2018). The principals in OECD countries and economies in the TALIS survey report a strong interest in improving the organisation of their schools and the practice of their teachers. More than 70% of them have attended education to become leaders in didactics or pedagogy. The main educational needs were noted in areas ranging from the use of information for informed decision-making to improving collaboration between teachers.

Regulations requiring compulsory attendance at *Continuing Professional Development* (CPD) may reflect a particular scheme's desire to ensure that every member of staff in the school has access to these opportunities. For example, Lithuania is

one of two countries where CPD is compulsory for retention and promotion. It is also the country with the highest proportion of teachers taking advantage of educational activities. However, compulsory regulations can also mean a highly centralised professional development system where teachers are almost unable to choose what type of CPD suits their needs and preferences. Moreover, mandatory regulations should not be seen as the only way to ensure participation in CPD. Singapore, for example, does not have a policy of mandatory participation in CPD activities, but is one of the countries with the highest rates of participation in professional development. CPD activities here are already more than a mechanism for maintaining knowledge or promoting teachers' salaries – they are part of everyday practice and regular tasks in schools (cf. Scheerens, 2010; Scribner, 1999 in OECD, 2019).

In terms of socio-demographic differences in access to CPD activities, there are generally no major differences in OECD in participation in CPD by gender, age or teacher experience. These results reflect those found in the 2013 TALIS cycle: *gender, experience, school type* and *location* were significant determinants of participation for only a few countries. Although, on average across OECD countries and economies, female teachers participate in professional development more often than male teachers, and more experienced teachers participate more often than novice teachers, these differences are marginal (around 1 percentage point) (OECD, 2019). On the other hand, empirical evidence has confirmed that in some countries and economies, access to different forms of professional development is associated with teachers' gender and completion of initial training (Barrera-Pedemonte, 2016).

Another key teacher characteristic that contributes significantly to teachers' participation in CPD is the level and type of motivation they have to work. Education systems have mostly promoted participation in CPD as an incentive for career progression (i.e., promotion, pay rise, bonuses). Although these incentives have been successful to some extent, they are risky because they could turn CPD into a mere means to ensure job stability. Moreover, such external efforts to increase participation as financial incentives may actually reduce participation as they could be seen as controlling programmes that undermine teachers' work. Empirical research has shown that heavy reliance on external rewards such as financial bonuses can affect employees' intrinsic motivation, specifically their need for belonging, competence, and autonomy (Kohnová, 1998; Jacobsen, Hvitved and Andersen, 2014 in OECD, 2019).

Participation in CPD is not always motivated by a “utilitarian” view, but also by a genuine desire on the part of teachers to improve their skills to help pupils and support their achievement. Community service-based motivation, i.e., motivation aimed at doing good for others and society, can improve individual performance



in the workplace because it increases teachers' commitment and engagement in their work. People with high levels of public service motivation are willing to make some extra effort to improve the quality of their work because they understand that the results of their work have an impact on improving others and society as a whole. In the context of CPD participation, these extra work efforts could be interpreted as participation in professional development. It is therefore useful to look at how different types of motivation relate to participation in CPD training (Scribner, 1999; Perry, Hondeghem and Wise, 2010; Andersen, Heinesen and Pedersen, 2014 in OECD, 2019).

*The Institute for Information in Education*, for example, has been investigating the state of professional development of teachers in the Czech Republic, which found that the proportion of pedagogical staff who attended at least one continuing education course increased by more than 10% in secondary schools between 2007 and 2010. It was also found that principals in 2007 considered teachers' interest in the needs of the school to be decisive when choosing a course, while cost and time were relatively less important. In 2010, these factors were already of higher importance. The career system and remuneration were considered as motivating for further education by about 2/5 of the principals in 2007 and this proportion dropped further in 2010 (IEB, 2010).

In addition to academics from the fields of pedagogy, psychology and related disciplines, or state administration authorities, research studies have recently been carried out in the Czech Republic, for example by the consulting firm *McKinsey* or the agency *Factum Invenio*. The quantitative part of the *Factum Invenio* survey (2009, p. 10), in its general conclusions, states that: "*As regards teacher education, nine out of ten teachers consider it important. For seven out of ten, the supply of in-service training courses is sufficient, and two-thirds of teachers currently participate in in-service training courses.*" The *McKinsey & Company* (2010) report, on the other hand, concludes in its survey results that teachers do not have sufficient support for their professional development. Moreover, it also says that 2/3 of teachers find educational opportunities satisfactory, but only 30–35% of teachers have received any training in the last two years. In EU countries, the *McKinsey* report shows that the mean is 40–60%.

Within the results of her survey, Lazarová (2006) states that teachers perceive their learning needs have changed a lot in recent years and indicate that they know well what they need to improve. The different groups of teachers differed by length of experience in an unproven way, with the most frequently expressed learning needs related to the core area of direct classroom work. The results of the same survey suggest that school policy and school development issues are not among the preferred educational topics, and the choice of management topics is more typical for teachers who are already working in management positions.



Czech and foreign research shows that teachers have the greatest need to educate themselves mainly in the area of subject-specific and didactic-methodological topics (e.g., Hustler et al., 2003; Kohnová et al., 1995; Lazarová, 2005). Havlík (1999) also believes that the need for teachers' self-education is most often satisfied by continuous preparation and supplementation of knowledge currently needed in teaching (i.e., self-study, special-purpose courses rather than continuing education).

Starý (2007, p. 117) analyses the work of former *National Institute of Further Education* (now the NPI CR) and notes that its offer is highly unbalanced and offers generally short-term one-off courses. Specifically, *"At first glance, many essential and much-needed topics are missing. The NIFE acts as a kind of intermediary agency, organising meetings between lecturers willing to teach and teachers interested in a topic. We believe that this is somewhat insufficient for a state-run organisation."* It also notes the negative impact of European funding on the uncoordinated and unsystematic range of teacher educational activities. *"While on the one hand this has brought more funding to the further teacher education, on the other hand, in the absence of a clear state concept for the development of further education, there is a risk that these funds will not always be used efficiently and effectively, that they will not evenly cover the needs of schools and the priorities of the education system."* It also notes that teacher further education is not lucrative enough for commercial actors in the market and that the non-profit sector has a large share of the market.

The disproportion in the supply of educators who focus their activities on teachers is also found by Veleta (2007), who points to the lack of supply of educational programmes for teachers of vocational subjects compared to teachers of general education subjects. He justifies this situation by objective factors – the number of types of teachers in certain regions, the market-cost effect and the lack of specific research on teachers' educational needs. *TTnet, a partnership network of educators in vocational education*<sup>37</sup> discusses this issue further in its publication (Byčkovský, 2009). Teachers of general education subjects, according to the experts, are better off than teachers of vocational subjects. They can choose from

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37 The European TTnet – *Training of Trainers Network* was an informal partnership of professionals involved in the educational and professional development of teachers, trainers, lecturers and coaches working in vocational or professional education. It was officially established in the country in 2005. The National Institute for Education became the national coordinator of the network. In 2011, the activities of the network were transferred to the Thematic Working Group on VET trainers of the European Commission. Currently, similar activities are carried out by ReferNet, as a European information network on vocational education, which maps and analyses the situation and developments in vocational education in the Czech Republic and Europe, collects and compares data. ReferNet's main outputs are reports on vocational education policy as a basis for monitoring progress under the *EU 2020 Strategy*. ReferNet also produces thematic reports on teachers, innovation in vocational education, key competences, surveys on vocational education, digitisation, etc. and reports on the outputs, analyses and actions of the European Centre for the Development of Vocational Education and Training CEDEFOP (NPI CR, 2022c).

a relatively wide range of options, not least because the professional development of teachers, instructors, trainers and coaches (hereafter referred to as teachers) in vocational education is a priority of the relevant European Union policies and is fully in line with *the Lisbon Strategy*. *The Maastricht Communiqué*<sup>38</sup> identifies teachers in vocational education as a target group that requires urgent action at national and European level for further development. *The Helsinki Communiqué*<sup>39</sup> of December 2006 confirms that teachers in vocational education are a priority. This priority is further elaborated in the report of the European Community Commission *Progress towards the Lisbon objectives in Education and Training* (European Commission, 2008).

*T7net* further confirms this fact and summarizes the weaknesses of continuing education for teachers of vocational subjects – the lack of educational programmes within continuing education of pedagogical staff focused on vocational education, a significant part of much needed educational events designed primarily for teachers of vocational subjects offered by professional associations, which, however, usually do not have accreditation of the Ministry of Education, Youth and Sports of the Czech Republic, and therefore school principals cannot pay for participation in these courses for their teachers of vocational subjects from the state contribution for continuing education of pedagogical staff (Byčkovský, 2009).

Despite the lack of a coherent system and insufficient state financial support (or perhaps because educational institutions have to behave in a market-oriented way), teachers usually do not lack an overview of educational events and are mostly satisfied with the offer. The easy transfer of information by e-mail often does not force schools (or teachers) to actively search. However, supply may not cover demand. Teachers' satisfaction with the offer varies by region. In reference to Kohnová's (2005) findings, the quality, richness, and adequacy of supply in relation to demand are mainly influenced by: the marketing behaviour of teacher education organisers, financial and human resources, the simplification, and transparency of the process of accreditation of educational events and the behaviour of schools.

As buyers, teachers behave differently in relation to the offer of further education, for example according to whether or not they are able to reflect their own needs

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38 On 14 December 2004 in Maastricht, Ministers responsible for VET from 32 European countries, European social partners and members of the European Commission agreed to strengthen cooperation to modernise VET systems to make Europe the most competitive economy and to offer all Europeans the skills and competences they need to integrate fully into the emerging knowledge society.

39 Communiqué of the European Ministers of VET of the European social partners and the European Commission, gathered in Helsinki on 5 December 2006 to review the priorities and strategies of the Copenhagen Process.

sufficiently or to draw up an individual learning plan. There are teachers who are very interested in the offer, looking for topics that suit their needs. On the other hand, there are many teachers who do not look for special topics and are satisfied with the available offer. Lazarová and Prokopová (2004, p. 267) made a categorization of the ways of choosing educational events based on teachers' responses:

- *compulsory education or forced choice* – takes place directly in school, mandatorily;
- *offer-driven choice* – the teacher is given an offer from which they choose; the topic is not the goal;
- *choice due to membership of the association* – the teacher attends as part of the membership;
- *fashion waves* – I have to be there, it's a hit now;
- *reflected and planned choice* – a conscious teacher, in self-reflection, makes their own educational plan.

However, schools do not have to rely solely on the offer of educational institutions and can develop their own activities and programmes to educate teachers and support their professional development. These are usually referred to as *school-based actions*. There are also efforts for collaboration within schools, to organise educational seminars, to carry out peer observations and collegial or professional coaching, mentoring, action research or joint projects. An example of good practice in this sense is the current project at the Mendel University in Brno called the *TAPATE model and its implementation in the Czech environment*<sup>40</sup>, the results of which can then be applied in practice. This project was co-financed by the European Social Fund and the state budget of the Czech Republic. Its essence is that teachers are not sufficiently prepared for the teaching profession as a whole as part of their professional preparation. The main problem addressed by the project is the lack of specific tools for setting up a mutually respectful relationship between teachers and pupils (possibly their parents and then between teachers and each other), effective communication and prevention and management of possible conflict situations. This is addressed by the British model TAPATE (*Transactional Analysis Proficiency Award for Teachers and Educators*). The TAPATE model is based on the psychological approach of transactional analysis, which deals with communication between individuals. The advantage of transactional analysis is its easy-to-understand vocabulary and its easy applicability to real-life situations and everyday practice. This makes the model accessible to educators of different disciplines. The aim of the project is to transfer the good practice of the British

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<sup>40</sup> This project was co-financed by the European Social Fund and the state budget of the Czech Republic. Reg.nr.: CZ.02.3.68/0.0/0.0/19\_076/0016421. Project duration: 1 April 2020 – 30 November 2022.

TAPATE model through seminars and individual support for teachers and to carry out action research to evaluate the effectiveness of the TAPATE model in the Czech educational environment, in the areas of contracting in teaching (at the teacher-student level), the use of a respectful approach to pupils by teachers, the streamlining of communication and cooperation (both between teacher and pupil and at the teacher-parent and teacher-teacher level), the reduction of communicatively challenging situations and, last but not least, the strengthening of the provision of constructive feedback. The expected outcome for the teachers involved is the acquisition of tools for creating a respectful relationship, effective communication and effective resolution of difficult communication situations (MENDELU, 2022; Kryštof and Adamec, 2020).

Professional development and its component continuing education as a theoretical or practical activity for teachers is an integral part of the profession. However, data on the involvement of Czech teachers in professional development programmes is insufficient (cf. Starý et al., 2012) and a comprehensive analysis of the continuing education programmes provided in the Czech Republic is not yet available. Most recently, this situation is described by Průcha (2019, p. 87), who states that it is “dismal”. Specifically, he states, *“If any research is conducted on vocational education subjects, it is mainly focused on pupils and students of secondary vocational schools... At the same time, there is also a group of educators (teachers, masters and instructors, etc.) in vocational education that is almost untouched by research.”* He then compares this situation with research on general education, which has long been the subject of research, and notes that in other countries teachers in vocational education are the subject of research.

Worth mentioning in this regard is, for example, the analysis of Andersson and Kopsén (2015 in Průcha, 2019), who looked at Swedish vocational teachers’ involvement in continuing professional education and compared the results by age, gender, school location and field of study. The researchers found that more men than women were involved in continuing education, and in terms of age, teachers aged 46–55 were the most active, with more teachers from public than private schools and more from larger cities than smaller ones.

Czech and foreign researches prove that teachers have the greatest need to educate themselves mainly in the field of subject-specific and didactic-methodological topics (e.g., Havlík, 1999; 2001; Hustler et al., 2003; Kohnová et al. In the results of her survey, Lazarová (2006) states that teachers perceive their educational needs to have changed a lot in recent years and indicate that they are well aware of what they need to improve in: individual groups of teachers most often express educational needs related to the core area – direct work in the classroom. The results of the same survey indicated that school policy issues and school development issues were not among the preferred educational topics.

Research on the effectiveness of forms of further teacher education suggests that more intensive and longer-term forms oriented towards specific teacher activities (teaching) with elements of action research etc. are more effective than conventional forms (cf. Starý et al., 2012; Píšová & Duschinská, 2011 in ČŠI, 2015).

Secondary school teachers also most often prefer topics related to direct classroom work, education subject, didactics, or classroom management. Teachers of general education subjects are, according to the experts, in a better position than teachers of vocational subjects. They can choose from a relatively wide range of options, not least because the professional development of teachers, instructors, trainers, and coaches (hereinafter referred to as teachers) in vocational education is a priority of the relevant European Union policies and fully in line with *the Lisbon Strategy*. *The Maastricht Communiqué* and *the Helsinki Communiqué* identify VET teachers as a target group that requires urgent action at national and European level to further their development (NÚOV, 2007a).

The current state of teacher education in the Czech Republic can be summarised in the form of a brief list of pros and cons, as specified by Bareš (2007):

- high plurality of topics, forms and methods used;
- the relatively wide range of further education offered to schools;
- flexibility of the content of the programmes offered to meet current needs;
- the relative local and temporal accessibility of the programmes offered;
- free choice of accredited programmes;
- the responsibility of the school (principal) for the professional development of its staff;
- the legal obligation for teachers to educate themselves during their time in the profession.

However, there are also some negatives, though, i.e.:

- further education is not linked to and does not affect the career progression of teachers;
- no major national statistical surveys are conducted on teacher further education – (how many events have been held, how many teachers have attended, etc.) in all types of schools;
- no analysis is carried out on the use of funds for teacher further education;
- the range of programmes is not clear to teachers, education is offered through different routes, means and in an uncoordinated way;
- content standards exist only for certain types of actions, and there is no evaluation of the actions implemented or of the effects of teacher further education on school practice;

- there are no quality standards for teacher further education organisations (or for the teaching profession).

Further education (or professional development more broadly) is very much an individual matter for each teacher. Christopher Day, emeritus professor in the School of Social Sciences at the University of Nottingham, summarises this point aptly: *“Teachers’ thinking and actions are the product of the interplay between their life histories, their current developmental stage, the classroom and school environment, and the wider social and political context in which teachers live and work”* (Day, 1999, p. 16).



## 6 Research on secondary school teachers attitudes towards further education

In the second half of the 20<sup>th</sup> century, a sophisticated system of teacher further education was developed in a number of countries. Like lifelong learning, teacher education has become a major issue and is being followed by expert committees of national and international organisations (e.g., EU, OECD, UNESCO, etc.), researchers, institutes and agencies. The *concept of continuing teacher education* then makes it possible to consider various opportunities to support it. The aims and objectives of teacher further education are the result of many needs and requirements. They should be based on new findings in educational science and research, reflecting the development of other sciences and technologies, while necessarily incorporating the needs of school practice as well as current societal or regional needs. The main task of further education is often considered to be the introduction of innovations and changes in educational content and methods. According to repeated surveys, the majority of teachers consider continuing education to be important or essential.

### 6.1 Introduction

In the expert literature, from interviews with teachers, school principals, experts in the field, and from author's own experience, it is possible to conclude that there is no such structure in the continuing teacher education in the Czech Republic after 1989 that could be called a coherent system, and that individual concepts concerning the teaching profession, its quality standards, continuing education systems, career regulations (and there were not a few of them proposed), always took their own course over time, without their final implementation. Financial resources from European funds also bring a certain degree of unsystematicity to further education.

Until about 2001, the Czech Republic had remnants of a system of teacher further education in the form of regional (district) teacher further education centres, which, according to available sources, fulfilled their function satisfactorily (cf. Kohnová, 2008). After some reorganisation, in 2004, within the framework of the establishment of regional self-government, a central institution with a nationwide scope was established – *National Institute for Further Education* (NIDV, now NPI CR), which, in addition to its headquarters in Prague, had additional

offices in all regional towns. Parallel to the NPI CR, further teacher education is also provided by institutions established by individual regions (remnants of district centres retained by some regions).

In the Czech Republic, *the Pedagogical Staff Act* (Czech Republic, 2004b) obliges all teachers to undertake further education, but though, does not further specify how. Thus, self-study, own practice or several semesters of study can be considered as further education. Today, there is a wide range of entities offering teachers their educational products accredited in the system of further education of pedagogical staff. These include civic associations, private companies, individuals, primary and secondary schools, universities, etc. Most of the continuing education programmes are 4–20 hours in length (see Kohnová, 2009; Průcha, 2003). Data on the involvement of Czech teachers in professional education programmes are not sufficient (cf. Starý et al., 2012) and a comprehensive analysis of the continuing education programmes provided in the Czech Republic is not yet available.

Given the diverse range of bodies offering teacher education programmes, the marketing of educational institutions is becoming more important as a result of increasing competition. It is a management process that results in learning about, influencing and ultimately meeting the needs of the clients in an effective way that also ensures that the school's objectives are met. For the purpose of lifelong learning, which is currently being built on a commercial basis, the importance of marketing an educational institution (i.e., a public university) is not negligible. Therefore, the author finds the marketing mix analogy used in the educational setting to be remarkable and inspiring and see its relevance when applied to secondary school teachers.

The current generation of teachers is influenced by a whole spectrum of factors that affect their relationship to further professional education, whether from the external or internal environment – employer demands, internal need for development, family troubles, time, etc. Motivation, as a process of energising and directing behaviour to achieve a particular goal, is always about the interplay of internal and external factors that promote or cease motivation and determine its form. An investigation by Kohnová et al. (1995) suggests that only 25% of teachers perceive a lack of intrinsic motivation and 75% point rather to external circumstances that discourage them from continuing their education (e.g., *Subjectively perceived proficiency* also plays a role in possible lower participation in further education (cf. Kašparová, Potužníková & Janík, 2015).

Veleta (2007) argues that teachers of general education subjects have broader possibilities in terms of the offer than teachers of vocational subjects. He further states that courses where teachers of vocational subjects could extend their

expertise are lacking or expensive and that teachers have to find the necessary information themselves. According to Veleta (2007), there is an unsatisfactory situation in the field of subject didactics, where there are no opportunities for further education for many subjects.

These facts influence teachers' motivation, which is represented by their attitudes, willingness, personal activity and interest in further education, or preferences. Based on their own experiences, teachers are then able to express their satisfaction with further education. Continuing education, not only for teachers but also for other professional groups, is now considered a service offered by many bodies. Providers of teacher education programmes not only meet the educational needs of teachers through their activities but can also influence the demand for their services through marketing mix tools which, in addition to the factors mentioned above, are also considered to have a significant potential to influence motivation for further education.

The current state of continuing education for secondary school teachers in the Czech Republic is an area that has not been sufficiently mapped in our pedagogical research. Existing scientific studies, research papers, articles in conference proceedings and partly popularization texts describe attitudes, motivation, preferences, barriers or effectiveness of teachers' further education, but their content is overwhelmingly focused on primary school teachers (cf. Havlík, 1999, 2001; Kurelová et al., 2000; Lazarová & Prokopová, 2004, 2005; Šimíčková-Čížková, 2010; Urbánek, 2005; Vašutová, 2002 and others). Relevant research or surveys related to secondary school teachers' further education have probably not been published or are not known to us. Therefore, the author considers the effort to identify the views and attitudes of teachers working at different levels of schools as an important contribution of this publication.

## **6.2 Research objectives and research questions**

Based on the above facts and the definition of the research problem, *the research objectives* were set as follows:

- to describe and analyse the relevant factors and conditions for the further education of teachers<sup>41</sup> of secondary schools today;
- to identify associations between teachers' attitudes towards further education, motivation for further education and selected professional demographic characteristics.

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41 When the word "teachers" anywhere in the text is used, it means both male and female teachers from a gender perspective.

In the investigation, the author was partly inspired by previous Czech and foreign researches, which were mainly oriented towards the professional group of primary school teachers, whereas the author's interest was to obtain answers to similar questions from secondary school teachers. He was led in this direction by our personal experience as a secondary school teacher, the knowledge from the author's current work position in a university environment and partly also by the relative lack of information within the Czech discourse on this issue. The above-mentioned brief outline of the current situation, theoretical background and our own experience raise many questions, among the most important of which are those concerning the views of secondary school teachers on the issue of further education. Therefore, at the same time, *the main research question* is formulated:

*Are there regular and systematic relationships (or associations) between the professional demographic characteristics of secondary school teachers, their relationship to further education and their motivation for further education?*

Using the theoretical background and the determination of research variables, the following *4 sub-research questions* (problem areas) were developed in the preparation of the research investigation based on a search of available research, our own experience and knowledge from practice.

*The first* question relates to preferences, experience and barriers to further education. *The second* sub-research question reflects selected factors that influence "teachers' motivation for further education". *The third one* reflects the theoretical construct that has been named "attitude towards further education" and includes *specific questions* focusing on attitude towards further education, willingness to further education, activity and interest in further education, satisfaction with further education and dissatisfaction with the provision of further education. *The fourth* sub-research question then asks about the relationship between the two constructs identified above and the occupational demographic determinants through five specific research questions.

We defined *the sub-research questions* (SR-Q), including specific sub-questions (SR-Q-S) as follows:

SR-Q 1: *What are the preferences, experiences and potential barriers to further education of current secondary school teachers?*

SR-Q 2: *Are there differences in the ordering and mean ratings of motivational factors by occupational demographic characteristics?*

SR-Q 3: *How do teachers feel about continuing education?*

SR-Q-S3a: *What is the attitude of teachers towards further education?*

SR-Q-S3b: *What is the level of teachers' willingness to further their education?*

SR-Q-S3c: *What is the level of activity and interest of teachers in further education?*

SR-Q-S3d: *To what extent are teachers generally satisfied with their continuing education?*

SR-Q-S3e: *To what extent are teachers dissatisfied with the provision of further education?*

SR-Q 4: *Do professional demographic characteristics affect teachers' attitudes towards continuing education?*

SR-Q-S4a: *Does the age of the teacher influence the attitude towards further education?*

SR-Q-S4b: *Does the gender of the teacher influence the relationship to further education?*

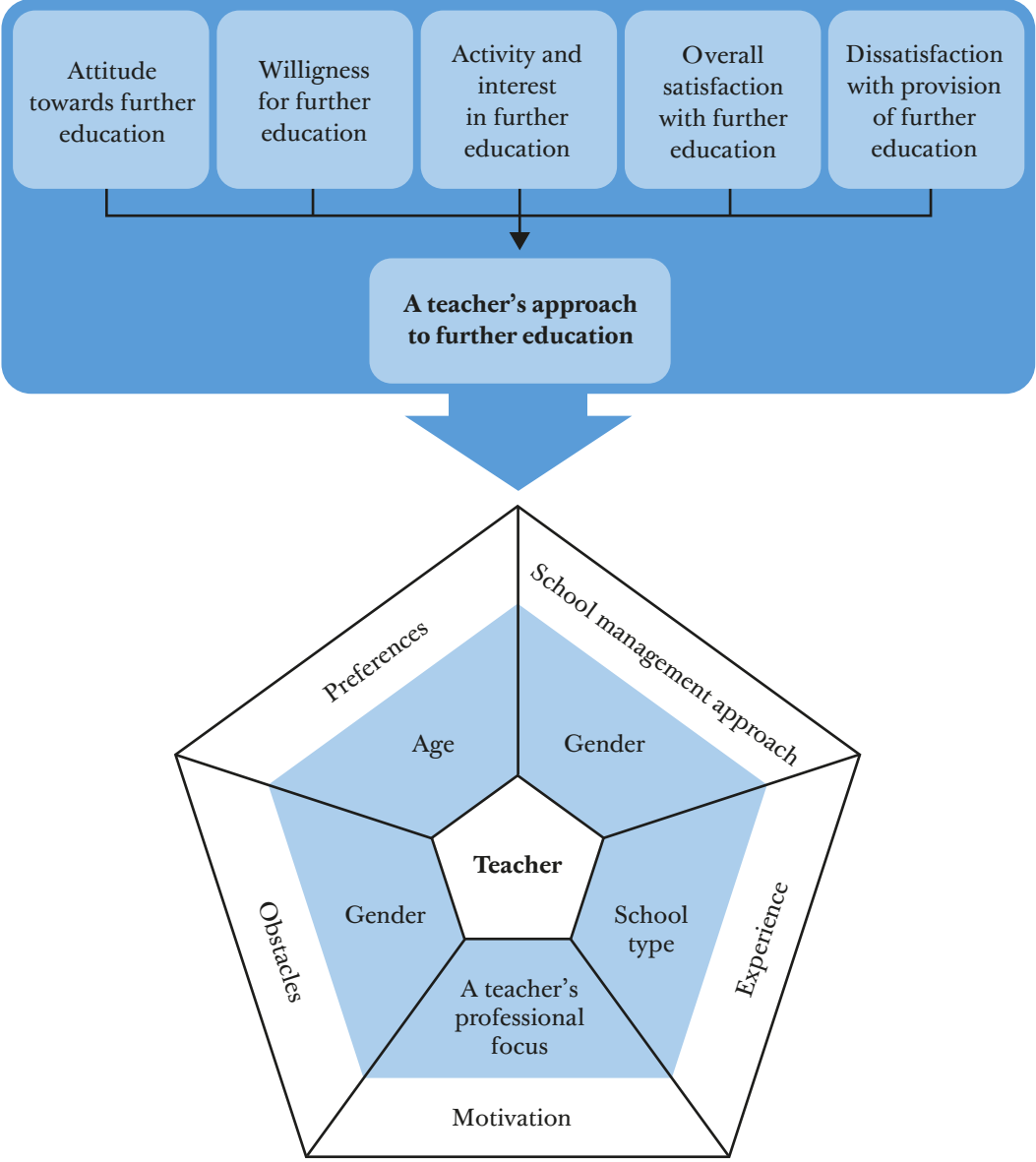
SR-Q-S4c: *Does the length of teaching experience influence the relationship to further education?*

SR-Q-S4d: *Does a teacher's professional orientation influence their attitude towards further education?*

SR-Q-S4e: *Does the type of school at which the teacher works influence the relationship to further education?*

Within the quantitative methodology, statistically significant relationships between the variables were identified, and therefore statistical hypotheses were formulated and tested to determine whether or not they would be confirmed. For clarity, the hypotheses are presented in the chapter, where the results of their statistical testing are also presented. Figure 11 shows a *diagram of the research* conducted showing the relationships between the categories and areas.

**Figure 11**  
*Conceptual diagram of the research investigation*



*Source: Author's own processing*



## 6.3 Research methodology

A self-constructed questionnaire was used in the research. In constructing the questionnaire to ascertain the experiences, attitudes, opinions and preferences of teachers in relation to their further education, it was based on the determinants that influence further teacher education. These constructs were operationalized and determined based on theoretical findings from the literature, results of previous research, and experiences from practice.

### 6.3.1 Research tool

The questionnaire took the form of an inventory of batteries of indicators that focused on relevant circumstances of teacher further education. The structure, nature and order of the questions in the questionnaire were determined by the conceptualization and operationalization of the concepts and the observed features of descriptive research. The questionnaire items were structured into the following areas:

1. *Teachers' general attitudes and willingness to undertake further education*
  - a. teachers' attitudes towards further education;
  - b. willingness to further education.
2. *Teachers' activity and interest in further education*
  - a. frequency of participation in further education;
  - b. teachers' awareness of further education;
  - c. teacher's own activities.
3. *Teacher satisfaction with further education*
  - a. general satisfaction with further education;
  - b. satisfaction with the material and organizational aspects of education;
  - c. dissatisfaction with further education provision;
  - d. satisfaction with the school management's approach to continuing education.
4. *Teachers' preferences in further education*
  - a. continuing education provider preferences;
  - b. preferences in the organisation of further education;
  - c. preferences for further education content.
5. *Factors influencing motivation and decision-making for further education*
  - a. motivational factors;
  - b. barriers to further education.

6. *Professional demographic characteristics of the respondent*
- a. gender (*male, female*);
  - b. age (*up to 35 years, 36–45 years, 46–55 years, 56+ years*);
  - c. teacher's professional background (*general education teachers, teachers of vocational subjects*);
  - d. length of experience (*up to 5 years, 6–15 years, 16–25 years, 26+ years*);
  - e. type of school (*grammar school or secondary vocational school*).

Within the above indicator structure, respondents expressed their subjectively felt level of agreement, importance, influence, time or preference through an even *rating (numerical) scale* anchored at the extremes of 1 and 6.<sup>42</sup> A questionnaire containing operationalized items is in the Appendix to the monograph. *Summative indices* were then created from *the selected indicators*. Details of the construction of the indices are explained in Chapter 6.3.3.

### 6.3.2 Research sample

The baseline sample consisted of *teachers of general education subjects* and *teachers of vocational subjects* in secondary schools in the South Moravian Region of the Czech Republic (teachers working at the schools of ISCED 3 level of education). Based on the characteristics of the teacher population in the Czech Republic, the research focused on teachers working in *grammar schools* and *secondary vocational schools* in terms of school types. The schools were randomly selected from the sampling support which was a list of secondary schools<sup>43</sup> in *the South Moravian Region*. Teachers in the selected schools were contacted exhaustively.

The South Moravian Region is the most suitable one due to the nature of the survey, especially with regard to the accessibility of the sample (distance), the return rate, the time complexity and the inherent financial costs associated with the research. With an area of 718 783 ha and a population of more than 1 195 000 inhabitants, the South Moravian Region ranks fourth and third in the country respectively. The location of the region is geographically quite favourable due to its position on the historical link between the south and the north of Europe. Within the EU, the region borders Slovakia and Austria. The South Moravian Region is one of the regions with significant economic potential. The gross domestic product of the region represents 10.8% of the gross domestic product of the Czech Republic. As of 31 December 2020, 1 195 327 inhabitants lived in the region, which represents

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42 The closer the value was to position 6, the more intense the response rate within a particular indicator.

43 The list was obtained from *the Register of Schools and School Facilities 2012/2013*. Available from: <http://rejskol.msmt.cz/>

11.2% of the total population of the Czech Republic. The natural catchment area of the whole of South Moravia is the regional capital *Brno*, located at the confluence of the Svatka and Svitava rivers. The city with its important regional position, situated at the crossroads of the motorways in the direction of Prague, Vienna, Bratislava and Olomouc, is the centre of traditional international exhibitions and fairs, which underline its status as a busy international business centre. The country's second largest city is also of considerable supra-regional importance. It is the seat of a number of institutions of national importance, especially the judiciary, but also an important centre of culture and higher education (CZSO, 2021a).

## Figure 12

*Location of the South Moravian Region on the map of the Czech Republic*



Source: [https://upload.wikimedia.org/wikipedia/commons/0/0b/2004\\_Jihomoravsky\\_kraj.PNG](https://upload.wikimedia.org/wikipedia/commons/0/0b/2004_Jihomoravsky_kraj.PNG)

Table 13 below compares the figures between 2012/2013 and 2020/2021 and below in the text the author takes the liberty of providing a comparison within the last decade. According to MoEYS, in the school year 2020/2021, a total of 122 schools in the South Moravian Region provided secondary education, which is 22 fewer schools than in the school year 2011/2012. The total number of schools in Table 13 is not the sum of schools by subject area, as schools can operate simultaneously in different fields of education. The most frequent field of study attended by pupils was vocational education (63.4% of the total number of pupils), followed by grammar schools (33.8%) and extension studies (2.8%). Compared to 2011/2012, the absolute number of pupils decreased the most in vocational education, by 6 849 (i.e., 18.8%) (CZSO, 2021b).

**Table 13***Education in secondary schools in the South Moravian Region*

	<b>Education in secondary schools</b>					
	Schools		Students		Teachers	
<b>2012/2013</b>	128		52,638		4,657	
<b>2020/2021</b>	122		46,762		4,385	

	<b>Including teaching disciplines</b>					
	<b>General education</b>		<b>Professional education</b>		<b>Extension studies</b>	
	Schools	Students	Schools	Students	Schools	Students
<b>2012/2013</b>	41	15,639	96	33,865	39	3,134
<b>2020/2021</b>	40	15,799	90	29,656	28	1,307

*Source: CZSO (2013); MoEYS (2022c; 2022b); author's own processing*

We are aware of the fact that the sample cannot be considered as a fully representative sample of the professional group of secondary school teachers and the results cannot be considered valid for the whole population. In terms of accessibility, a total of 12 secondary vocational schools and grammar schools were selected. For one grammar school and one secondary vocational school the founder is a private individual, for the other schools the founder is the South Moravian Region. A total of 224 persons (i.e., teachers) participated in the survey.

To illustrate the situation, the author presents the data available on the website of MoEYS which shows that in the 1998/1999 school year there were a total of 2 172 secondary schools in the Czech Republic (of which 359 were grammar schools) and in the 2012–2013 school year there were 1 347 registered secondary schools (of which 369 were grammar schools).

## **Sample structure of research**

Tables 15 and 16 below show the structure of the sample in terms of gender, type of teacher and type of school at which they teach. More detailed data regarding the sample structure based on professional demographic characteristics are presented in the Appendix of this monograph.

Of the 224 respondents, 60.3% were women and 39.7% were men, which corresponds to the usual structure of teachers in secondary schools in the Czech Republic (in primary schools the ratio is more like 80:20%). The most strongly represented age category was 46–55 years old (73 respondents), which represented 33%. The least represented category was 56+ years, with 31 persons representing 14%.

**Table 14***Number of schools and pupils in secondary education in the Czech Republic by founder*

	<b>2012/2013</b>			
	Schools		Students	
<b>MoEYS</b>	32	2.4%	1 372	0.3%
<b>Municipality</b>	24	1.8%	3 116	0.7%
<b>Region</b>	937	69.6%	397,188	84.4%
<b>Other resort</b>	4	0.3%	1,089	0.2%
<b>Private</b>	313	23.2%	58,717	12.5%
<b>Church</b>	37	2.7%	9,272	2.0%
<b>Total</b>	<b>1,347</b>	<b>100.0%</b>	<b>470,754</b>	<b>100.0%</b>

	<b>2020/2021</b>			
	Schools		Students	
<b>MoEYS</b>	29	2.3%	1,137	0.3%
<b>Municipality</b>	28	2.2%	3,757	0.9%
<b>Region</b>	893	69.8%	353,977	81.8%
<b>Other resort</b>	4	0.3%	1,888	0.4%
<b>Private</b>	284	22.2%	61,855	14.3%
<b>Church</b>	42	3.3%	10,292	2.4%
<b>Total</b>	<b>1,280</b>	<b>100.0%</b>	<b>432,906</b>	<b>100.0%</b>

*Source: MoEYS (2022a; 2022b); author's own processing*

A total of 74 respondents (33%) fell into the category of teachers with teaching experience of 6–15 years. However, teachers with teaching experience of 16 years or more accounted for over 54%, which in absolute terms amounted to 121 persons. Novice teachers with up to 5 years of experience were represented “marginally” by less than 13% (28 persons).

For 41.7% of the respondents, the school where they work was the first in the order of their teaching experience, for 32.7% the second and for 19.3% the third. As the questionnaire was also aimed at vocational school teachers, the range of highest educational attainment was more varied. The most common highest level of education was a master's degree, which was completed by 84.4% of respondents (189 persons), while a bachelor's degree was reported by 9 respondents (4%). It is encouraging to note the participation of 6 respondents (2.7%) who had completed a doctoral degree. The rest of the respondents (8.9%) indicated in the questionnaire that their highest level of education was secondary education with a high school diploma.

**Table 15***Composition of the sample of respondents by teacher's professional field and gender*

Teacher's field of study and gender	Total		Of which			
	Absolute frequency	Relative frequency	Men		Women	
Teacher of general education subjects	131	58.5%	41	31.3%	90	68.0%
Teacher of vocational subjects	93	41.5%	48	51.6%	45	48.4%
<b>Total</b>	<b>224</b>	<b>100.0%</b>	<b>89</b>	<b>39.0%</b>	<b>135</b>	<b>60.3%</b>

*Source: Author's own processing***Table 16***Sample composition of respondents by type of school they work at and gender*

Teacher's field of study and gender	Total		Of which			
	Absolute frequency	Relative frequency	Men		Women	
grammar school (general education)	75	33.5%	35	46.7%	40	53.3%
secondary vocational school (vocational education)	149	66.5%	54	36.2%	95	63.8%
<b>Total</b>	<b>224</b>	<b>100.0%</b>	<b>89</b>	<b>39.7%</b>	<b>135</b>	<b>60.3%</b>

*Source: Author's own processing*

The most frequent respondents (40.3%) stated that they teach two subjects. 22.2%. i.e., 49 persons teach only one subject and similarly 19.5% teach three subjects. 115 respondents (51%) were working at grammar schools or secondary vocational schools outside Brno at the time of the survey and 109 persons (49%) in Brno.

### 6.3.3 Relevant aspects of research conducted

We paid substantial attention to the content of the research instrument. This was reviewed by expert methodologists, teachers who were not part of the sample and teachers who were included in the sample. It can therefore be concluded that the questionnaire is content valid. The construct validity of the questionnaire was demonstrated by exploratory factor analysis and inter-item correlation for each index. The reliability of the questionnaire was calculated by estimating the internal consistency of the test at the item level of the summative indices within



each scale of the questionnaire through *Cronbach's alpha coefficient*. In conducting the research, the author was aware of certain risks and limitations arising from the research design and tried to reflect them. For example, the research results may have been influenced by the fact that the research field is currently oversaturated with a flood of different surveys and investigations, whether for students' final theses or for the needs of the government in education and others. Teachers are a very busy group in terms of time and work. It is difficult to find a convenient time to contact them during the school year. In addition to these considerations, one of the reasons for the lower return rate (52.4%) may be the willingness of respondents to answer the questionnaire. It is necessary to take into account the fact that the answers to some questions may have been somewhat proclamatory and subjective. On the other hand, the author tried to counteract these risks by assurances of anonymity and sufficient time for completion.

The questionnaires were distributed to the teachers in hard copy through the principal or vice-principal, to whom the purpose of the survey was explained during the personal visit and the voluntary and anonymous nature of the responses was emphasized. The actual delivery of the questionnaires was preceded by a telephone or written request for cooperation. Data collection took place in the month of June 2013. After completion, respondents handed in the questionnaires to a locked collection box located in the school's assembly room, thus guaranteeing the anonymity of the answers. As part of the data processing, the data was already checked in the primary data matrix, which was "cleaned" before data analysis began. As part of the statistical processing of the data, *sum indices* were created from the identified indicators as quasi-cardinal variables and the data within these variables were then categorised according to the mean values of the individual scales for further interpretation. Adequate parametric or non-parametric tests were used to determine the statistical significance<sup>44</sup> of the relationships between variables (verification of statistical hypotheses). Data analysis and statistical calculations were performed in the software for

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44 Statistical significance is a technical term that refers to the validity of inferences about a population made using a sample. It refers to the question: how likely is it that what was found in the sample is also true in the population to which the sample refers? A  $p < 0.05$  means that I make a mistake less than 5 times out of 100 when I say that what is true in my sample is also true in the population. Conventionally, a level of 0.05 is considered acceptable for statistical significance (Punch, 2008, p. 93). *"Statistical significance of research results has come under criticism in recent years from methodologists, statisticians, and researchers themselves, although many persist in its often-thoughtless use. However, its meaningful use is limited to representative samples taken by random sampling methods and to randomised controlled experiments. Therefore, the use of non-statistical assessment of the magnitude of the difference or relationship in research results, the so-called 'effect size', as a proportion or percentage of the variance explained, is preferred. One of its main advantages is that it does not depend on the sample size N. Conversely, one of the main disadvantages of testing the null hypothesis according to statistical decision theory is the dependence of statistical significance on N, so that for very large samples even a small difference or correlation is statistically significant, and for small samples even a large difference or high correlation is statistically insignificant"* (Blahuš, 2000).

bulk statistical data analysis IBM SPSS Statistics. The data obtained were also tabulated in Microsoft Excel for interpretation. After data processing, partial results were discussed with selected secondary school principals who were motivated by this promise, among others, to distribute and complete the questionnaires. These discussions certainly helped in better interpretation and explanation of the results. The conclusions of these discussions are then briefly reflected in Chapters 8 and 9 of this monograph.

## **6.4 Descriptive statistical results**

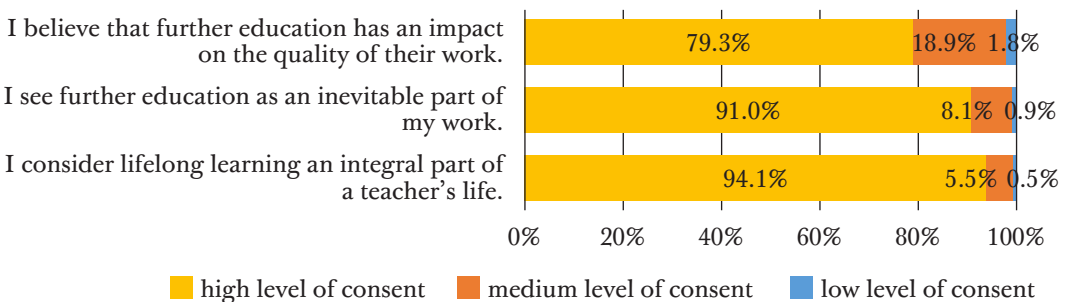
In this chapter *the sub-research question 1* is answered. Using descriptive statistics methods, the author analysed the results obtained from the self-constructed questionnaire to determine the relevant circumstances of secondary school teachers' further education. In analysis the results within the descriptive statistics part of the thesis, *categorization of the items of the rating scale* was used. In processing the data, responses were recorded in numerical scale levels (1–6) indicating the degree (1 = least degree. 6 = greatest degree). In the categorization, the two extreme values 1 and 2 were merged into the “low consent level” variant of agreement, satisfaction, importance, preference, influence, etc.; values 3 and 4 reflect “the medium consent level” variant of agreement, satisfaction, importance, preference, influence, etc.; and variants 5 and 6 were merged into “the high consent level” variant of agreement, satisfaction, importance, preference, influence etc. If in the following text this level of measure is not explicitly stated for a particular outcome and another categorisation (attitude) is used, it is “a high consent level”. For each of the indicators, *the mean scores* and *relative frequencies* of responses were calculated in categorised form. The results in uncategorised form are included in the appendices of this publication.

### **6.4.1 Teachers' attitudes and willingness to further education participation**

Teachers' attitudes towards further education as expressed by their responses to the individual indicators were very positive – 94.1% considered lifelong learning to be an integral part of a teacher's life. 91% perceived continuing education as an inevitable part of their work to a high degree and 79.3% responded that continuing education has an impact on the quality of their work to a high degree.

**Table 17***Teachers' attitudes towards further education*

Teachers' attitudes towards further education	N	Relative frequency	Mean	Standard deviation
I consider lifelong learning to be an integral part of a teacher's life.	220	98.2%	5.64	0.685
I see further education as an essential part of my job.	221	98.7%	5.53	0.784
I believe that further education has an impact on the quality of their work.	222	99.1%	5.21	0.971

*Source: Author's own processing***Chart 7***Teachers' attitudes towards further education (categorised responses)**Source: Author's own processing*

Three-quarters (75.7%) of respondents in our survey are willing to further their education and half of them (49.5%) are willing to participate in further education in their free time. Only a quarter (26%) of the respondents are willing to contribute financially to their further education, with a medium level of agreement in this respect declared by 48.1%.

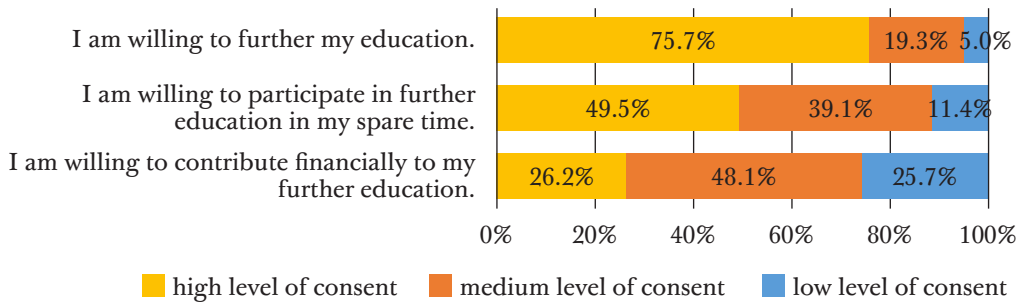
**Table 18***Teachers' willingness to participate in education*

Teachers' willingness to participate in further education	N	Relative frequency	Mean	Standard deviation
I am willing to further my education.	218	97.3%	5.15	1.258
I am willing to participate in further education in my spare time.	220	98.2%	4.34	1.309
I am willing to contribute financially to my further education.	214	95.5%	3.59	1.516

*Source: Author's own processing*

### Chart 8

*Teachers' willingness to undertake further education (categorised responses)*



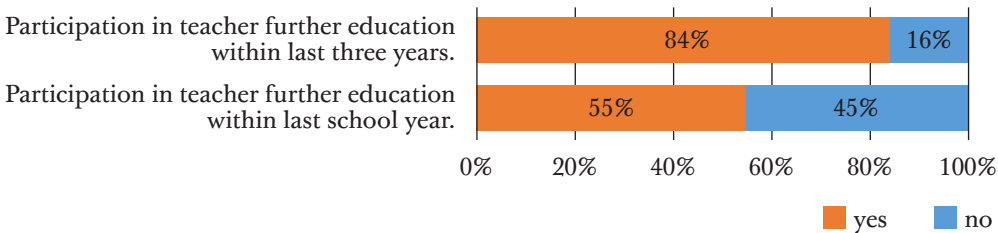
*Source: Author's own processing*

### 6.4.2 Teachers' activity and interest in further education

The survey focused on the frequency of teachers' participation in further education. teachers' awareness of about continuing education and teachers' own activities related to their interest in continuing education. The results show that 55% of respondents participated in any kind of teacher-related further educational event in the last school year and 84% in the past three years.

### Chart 9

*Teachers' participation in further education in the past*



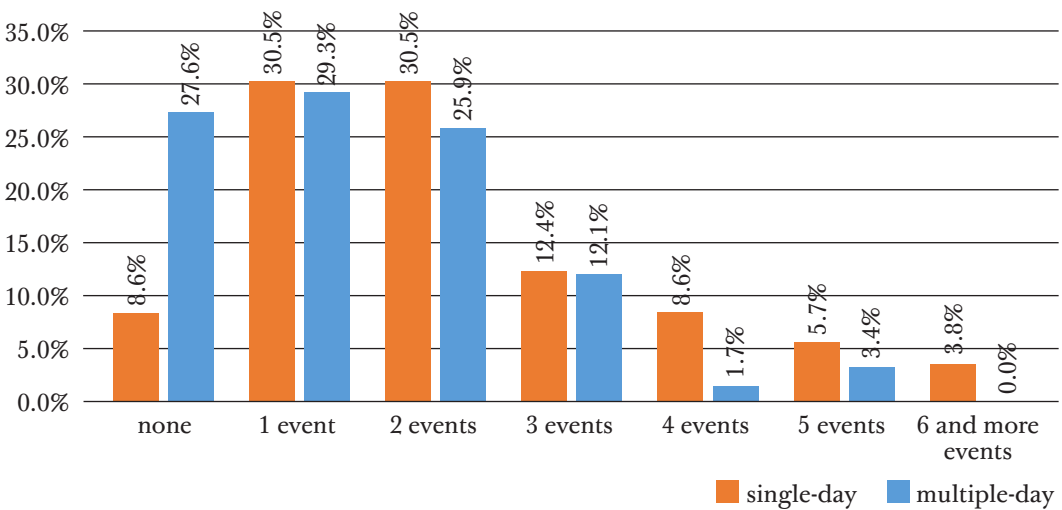
*Source: Author's own processing*

99.1% of respondents answered the question (N = 222)

Three-fifths (61%) of respondents who had participated in further education during the past school year had attended one to two further educational events lasting no more than one day and about 55% had attended one to two multiple-day educational events. Three to five one-day (rather several hours) educational events were attended by a quarter of respondents (26.7%), but 17.2% still attended multiple-day events in this range.

**Chart 10**

*Participation in further education in the last school year*



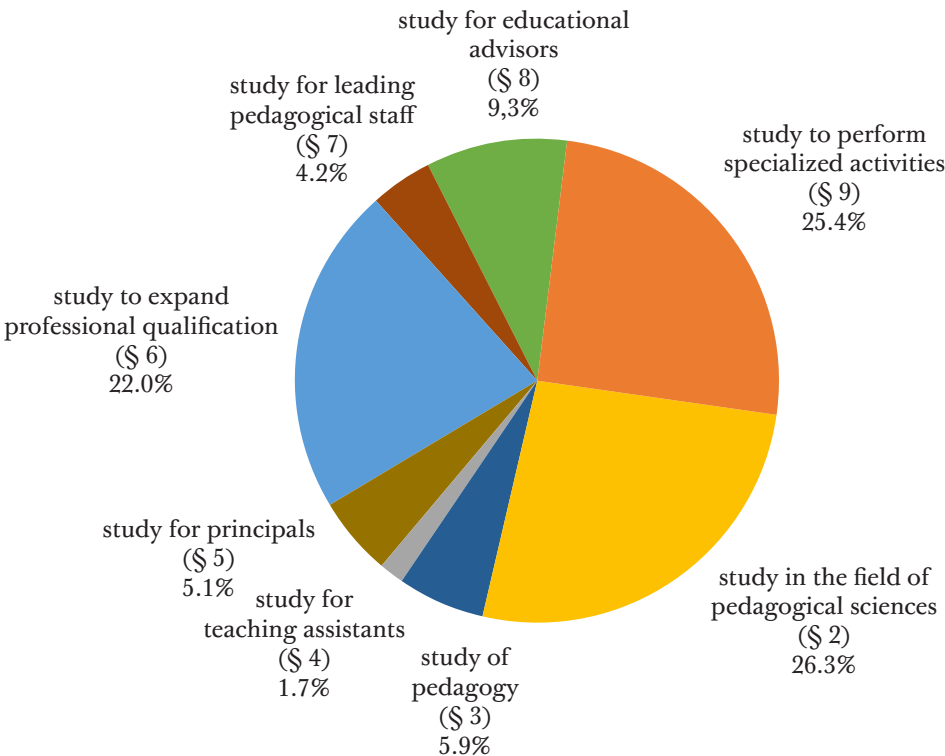
*Source: Author's own processing*

46.8% of respondents (N = 105) answered the question.

Of the teachers who have participated in qualification education (30.5%) in the past three years as part of continuing education for pedagogical staff, almost a third (32.2%) had participated in studies in the field of pedagogy and pedagogical sciences (i.e., supplementing the now much-discussed pedagogical qualification), a quarter (25.4%) had participated in studies to perform specialised activities, more than a fifth (22%) had extended their professional qualifications (e.g., less than a tenth, 9.3%) of the respondents had studied educational counselling, and an equally large group had participated in training for educational leaders or principals of schools and educational institutions. Five times as many respondents from secondary school teachers as from secondary school teachers participated in qualification education in the field of pedagogy and educational sciences.

**Chart 11**

*Participation in qualification education programmes over the past three years*



*Source: Author's own processing*

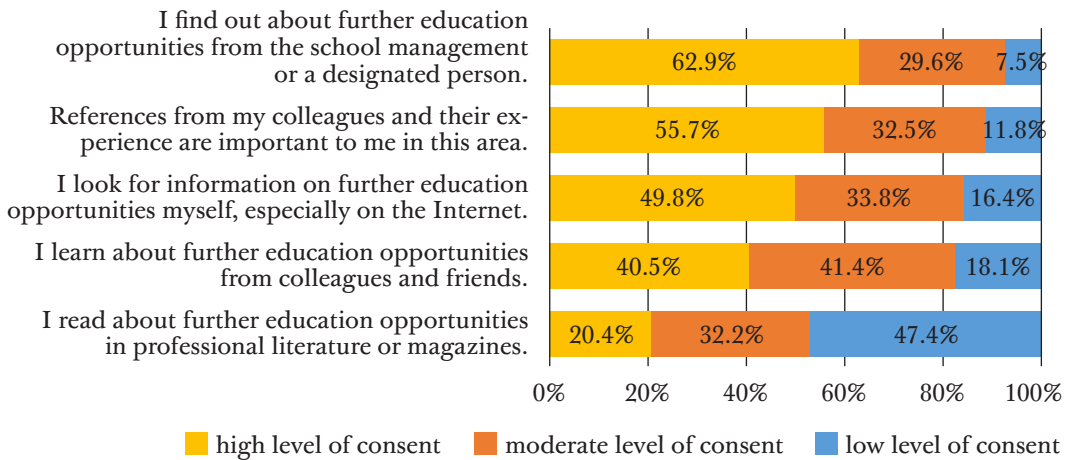
30.5% of respondents (N = 67) answered the question.

An important finding is that teachers in our research most often get information about further education opportunities from the school management (the highest level of consent – 62.9%), in second place they seek this information themselves, mainly on the Internet (49.8%) and in third place teachers said that they get information from colleagues (55.7%) who are also a source of important references. Only a fifth of respondents (20.4%) got information about further education opportunities from literature or journals and 47.4% of teachers expressed a low level of agreement.



**Table 19***Teachers' awareness of further education*

<b>Teachers' awareness of further education</b>	<b>N</b>	<b>Relative frequency</b>	<b>Mean</b>	<b>Standard deviation</b>
I find out about further education opportunities from the school management or a designated person.	213	95.1%	4.69	1.292
References from my colleagues and their experience are important to me in this area.	212	94.6%	4.49	1.409
I look for information on further education opportunities myself, especially on the Internet.	213	95.1%	4.24	1.564
I learn about further education opportunities from colleagues and friends.	215	96.0%	3.93	1.474
I read about further education opportunities in professional literature or magazines.	211	94.2%	2.84	1.673

*Source: Author's own processing***Chart 12***Teachers' awareness of further education (categorised responses)**Source: Author's own processing*

**Table 20***Teachers' own activities – activity and interest in further education*

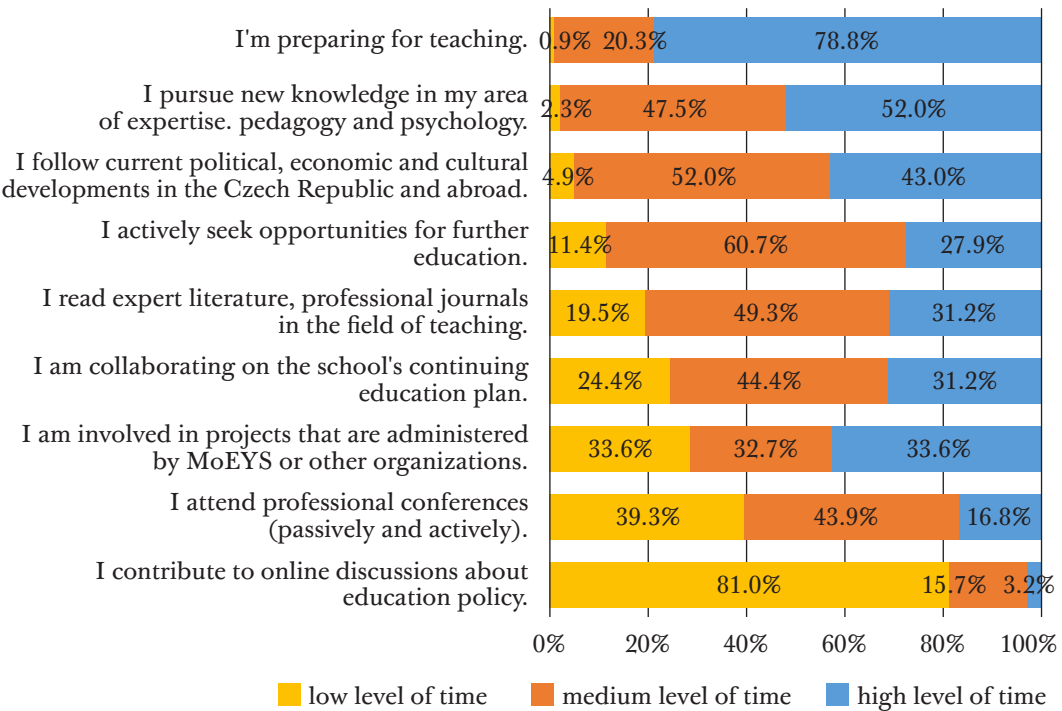
<b>Teachers' own activities</b>	<b>N</b>	<b>Relative frequency</b>	<b>Mean</b>	<b>Standard deviation</b>
I'm preparing for teaching.	222	99.1%	5.20	0.927
I pursue new knowledge in my area of expertise. pedagogy and psychology.	221	98.7%	4.49	0.975
I follow current political, economic and cultural developments in the Czech Republic and abroad.	223	99.6%	4.34	1.035
I actively seek opportunities for further education.	219	97.8%	3.90	1.141
I read expert literature, professional journals in the field of teaching.	221	98.7%	3.78	1.324
I am collaborating on the school's further education plan.	205	91.5%	3.63	1.501
I am involved in projects that are administered by MoEYS or other organizations.	217	96.9%	3.49	1.756
I attend professional conferences (passively and actively).	214	95.5%	3.08	1.502
I contribute to online discussions about school policy.	216	96.4%	1.66	1.109

*Source: Author's own processing*

Evaluating indicators from the area of teachers' own further education, it was revealed that 78.8% of respondents devote a high proportion of time to preparing for teaching and 52% devote an equal proportion of time to pursuing new knowledge in their area of expertise, pedagogy and psychology, 60.7% of teachers devote a moderate amount of time to actively seeking further education opportunities. About half of the teachers also devote a moderate amount of time to reading expert literature or professional journals (49.3%), or following the current political, cultural or economic situation (52%). For example, 39.3% of respondents devote a low level of time to attending professional conferences or contributing to online discussions about education policy (81%).

**Chart 13**

*Teacher's own activities (categorised responses)*



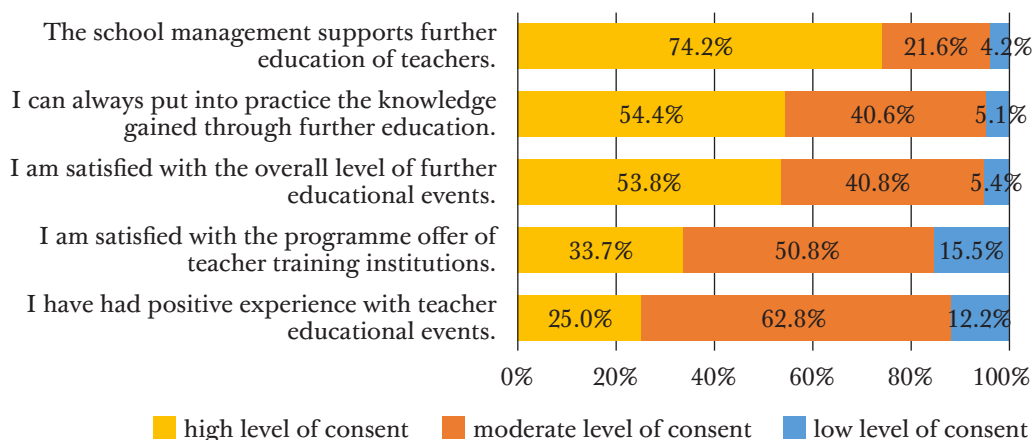
*Source: Author's own processing*

### 6.3.4 Teachers' satisfaction with further education

In this area, the focus lies on general attributes of satisfaction with further education – satisfaction with the material and organizational aspects of further education, dissatisfaction with the offer of further education, satisfaction with the school management's approach to further education. A relatively high percentage of respondents (74.2%) agreed to a high degree that the school management supports their further education. An overwhelming majority (54.4%) declared the same level of agreement that they can put into practice the knowledge gained through further education. Based on our results, 53.8% of the respondents were satisfied with the overall level of the events they participated in as part of their education. Half (50.8%) of the teachers in our survey expressed a moderate level of consent that they were satisfied with the programme offer of the teacher training institutions. An even larger number – 62.8% of respondents – expressed the same (medium) level of consent with the item indicating a positive experience with teacher educational events, with 25% expressing a high level of consent.

**Table 21***General satisfaction with further education*

<b>General satisfaction with further education</b>	<b>N</b>	<b>Relative frequency</b>	<b>Mean</b>	<b>Standard deviation</b>
The school management supports further education of teachers.	213	95.1%	5.08	1.105
I can always put into practice the knowledge gained through further education.	217	96.9%	4.55	1.239
I am satisfied with the overall level of further educational events.	184	82.1%	4.50	0.981
I am satisfied with the programme offer of teacher training institutions.	181	80.8%	3.97	1.349
I have had positive experience with teacher educational events.	188	83.9%	3.82	1.179

*Source: Author's own processing***Chart 14***General satisfaction with further education (categorised responses)**Source: Author's own processing*

In the area of personnel, material and organizational aspects of educational events, teachers in the survey were most satisfied with the expertise of lecturers at 61.6%. A similar frequency (56.5%) was involved in the high level of satisfaction with the material and technical equipment or teaching materials received at educational events (56.4%). A smaller number of respondents expressed a high level of satisfaction with the timing and duration (51.9%), the content and thematic focus (51.6%) and the teaching methods used in teacher further education (46.7%). For the latter three indicators, respondents expressed a higher

relative frequency of responses in the medium category (ranging from 42–46%) as opposed to the other indicators.

**Table 22**

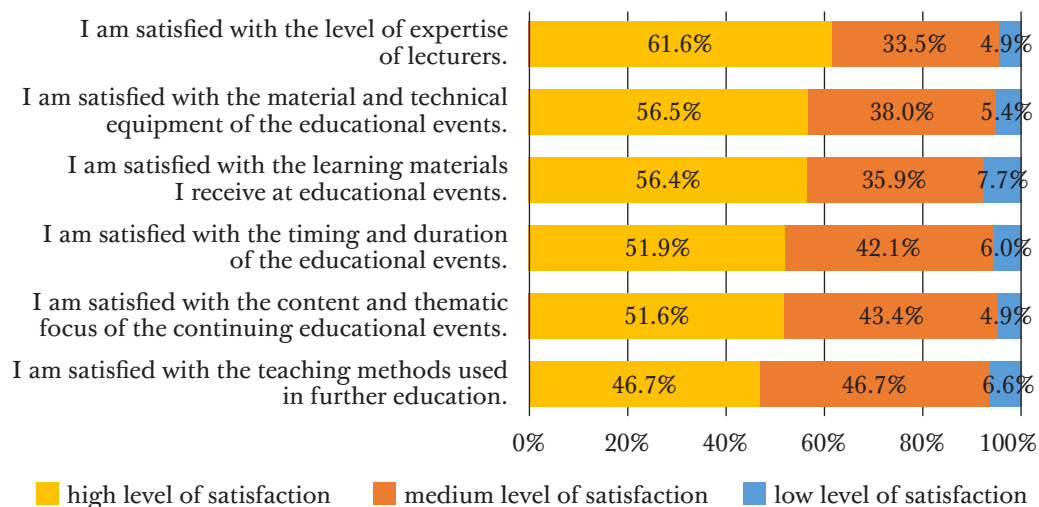
*Satisfaction with material and organizational aspects of further education*

Satisfaction with the material and organizational aspects of education	N	Relative frequency	Mean	Standard deviation
I am satisfied with the level of expertise of lecturers.	185	82.6%	4.56	1.052
I am satisfied with the material and technical equipment of the educational events.	184	82.1%	4.53	1.045
I am satisfied with the learning materials I receive at continuing educational events.	181	80.8%	4.50	1.143
I am satisfied with the content and thematic focus of the further educational events.	182	81.3%	4.41	0.964
I am satisfied with the timing and duration of the educational events.	183	81.7%	4.37	1.024
I am satisfied with the teaching methods used in further education.	182	81.3%	4.35	1.029

*Source: Author's own processing*

**Chart 15**

*Satisfaction with material and organizational aspects of education (categorized responses)*



*Source: Author's own processing*

Another significant area in the survey was dissatisfaction with the provision of further education. One-third of teachers (34.5%) are highly dissatisfied with the offer of further educational events within their area of expertise, but 41% of survey participants are in the medium response range. More than two-fifths of respondents (43%) expressed a low level of consent with the statement that they have not yet been attracted by any of the continuing education offerings in terms of content and form. More than half of the teachers (53%) have a high level of agreement that they have somewhere to study given the current offer of educational institutions.

**Table 23**

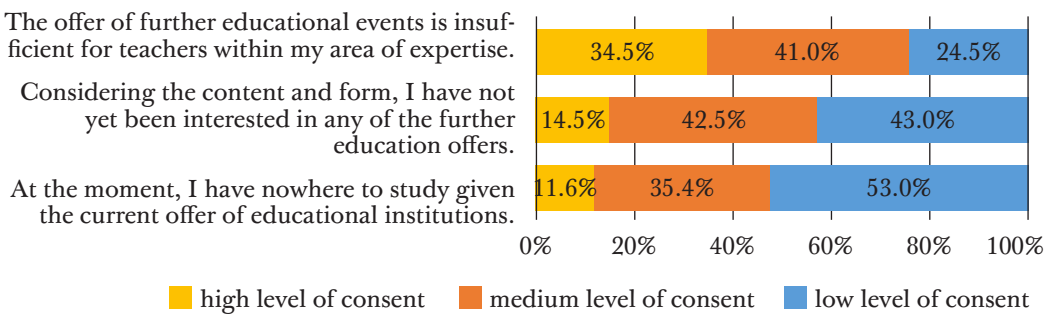
*Dissatisfaction with further education provision*

<b>Dissatisfaction with further education provision</b>	<b>N</b>	<b>Relative frequency</b>	<b>Mean</b>	<b>Standard deviation</b>
The offer of further educational events is insufficient for teachers within my area of expertise.	200	89.3%	3.72	1.521
Considering the content and form, I have not yet been interested in any of the further education offers.	200	89.3%	2.84	1.528
At the moment, I have nowhere to study given the current offer of educational institutions.	198	88.4%	2.66	1.419

*Source: Author's own processing*

**Chart 16**

*Dissatisfaction with offer of further education (categorised responses)*



*Source: Author's own processing*

Teachers' views on the approach of school management to further education are also an interesting finding for us. In our survey, 83.5% of teachers express a high level of agreement with the way in which school leaders enable them to apply the



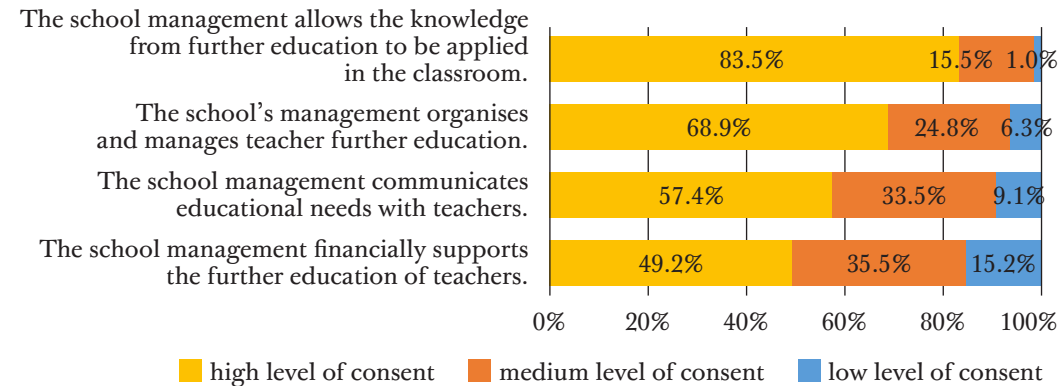
knowledge gained from further education in practice. More than two-thirds of respondents (68.9%) were highly satisfied with the organisational management of further education by the school management and a smaller but still large number were satisfied with the way the school management communicates with them about educational needs – 57.4%. Just under half of the teachers (49.4%) shared a high level of consent with the fact that the school management supports further education financially – only 15.2% of respondents expressed a low level of consent in this respect.

**Table 24**  
*Satisfaction with the school management’s approach to further education*

Satisfaction with the school management’s approach to further education.	N	Relative frequency	Mean	Standard deviation
The school management allows the knowledge from further education to be applied in the classroom.	206	92.0%	5.29	0.867
The school’s management organises and manages teacher education.	206	92.0%	4.91	1.292
The school management communicates educational needs with teachers.	209	93.3%	4.44	1.344
The school management financially supports the further education of teachers.	197	87.9%	4.29	1.539

Source: Author’s own processing

**Chart 17**  
*Satisfaction with the school management’s approach to further education (categorised responses)*



Source: Author’s own processing

### 6.4.4 Teachers' preferences in further education

In this area, teachers' preferences in the content, organization, form and person of the provider of further education have been investigated. Our findings show that 51.3% of the teachers who participated in the research had a high preference for face-to-face form over other forms, such as e-learning support. At the same time, more than half of the respondents, namely 56.4%, preferred to a high degree practically oriented educational events to theoretical ones. A medium level of preference (47.7%) was used by respondents when asked to choose their activity or passivity at educational events but 43.2% of respondents agreed to a high degree that they preferred events where they can be active.

**Table 25**

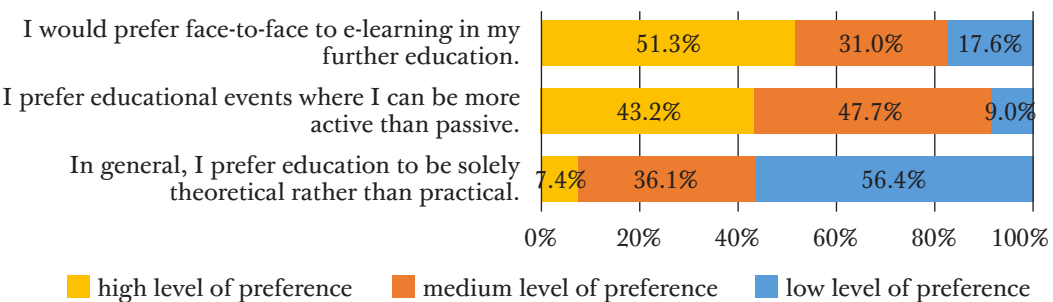
*Preferences in the organisation of further education*

Preferences in the organisation of further education	N	Relative frequency	Mean	Standard deviation
I prefer educational events where I can be more active than passive.	199	88.8%	4.27	1.294
I would prefer face-to-face to e-learning in my further education.	187	83.5%	4.25	1.546
In general, I prefer education to be solely theoretical rather than practical.	202	90.2%	2.49	1.401

*Source: Author's own processing*

**Chart 18**

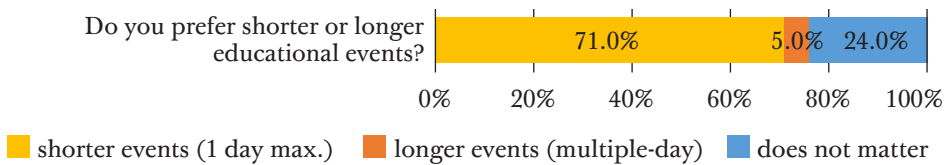
*Preferences in the organisation of further education (categorised responses)*



*Source: Author's own processing*

### Chart 19

#### *Preferences of the length of the educational event*

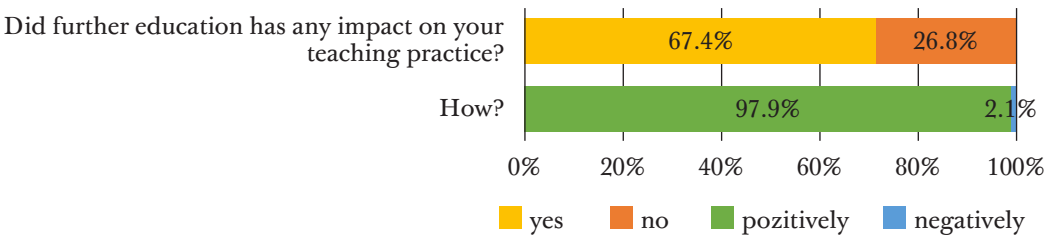


*Source: Author's own processing*

More than two-thirds of our survey participants (71%) preferred educational events shorter than one day, almost a quarter (24%) did not have any preferences in terms of the length and only 5% preferred longer, multiple-day training. Regarding the impact of further education on teaching practice, we can state that 67.4% of our survey respondents answered that they were influenced by it – 97.9% of them positively.

### Chart 20

#### *Impact of further education on teaching practice*

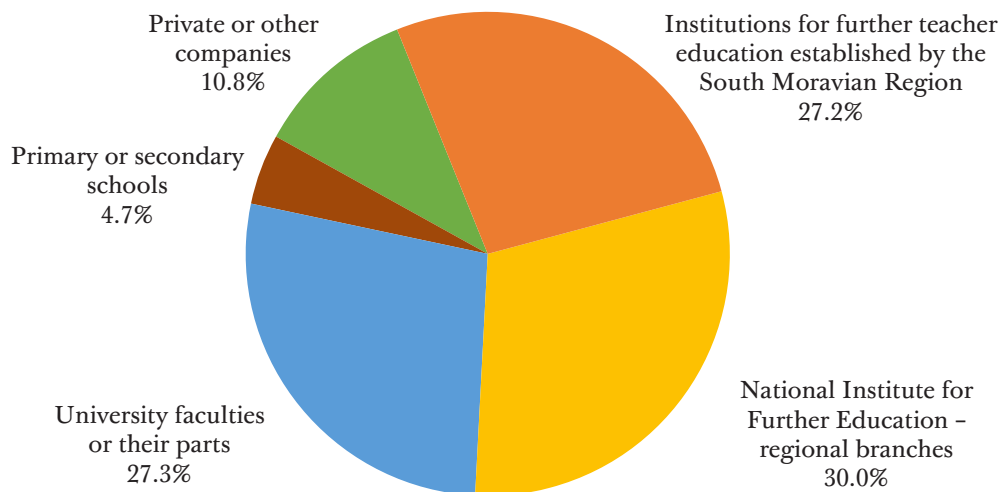


*Source: Author's own processing*

The institutions most often preferred by teachers in their further education include the regional branch of NIDV – National Institute for Further Education (since 2020 NPI CR – National Pedagogical Institute of the Czech Republic) (30%). The second and third place is shared by faculties of universities (27.3%) and institutions for further education of pedagogical staff established by the South Moravian Region. The least preferred are secondary and primary schools or private companies and other companies (together 15.5%).

**Chart 21**

*Preferences of further education providers*



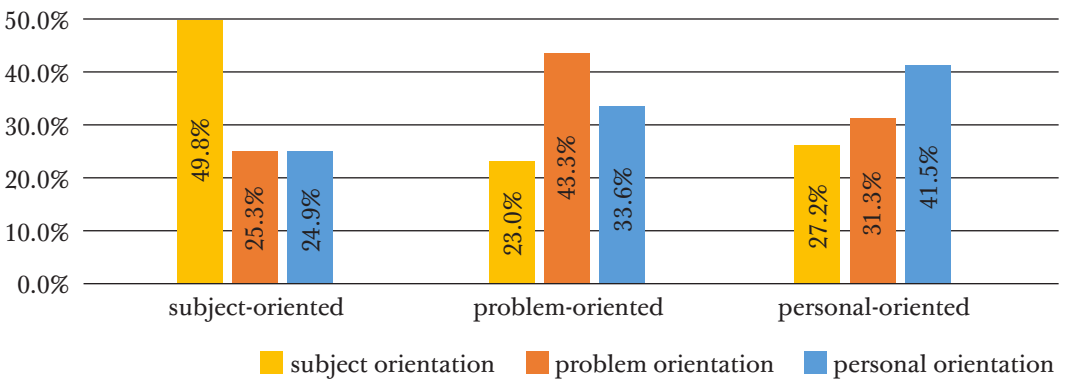
*Source: Author's own processing*

95% of respondents answered the question (N = 213).

The survey asked the respondents to express their order preferences in the content and thematic focus of the educational events. The choice was from the following areas: *subject-related* (focused on the subject taught, didactics, teaching process); *problem-related* (current issues and topics of school practice) and *personal* (focused on the teacher's person, their physical and mental state). Most often, teachers constructed content orientations in the order of (1.) *subject-oriented*, (2.) *problem-oriented* and (3.) *personal*. The respondents who listed subject orientation in the first place (49.8%) then listed problem and personal orientations almost equally in the second and third places, namely in 25.3% and 24.9% respectively. Those who indicated a problem orientation in the first place (43.3%) then indicated a personal orientation in the second place (33.6%) and a problem orientation in the third place (23%). The teachers who preferred personal orientation in the continuing education topics (41.5%) then indicated a problem orientation in the second place (31.3%) and a subject orientation in the third place (27.2%).

**Chart 22**

*Preferences for further education topics*



*Source: Author's own processing*

96.8% of respondents (N = 217) answered the question.

### **6.4.5 Crucial factors influencing teachers' further education**

Respondents were offered twelve statements containing factors that may influence their motivation to further their education. According to the overall mean rating, teachers ranked the top three factors in the order of (1.) the *opportunity to learn something new* (high influence rate of 79.4%), (2.) the *opportunity to implement the knowledge acquired in teaching* – 75.8% and (3.) the *opportunity to gain new knowledge about working with students and problem solving* – 74.7%. The *opportunity to meet colleagues and exchange experiences with each other* (66.8%) or to *discuss practice issues with experts* (64.4%) is also a significant motivating factor. Contrary to expectations, e.g., the *employer's request* (47.4%) does not seem very motivating. Factors with a low level of influence, according to the respondents, include the *introduction of a career system in education* (32.6%), the *possibility to teach another subject* (42.5%) or the *possibility of a transfer to another type of school or institution* (52%). It is of a significant interest that one fifth of the teachers in our survey (20.5%) expressed a high level of consent that further education is an *opportunity to strengthen their position among colleagues*. When analysed in more detail, statistically significant differences were found between teachers by professional demographic characteristics – details are provided in the following sections.

**Table 26***Factors influencing motivation for further education*

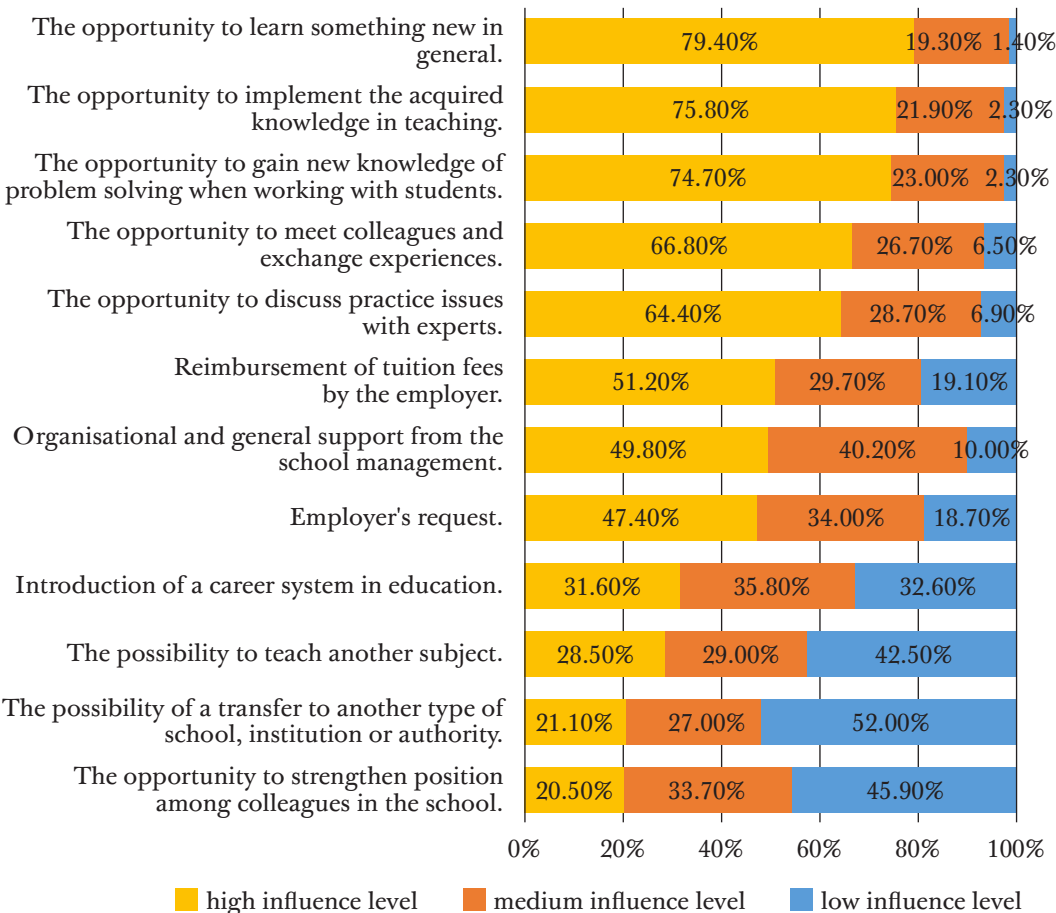
<b>Factors influencing motivation for further education</b>	<b>N</b>	<b>Relative frequency</b>	<b>Mean</b>	<b>Standard deviation</b>
The opportunity to learn something new in general.	218	97.3%	5.19	0.991
The opportunity to implement the acquired knowledge in teaching.	215	96.0%	5.02	1.083
The opportunity to gain new knowledge of problem solving when working with students.	217	96.9%	5.01	1.078
The opportunity to discuss practice issues with experts.	216	96.4%	4.79	1.323
The opportunity to meet colleagues and exchange experiences.	217	96.9%	4.77	1.240
Organisational and general support from the school management.	209	93.3%	4.37	1.346
Reimbursement of tuition fees by the employer.	209	93.3%	4.19	1.605
Employer's request.	209	93.3%	4.11	1.510
Introduction of a career system in education.	187	83.5%	3.47	1.670
The possibility to teach another subject.	207	92.4%	3.18	1.797
The opportunity to strengthen position among colleagues in the school.	205	91.5%	2.97	1.660
The possibility of a transfer to another type of school, institution or authority.	204	91.1%	2.83	1.664

*Source: Author's own processing*



# Chart 23

*Factors influencing motivation for further education (categorised responses)*



*Source: Author's own processing*

As part of the research, there was also an interest in what teachers perceive as barriers to further education. The following information was obtained from the participants. Health is not a barrier to further education for 82.2% (high level of consent) of the respondents and age is not a barrier for 74.4%. Almost two thirds of the respondents (63.4%) expressed a low level of consent that organisational issues at school would be a complication for further education, only 5.5% admitted this eventuality to a high degree. Two-fifths of teachers agreed to a high degree and more than one-third to a medium degree, that further educational events usually conflict with their schedule. Similarly, half of them (50.7%) expressed low and 40.5% moderate levels of consent with the statement that they are not too busy and have time for further education. Almost three-fifths of the respondents expressed a low level of consent with obstacles related

to their family situation or personal troubles, while about one-tenth expressed a high level of consent.

**Table 27**

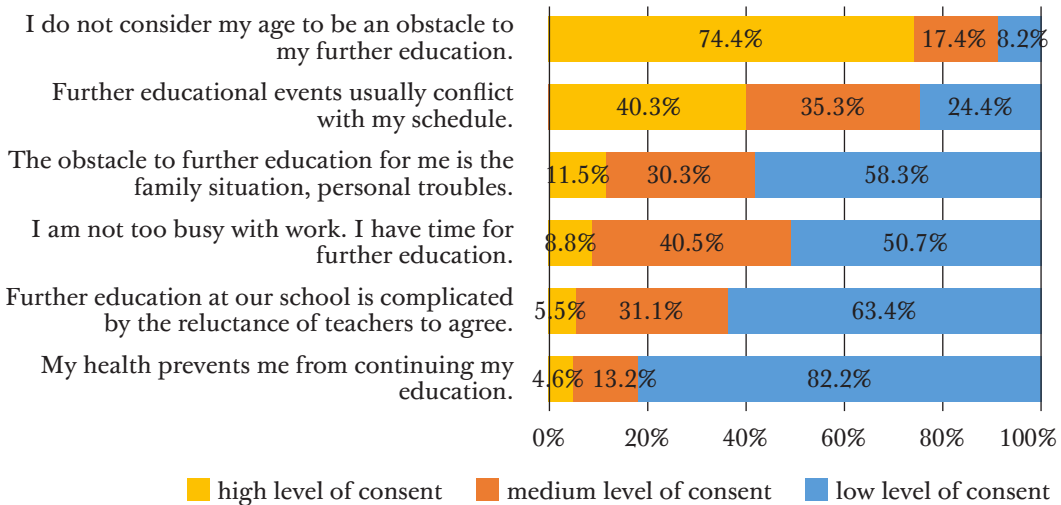
*Barriers to further teacher education*

Barriers to further teacher education	N	Relative frequency	Mean	Standard deviation
I do not consider my age to be an obstacle to my further education.	219	97.8%	5.05	1.43
Further educational events usually conflict with my schedule.	201	89.7%	3.9	1.623
I am not too busy with work. I have time for further education.	215	96.0%	2.63	1.357
The obstacle to further education for me is the family situation, personal troubles.	218	97.3%	2.42	1.483
Further education at our school is complicated by the reluctance of teachers to agree.	183	81.7%	2.25	1.322
My health prevents me from continuing my education.	219	97.8%	1.65	1.173

*Source: Author's own processing*

**Chart 24**

*Barriers to further teacher education (categorised responses)*



*Source: Author's own processing*

## 6.5 Analysis of factors influencing teachers' motivation for further education

In this chapter the answer to *sub-research question 2* is presented. In addition to the items mentioned so far, the questionnaire also contained items (identifiers) related to motivational factors that may influence teachers' decisions to pursue further education. Thus, respondents were asked to take into account everything that involves the teacher's actions during the school year when assessing these influences and to make as accurate an estimate as possible of which of the factors offered may or may not have an appropriate influence on them. In processing the data, responses were recorded on a numerical scale (1-6) indicating the degree of influence of each factor (1=least influence, 6=most influence).

For each of the indicators, in the first stage, the *mean ratings* and *relative frequencies* of responses in categorical form were calculated. A similar procedure to that used in the previous subchapter was used to *categorise the responses*. The two extreme values 1 and 2 were combined to form the "low impact" variant, while values 3 and 4 reflect the "medium impact" variant and variants 5 and 6 were merged into the 'high impact' variant. In the second stage, these values were ranked in descending order of the importance respondents attributed to each indicator and compared the mean ratings by each occupational demographic characteristic. The results of these comparisons can be seen in Tables 28 to 32. Using the relative frequency values of the "high influence" option, Charts 25 to 29 were constructed. To determine *the statistical significance* (Sig.) between the mean ratings of each factor within the categories of the independent variables, a conformity test between the parameters of the two alternative distributions and a one-way analysis of variance (ANOVA) was used.

There was little difference between the ratings of respondents in the age categories across the factors. Respondents from the youngest age category "up to 35 years", unlike the others, ranked *the possibility to implement the acquired knowledge from further education in teaching* as the most important motivational factor. For older respondents, the dominant motivating factor is *the opportunity to learn something new in general*. *The opportunity to gain new knowledge about problem solving in working with students* is a more important factor in the ranking for older teachers than for younger teachers.

More pronounced and statistically significant differences within age were evident in the mean ratings for the factors *introduction of a career system into education*, *the possibility to teach another subject* and *the possibility of a transfer to another type of school or institution*, where an inverse relationship between increasing age and the decreasing influence of these factors on motivation for further education were

found. These differences were specifically related to the extreme categories – that is, “under 35” and “56 and over”.

There was little difference between “men” and “women” in the ranking of individual factors. i.e., individual factors were rated as comparably important for both categories. Male respondents ranked *the opportunity to implement the knowledge acquired in further education in teaching* as the second most important motivational factor, whereas women ranked it third. Although the dominant motivational factor for both genders remains *the opportunity to learn something new in general*, a statistically significant difference was found here, with “women” ranking this factor more important than “men”.

Similarly, in the case of two other factors – *the possibility of gaining new knowledge about problem solving when working with students* and *the opportunity to meet colleagues and exchange experiences*, “women” attribute a statistically significantly greater influence to these factors, with the limit of statistical significance oscillating at the 1% level for all the above-mentioned differences.

There were no differences between the rankings of the dominant factor *the opportunity to learn something new in general*, within the variable *length of experience*. The respondents ranked the factors offered in order without significant differences. A statistically significant difference was found in the first three places in the mean ratings for the factor *opportunity to implement the acquired knowledge in teaching*, where respondents with teaching experience of “16–25 years” gave this factor on average less influence than respondents in the other categories, especially those with experience of “up to 5 years”. On the lower ranks, some significant differences for the factors of *the introduction of a career system in education* and *the opportunity to teach another subject* were found and the author concluded that as the length of teaching experience increases, these factors lose their motivational charge for teachers to further their education.

There were slight differences between the ratings of the respondents from the two groups of teachers divided according to *the teacher’s field of expertise* with respect to the ranking of the individual factors. Individual factors were rated as comparably important for both vocational and general education teachers. The dominant factor remained in first place in both cases. “Teachers of general education subjects” report that the second most important motivation for further education is *the opportunity to implement the acquired knowledge in teaching*, in contrast to “teachers of vocational subjects” who report the second most important motivation is *the opportunity to gain new knowledge of problem solving when working with students*. This difference also emerged as statistically significant when comparing the means.

The other two statistically highly significant differences in mean scores were for the factors *the possibility to teach another subject* and *the opportunity to strengthen position among colleagues in the school*. These differences, reaching the 1‰ level of significance, indicate that the factors mentioned are more important for “teachers of vocational subjects” in terms of motivation for further education than for “teachers of general education subjects”.

In the ranking of individual factors influencing teachers’ motivation for further education, there were obligatory slight differences between teachers from grammar schools and secondary vocational schools. Respondents from grammar schools ranked the previously dominant factor of *generally being able to learn something new* second. Thus, they placed the motivational factor of *the opportunity to implement the acquired knowledge from further education in teaching* in the first place, which teachers from secondary vocational schools placed third. This difference was subsequently also reflected in the mean rating as statistically significant.

The following statistically significant differences were also found between “grammar school teachers” and “teachers from secondary vocational schools”: *the possibility of being reimbursed by the employer for education fees; the possibility of teaching a different subject; and the possibility of moving to a different type of school. institution or authority* are among the factors that “teachers from secondary vocational schools” consider on average more motivating than “teachers from grammar schools”.

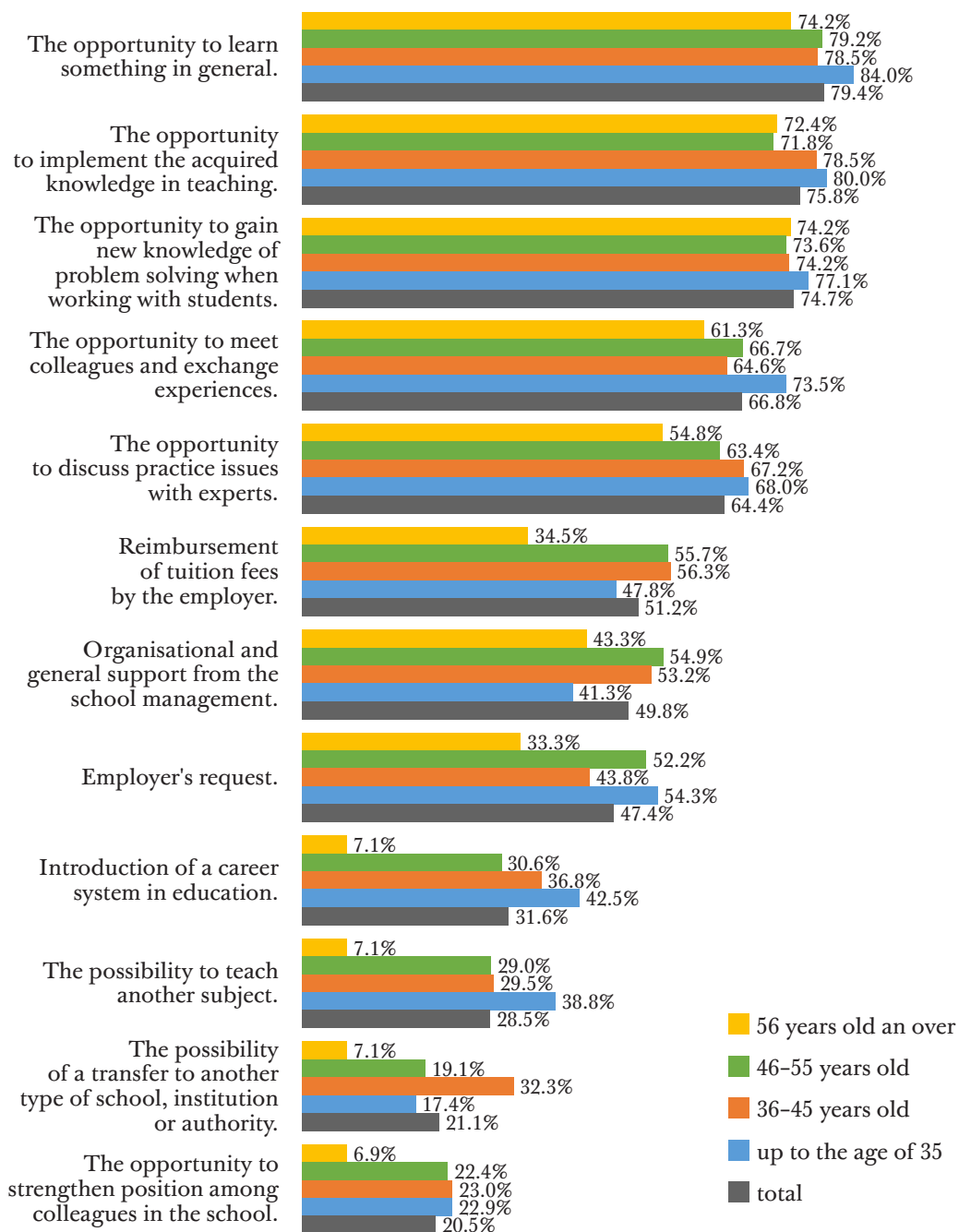
**Table 28***Comparison of motivational factor influence ratings by age (rank, mean)*

Assessing the impact of motivational factors	Rank within category/mean value					Sig.
	Total	up to 35 years	36-45 years old	46-55 years old	56 years and over	
The opportunity to learn something in general.	1.	2.	1.	1.	1.	0.947
	(5.19)	(5.22)	(5.23)	(5.14)	(5.16)	
The opportunity to implement the acquired knowledge in teaching.	2.	1.	2.	3.	3.	0.158
	(5.02)	(5.24)	(5.12)	(4.83)	(4.9)	
The opportunity to gain new knowledge of problem solving when working with students.	3.	3.	3.	2.	2.	0.514
	(5.01)	(5.15)	(5.09)	(4.88)	(4.97)	
The opportunity to discuss practice issues with experts.	4.	5.	4.	4.	5.	0.307
	(4.79)	(4.92)	(4.88)	(4.79)	(4.39)	
The opportunity to meet colleagues and exchange experiences.	5.	4.	5.	5.	4.	0.559
	(4.77)	(4.96)	(4.80)	(4.71)	(4.58)	
Organisational and general support from the school management.	6.	7.	6.	6.	6.	0.289
	(4.37)	(4.20)	(4.56)	(4.44)	(4.07)	
Reimbursement of tuition fees by the employer.	7.	8.	7.	7.	8.	0.060
	(4.19)	(4.11)	(4.38)	(4.36)	(3.48)	
Employer's request.	8.	6.	8.	8.	7.	0.266
	(4.11)	(4.37)	(4.14)	(4.1)	(3.67)	
Introduction of a career system in education.	9.	9.	9.	9.	9.	<b>0.013</b>
	(3.47)	<b>(3.90)</b>	(3.68)	(3.37)	<b>(2.64)</b>	
The possibility to teach another subject.	10.	10.	10.	11.	11.	<b>0.004</b>
	(3.18)	<b>(3.76)</b>	(3.33)	(3.01)	<b>(2.29)</b>	
The opportunity to strengthen position among colleagues in the school.	11.	12.	12.	10.	10.	0.133
	(2.97)	(2.90)	(3.16)	(3.12)	(2.34)	
The possibility of a transfer to another type of school, institution or authority.	12.	11.	11.	12.	12.	<b>0.016</b>
	(2.83)	(3.04)	<b>(3.23)</b>	(2.62)	<b>(2.14)</b>	

*Source: Author's own processing*

**Chart 25**

*Comparison of the rating of the influence of motivational factors by age*



Source: Author's own processing

Note: relative frequencies of categorised responses – “high impact” option



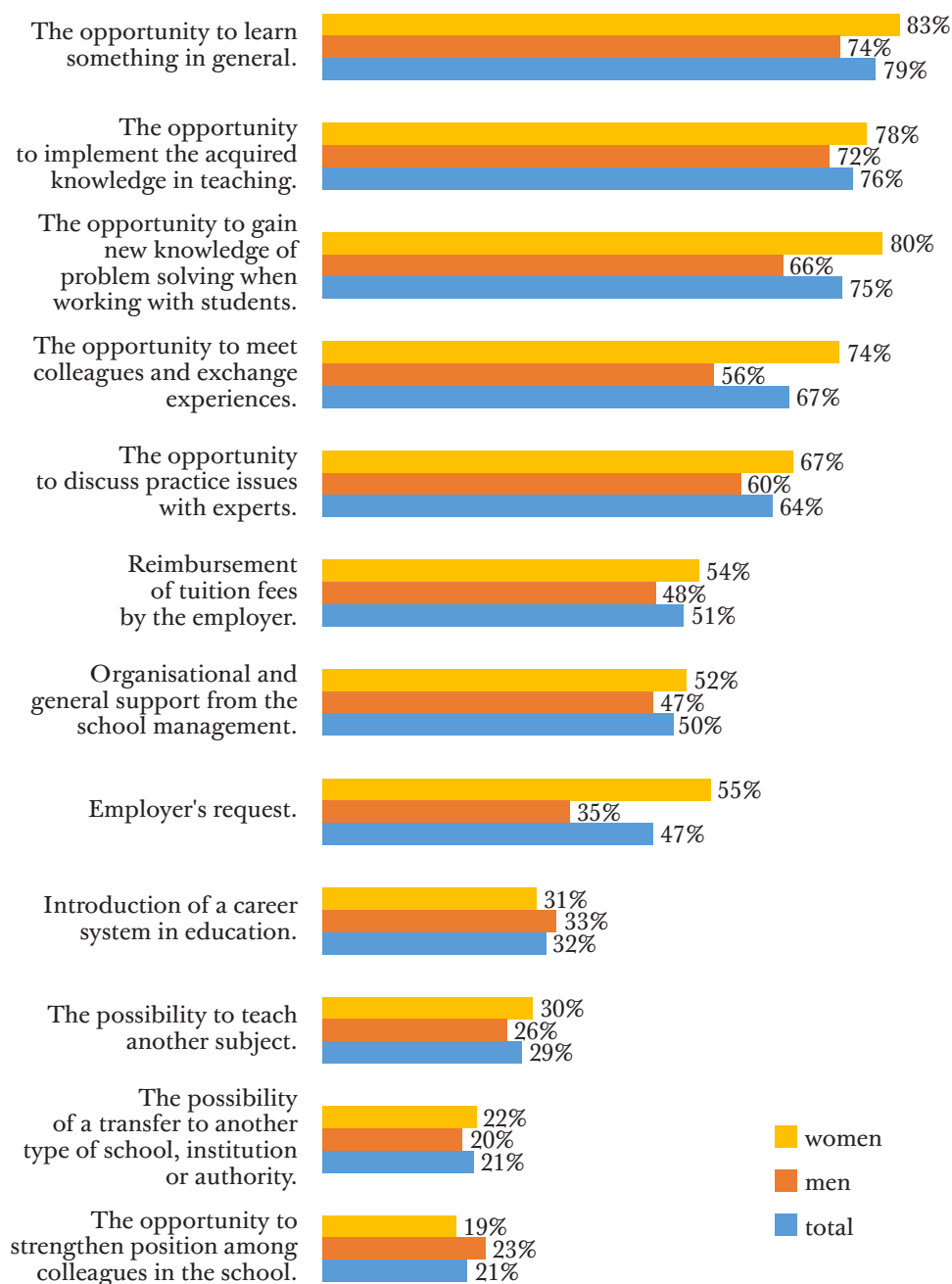
**Table 29***Comparison of motivational factor influence ratings by gender (rank, mean)*

<b>Assessing the impact of motivational factors</b>	<b>Total</b>	<b>Men</b>	<b>Women</b>	<b>Sig.</b>
<b>The opportunity to learn something in general.</b>	1.	1.	1.	<b>0.012</b>
	(5.19)	(4.98)	(5.32)	
<b>The opportunity to implement the acquired knowledge in teaching.</b>	2.	2.	3.	0.123
	(5.02)	(4.88)	(5.11)	
<b>The opportunity to gain new knowledge of problem solving when working with students.</b>	3.	3.	2.	<b>0.019</b>
	(5.01)	(4.8)	(5.15)	
<b>The opportunity to discuss practice issues with experts.</b>	4.	4.	5.	0.202
	(4.79)	(4.64)	(4.88)	
<b>The opportunity to meet colleagues and exchange experiences.</b>	5.	5.	4.	<b>0.000</b>
	(4.77)	(4.4)	(5.01)	
<b>Organisational and general support from the school management.</b>	6.	6.	6.	0.254
	(4.37)	(4.23)	(4.45)	
<b>Reimbursement of tuition fees by the employer.</b>	7.	7.	8.	0.465
	(4.19)	(4.09)	(4.25)	
<b>Employer's request.</b>	8.	8.	7.	0.074
	(4.11)	(3.88)	(4.26)	
<b>Introduction of a career system in education.</b>	9.	9.	9.	0.385
	(3.47)	(3.59)	(3.38)	
<b>The possibility to teach another subject.</b>	10.	11.	10.	0.760
	(3.18)	(3.14)	(3.21)	
<b>The opportunity to strengthen position among colleagues in the school.</b>	11.	10.	11.	0.159
	(2.97)	(3.17)	(2.84)	
<b>The possibility of a transfer to another type of school, institution or authority.</b>	12.	12.	12.	0.520
	(2.83)	(2.93)	(2.77)	

*Source: Author's own processing*

## Chart 26

*Comparison of the rating of the influence of motivational factors by gender*



*Source: Author's own processing*

Note: relative frequencies of categorised responses – “high impact” option

**Table 30**

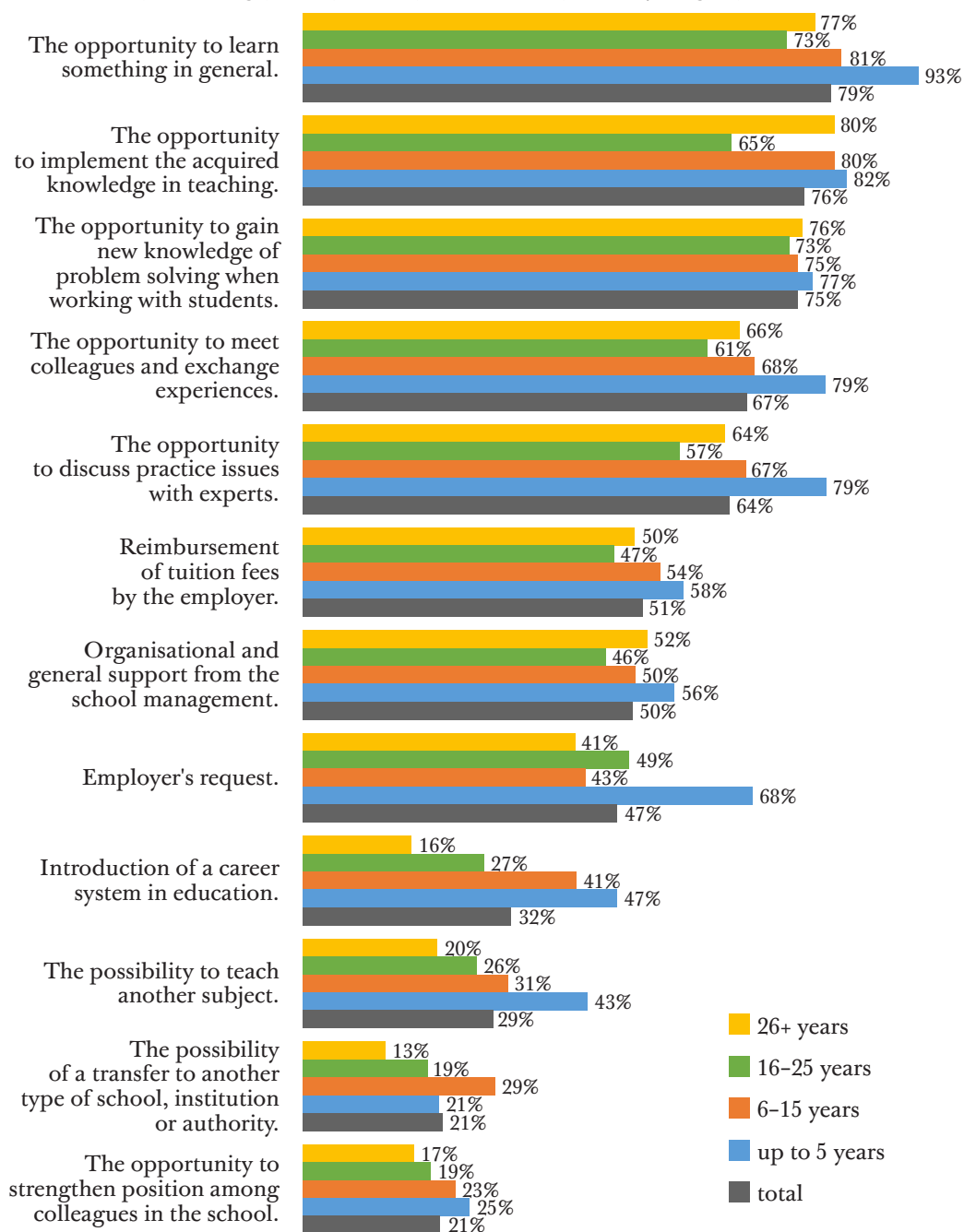
*Comparison of ratings of the impact of motivational factors by length of experience (rank, mean)*

Assessing the impact of motivational factors	Total	Up to 5 years	6 -15 years	16 -25 years	26 years and over	Sig.
The opportunity to learn something in general.	1.	1.	1.	1.	1.	0.144
	(5.19)	(5.43)	(5.24)	(4.97)	(5.26)	
The opportunity to implement the acquired knowledge in teaching.	2.	3.	2.	3.	2.	<b>0.016</b>
	(5.02)	<b>(5.29)</b>	(5.20)	<b>(4.68)</b>	(5.08)	
The opportunity to gain new knowledge of problem solving when working with students.	3.	2.	3.	2.	3.	0.397
	(5.01)	(5.31)	(5.01)	(4.88)	(5.04)	
The opportunity to discuss practice issues with experts.	4.	5.	5.	4.	5.	0.468
	(4.79)	(5.04)	(4.90)	(4.64)	(4.69)	
The opportunity to meet colleagues and exchange experiences.	5.	4.	4.	5.	4.	0.156
	(4.77)	(5.07)	(4.93)	(4.54)	(4.72)	
Organisational and general support from the school management.	6.	7.	6.	6.	6.	0.659
	(4.37)	(4.40)	(4.47)	(4.20)	(4.44)	
Reimbursement of tuition fees by the employer.	7.	8.	7.	8.	7.	0.731
	(4.19)	(4.19)	(4.36)	(4.13)	(4.04)	
Employer's request.	8.	6.	8.	7.	8.	0.058
	(4.11)	(4.76)	(4.07)	(4.17)	(3.76)	
Introduction of a career system in education.	9.	9.	9.	9.	9.	<b>0.007</b>
	(3.47)	<b>(4.00)</b>	(3.79)	(3.47)	<b>(2.77)</b>	
The possibility to teach another subject.	10.	10.	10.	11.	11.	<b>0.003</b>
	(3.18)	<b>(4.00)</b>	(3.42)	(3.09)	<b>(2.53)</b>	
The opportunity to strengthen position among colleagues in the school.	11.	12.	12.	10.	10.	0.544
	(2.97)	(3.07)	(3.03)	(3.10)	(2.67)	
The possibility of a transfer to another type of school, institution or authority.	12.	11.	11.	12.	12.	0.070
	(2.83)	(3.13)	(3.10)	(2.81)	(2.32)	

*Source: Author's own processing*

## Chart 27

*Comparison of the rating of the influence of motivational factors by length of experience*



Source: Author's own processing

Note: relative frequencies of categorised responses – “high impact” option

**Table 31**

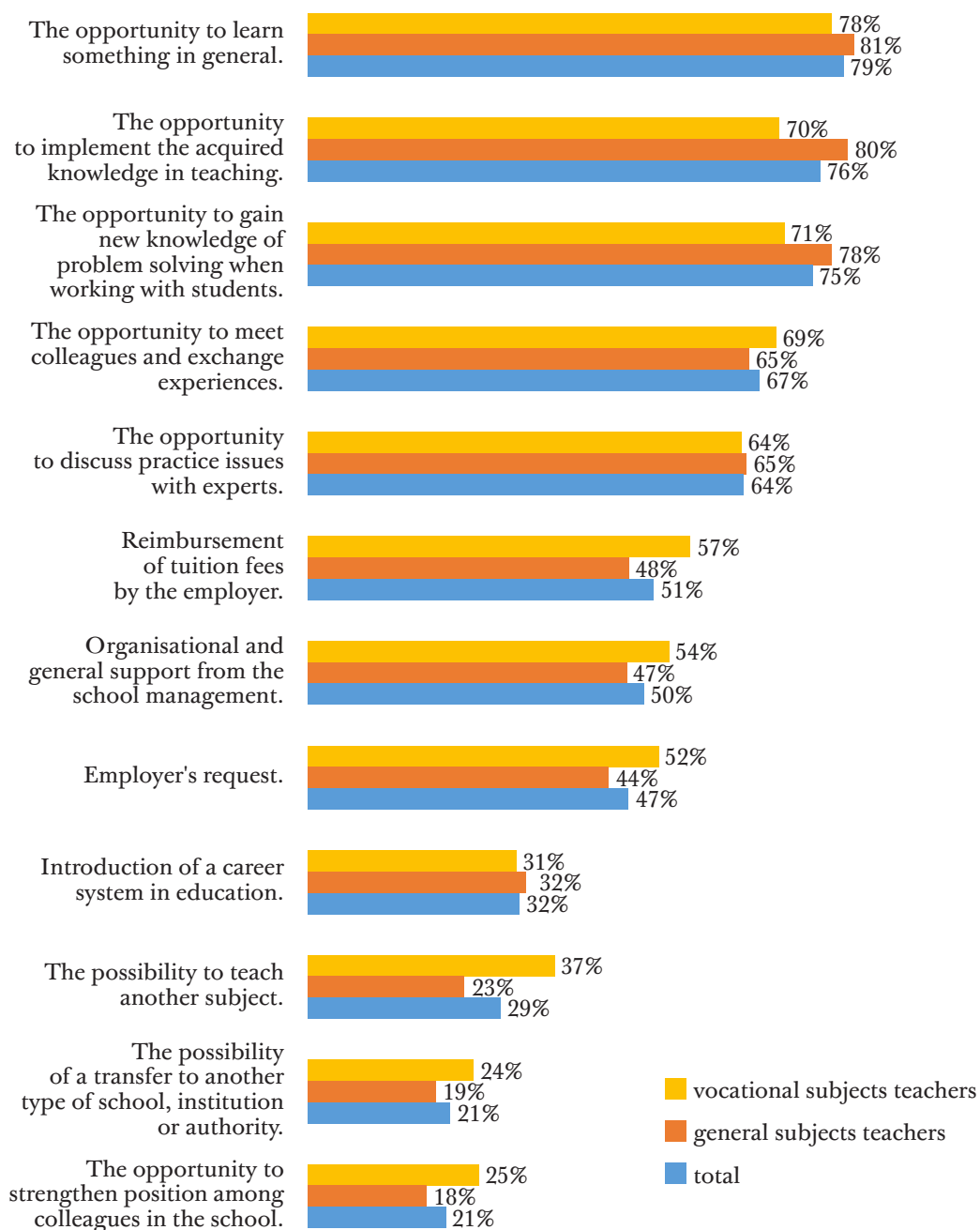
*Comparison of ratings of the influence of motivational factors by teacher's professional field (rank, mean)*

Assessing the impact of motivational factors	Total	Teachers of general education subjects	Teachers of vocational subjects	Sig.
The opportunity to learn something in general.	1.	1.	1.	0.604
	(5.19)	(5.22)	(5.15)	
The opportunity to implement the acquired knowledge in teaching.	2.	2.	3.	<b>0.020</b>
	(5.02)	(5.16)	(4.81)	
The opportunity to gain new knowledge of problem solving when working with students.	3.	3.	2.	0.090
	(5.01)	(5.12)	(4.86)	
The opportunity to discuss practice issues with experts.	4.	5.	4.	0.839
	(4.79)	(4.77)	(4.81)	
The opportunity to meet colleagues and exchange experiences.	5.	4.	5.	0.728
	(4.77)	(4.80)	(4.74)	
Organisational and general support from the school management.	6.	6.	6.	0.810
	(4.37)	(4.35)	(4.40)	
Reimbursement of tuition fees by the employer.	7.	7.	7.	0.216
	(4.19)	(4.07)	(4.35)	
Employer's request.	8.	8.	8.	0.165
	(4.11)	(3.99)	(4.29)	
Introduction of a career system in education.	9.	9.	10.	0.519
	(3.47)	(3.40)	(3.56)	
The possibility to teach another subject.	10.	10.	9.	<b>0.000</b>
	(3.18)	(2.80)	(3.73)	
The opportunity to strengthen position among colleagues in the school.	11.	11.	11.	<b>0.006</b>
	(2.97)	(2.72)	(3.37)	
The possibility of a transfer to another type of school, institution or authority.	12.	12.	12.	0.130
	(2.83)	(2.69)	(3.05)	

*Source: Author's own processing*

**Chart 28**

*Comparison of the rating of the influence of motivational factors by the teacher's professional field*



*Source: Author's own processing*

Note: relative frequencies of categorised responses – “high impact” option

**Table 32***Comparison of ratings of the impact of motivational factors by type of school (rank, mean)*

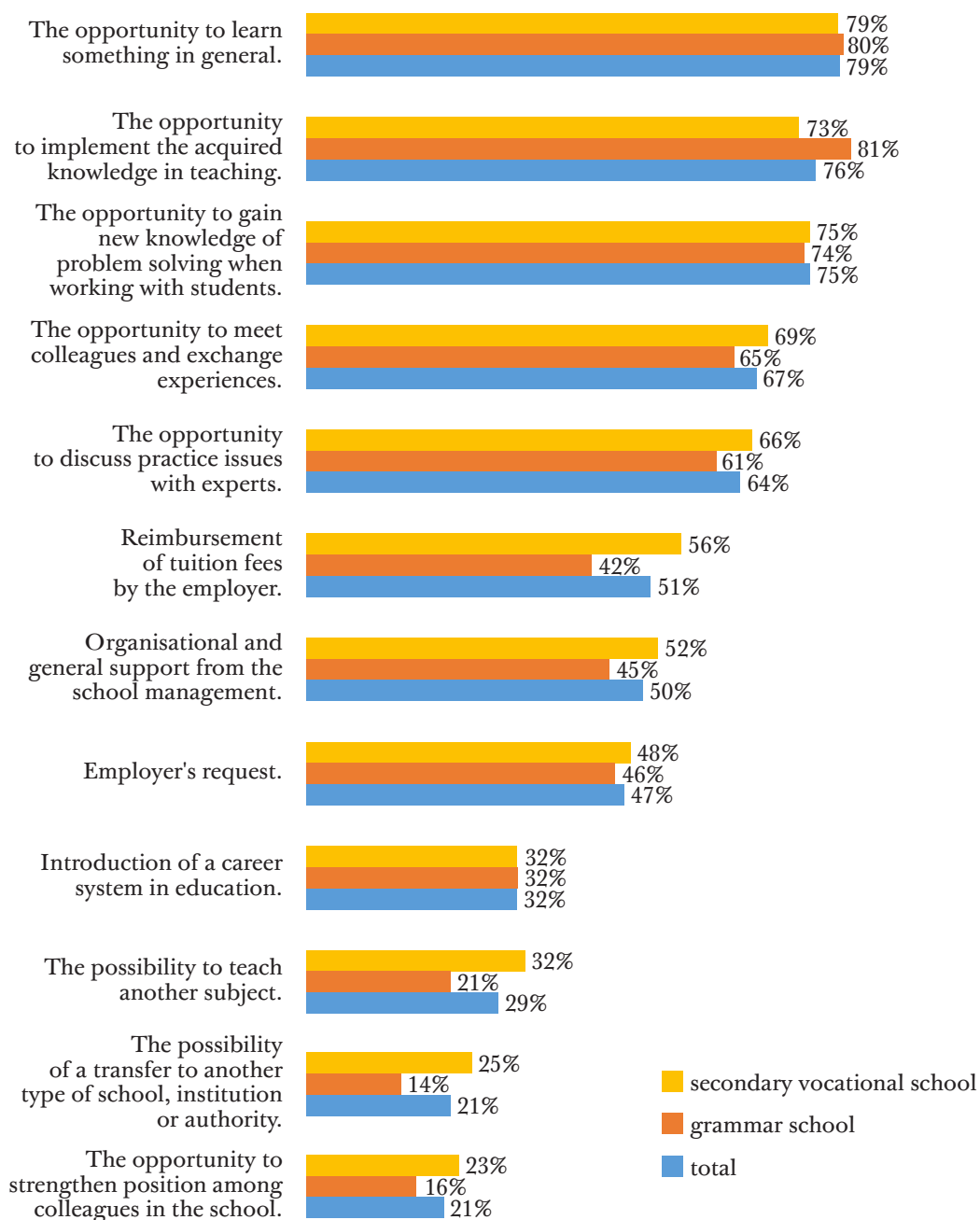
Assessing the impact of motivational factors	Total	Grammar school	Secondary vocational school	Sig.
The opportunity to learn something in general.	1.	2.	1.	0.876
	(5.19)	(5.20)	(5.18)	
The opportunity to implement the acquired knowledge in teaching.	2.	1.	3.	<b>0.021</b>
	(5.02)	(5.26)	(4.90)	
The opportunity to gain new knowledge of problem solving when working with students.	3.	3.	2.	0.691
	(5.01)	(5.05)	(4.99)	
The opportunity to discuss practice issues with experts.	4.	5.	4.	0.434
	(4.79)	(4.69)	(4.84)	
The opportunity to meet colleagues and exchange experiences.	5.	4.	5.	0.882
	(4.77)	(4.76)	(4.78)	
Organisational and general support from the school management.	6.	6.	6.	0.577
	(4.37)	(4.30)	(4.41)	
Reimbursement of tuition fees by the employer.	7.	8.	7.	<b>0.034</b>
	(4.19)	(3.86)	(4.36)	
Employer's request.	8.	7.	8.	0.294
	(4.11)	(3.96)	(4.19)	
Introduction of a career system in education.	9.	9.	9.	0.668
	(3.47)	(3.40)	(3.51)	
The possibility to teach another subject.	10.	11.	10.	<b>0.002</b>
	(3.18)	(2.65)	(3.46)	
The opportunity to strengthen position among colleagues in the school.	11.	10.	11.	0.117
	(2.97)	(2.73)	(3.11)	
The possibility of a transfer to another type of school, institution or authority.	12.	12.	12.	<b>0.026</b>
	(2.83)	(2.48)	(3.02)	

*Source: Author's own processing*



**Chart 29**

*Comparison of the rating of the influence of motivational factors by a type of school*



*Source: Author's own processing*

Note: relative frequencies of categorised responses – “high impact” option

## 6.6 Analysis of the relationship to further education

The aim of this section is to answer *sub-research question 3* and its related specific research questions. A research design has been developed in which we understand the construct of attitude towards further education as “the dependent variables”: *attitude towards further education, willingness to further education, activity and interest in further education, overall satisfaction with further education and dissatisfaction with the provision of further education*. In this case, “the independent variables” are professional demographic characteristics: *age, gender, length of teaching experience, teacher’s field of expertise, type of school*. The text of the following chapter presents the analytical process of developing each concept, which is analogous for all of them.

### 6.6.1 Sum indices and their operationalization

Attitudes, willingness, activity, satisfaction or dissatisfaction are not easily measurable variables. In order to answer the questions in a scientific way, selected indicators (questionnaire items) to determine each of them were used.

*The Attitude towards Further Education Index* was measured by three questions in the questionnaire:

- I consider lifelong learning to be an integral part of a teacher’s life (x1);
- I see further education as an essential part of my job (x2);
- I am convinced that further education of teachers influences the quality of their work (x3).

*The Willingness to Further Education Index* was measured by the following items in the questionnaire:

- I am willing to further my education (x4);
- I am willing to participate in further education in my spare time (x5);
- I am willing to contribute financially to my further education (x6).

We measured *the Activity and Interest in Further Education Index* with selected indicators:

- I follow current political, economic and cultural developments in the Czech Republic and abroad (x17);
- I follow new findings in my area of expertise. pedagogy and psychology (x18);
- I read professional literature, professional journals in the field of teaching (x19);
- I actively seek opportunities for further education (x20);
- I am working on the school’s continuing education plan (x21);
- I am getting ready for class (x25).

*Index Overall satisfaction with further education* was measured by the following questionnaire items:

- I have had positive experience with teacher educational events (x26);
- I am satisfied with the overall level of further educational events (x27);
- I am comfortable with the programme offerings of teacher training institutions (x28);
- The school management supports further education of teachers (x29);
- I can always put into practice the knowledge gained through further education (x30).

We measured *the Dissatisfaction with the offer of further education* with three indicators:

- The offer of further educational events is insufficient for teachers within my area of expertise (x37);
- At the moment, I have nowhere to study given the current offer of educational institutions (x38);
- Considering the content and form, I have not yet been interested in any of the further education offers (x39).

Before creating *sum indices* from the items, it had been tested whether the items indicated only one dimension using *exploratory factor analysis (principal components method)*. The table shows the *matrix of inter-correlations* of the individual indicators from which the sum indices are formed. It can be concluded that all the correlations between the items are positive and relatively strong, indicating that the items are uniform and that the indicators are related and consistent. The *sum indices* were then constructed from the indicators thus constructed and will be interpreted below.

The items used to indicate *attitudes towards further education* are internally consistent and refer to a single dimension. The reliability test was conducted through *Cronbach's alpha coefficient*<sup>45</sup>, which in the case of attitude towards further education took the value of 0.799, which is an adequate value for the use of factor analysis and their results. One factor was extracted under *willingness to further education*. The Cronbach's alpha in the test of the realism of the indicators acquired a value of 0.509, which is adequate for the use of factor analysis. For *the activity and interest in further education*, one factor was extracted, the magnitude of Cronbach's alpha for the reliability test of the indicators acquired a value of 0.665, which is a factor close to the 0.7 as the optimal threshold for the use of factor analysis. Also, no

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45 *Cronbach's alpha* is one of the most commonly used types of reliability. Reliability expresses whether we get similar results when the test is repeated. This reliability is based on the assumption that all items measuring one trait should have positive, sufficiently high correlations with each other.

more than one factor was extracted for *overall satisfaction with further education*. The magnitude of Cronbach's alpha in the reliability test for these indicators is 0.610, which is also a reasonable value. *Dissatisfaction with continuing education offerings* was measured by three indicators. Reliability of the questionnaire items through Cronbach's alpha and the value of 0.678 was found to be satisfactory. Thus, the variables used refer to one dimension and are internally consistent.

**Table 33**

*Matrix of inter-correlations of indicators of individual sum indices*

<b>Attitude towards further education</b>	x1	x2	x3			
x1	1					
x2	0.68	1				
x3	0.555	0.538	1			
<b>Willingness to further education</b>	x4	x5	x6			
x4	1					
x5	0.191	1				
x6	0.143	0.428	1			
<b>Activity and interest in further education</b>	x17	x18	x19	x20	x21	x25
x17	1					
x18	0.355	1				
x19	0.288	0.261	1			
x20	0.206	0.329	0.381	1		
x21	0.134	0.194	0.31	0.34	1	
x25	0.234	0.183	0.271	0.21	0.132	1
<b>Overall satisfaction with further education</b>	x26	x27	x28	x29	x30	
x26	1					
x27	0.546	1				
x28	0.261	0.375	1			
x29	0.159	0.148	0.18	1		
x30	0.252	0.189	0.168	0.192	1	
<b>Dissatisfaction with offer</b>	x37	x38	x39			
x37	1					
x38	0.462	1				
x39	0.292	0.491	1			

*Source: Author's own processing (SPSS)*

**Table 34**

*Results of exploratory factor analysis of the indicators of each summative index*

	<b>Factor</b>	<b>Intrinsic value</b>	<b>The Difference</b>	<b>Individual %</b>	<b>Cumulative %</b>
<b>Attitude towards further education</b>	Factor1	2.184	1.688	72.80%	72.80%
	Factor 2	0.497	0.177	16.60%	89.40%
	Factor 3	0.319		10.60%	100.00%
<b>Willingness to further education</b>	Factor 1	1.533	0.635	51.10%	51.10%
	Factor 2	0.898	0.33	29.90%	81.10%
	Factor 3	0.568		18.90%	100.00%
<b>Activity and interest in further education</b>	Factor1	2.296	1.324	38.30%	38.30%
	Factor2	0.972	0.123	16.20%	54.50%
	Factor3	0.849	0.168	14.20%	68.60%
	Factor4	0.681	0.033	11.40%	80.00%
	Factor5	0.648	0.094	10.80%	90.80%
	Factor6	0.554		9.20%	100.00%
<b>Overall satisfaction with further education</b>	Factor1	2.038	1.07	40.80%	40.80%
	Factor2	0.968	0.138	19.40%	60.10%
	Factor3	0.83	0.096	16.60%	76.70%
	Factor4	0.734	0.303	14.70%	91.40%
	Factor5	0.43		8.60%	100.00%
<b>Dissatisfaction with the offer</b>	Factor1	1.835	1.126	61.20%	61.20%
	Factor2	0.709	0.253	23.60%	84.80%
	Factor3	0.456		15.20%	100.00%

*Source: Author's own processing (SPSS)*

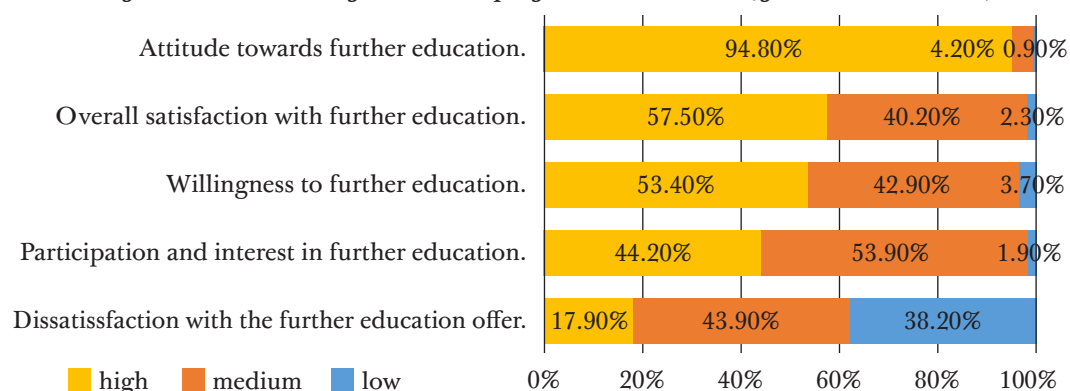
The sum indices were then calculated from the given indicators by summing the response options for each respondent for each item. For each respondent, this continuum was divided by the number of indicators (within each index). This provided the original continuum, which took values from 1 to 6 for each item. The resulting distribution of the attitude towards further education index was trichotomized according to the mean values into the following variants: “low attitude” (values 1–2.666), “medium attitude” (values 2.667–4.333) and “high attitude” (values 4.334–6).

The resulting distribution of the summed *index of attitude towards further education* was trichotomized into variants: negative, neutral and positive attitude. Low attitude was declared by approximately one respondent out of one hundred. Medium attitude is held by 4.2% and high attitude is held by almost 95% of the

respondents. After trichotomizing the continuum of mean values of *the willingness to further education index*, it was concluded that 3.7% of respondents have a low level of willingness, 42.9% have a medium level of willingness and 53.4% have a high level of willingness. Then, in the case of trichotomizing *the index of activity and interest in further education*, it was found that 53.9% of respondents are in the band of medium level of activity and interest and 44.2% are in the band of high level of activity and interest in further education. *The index of overall satisfaction with further education* has been trichotomized into low, medium and high levels of satisfaction. According to our findings, 57.5% of the teachers are highly satisfied, 40.2% are in the medium band and 2.3% of the participants in our study express low level of overall satisfaction. From the recapitulation of the trichotomized continuum of the distribution of *the dissatisfaction index with the continuing education offerings*, it was found that 38.2% of the respondents expressed a low level of dissatisfaction, 17.9% expressed a high level, but 43.9% expressed a medium level.

### Chart 30

*Measures of individual indices of “relationship to further education” (after trichotomization)*



Source: Author's own processing

If we were to rank the individual indices within the concept of “A teacher’s approach to further education” according to their mean highest scores (responses), then we would rank *attitude towards further education* (5.44) in first place, *overall satisfaction with further education* (4.41) in second place, *willingness to further education* (4.35) in third place, *participation and interest in further education* (4.23) in fourth place and *dissatisfaction with the offer of further education* (3.12) in last place.

## 6.6.2 Comparison of the mean values of the sum indices

This section of the monograph presents the characteristics of the level and distribution of indices of *attitude towards further education*, *willingness to further education*, *participation and interest in further education*, *overall satisfaction with further education*,

*dissatisfaction with the offer of further education* for each category of occupational demographic variables.

The mean values of the individual indices, standard deviation and number of respondents in each category are shown in Tables 35 to 39. The comparison of mean values between categories is shown graphically. The higher the value of the mean score, the higher the mean level of *attitude, willingness, participation and interest, overall satisfaction with further education* or *dissatisfaction with the offer of further education*.

The first variable is “age”. There are only slight differences between the mean ratings of *attitudes* towards further education across all age categories. The mean *willingness to further education* decreases with increasing age. In the age category “46–55 years” there was a change in the trend, with a decrease in *activity and interest in further education* with increasing age, only to increase again and then decrease. Respondents in the higher age categories are generally *more satisfied with further education*, which in turn is associated with declining *dissatisfaction with its offer*.

The table shows the mean values of each index in the “gender” categories. Women generally have more positive *attitude* towards further education, showing higher *willingness, participation* and overall *satisfaction*. Based on the results, women are also less *dissatisfied with the offer of further education* than men.

The third variable is “the length of teaching experience”. In Table 37 we can see the mean values of the indices divided into four categories in terms of the respondents’ length of experience. Teachers with longer experience have more positive *attitudes towards further education*, higher levels of *participation* and *satisfaction with further education*. Their colleagues with shorter experience are more *willing to undertake further education*, but at the same time more *dissatisfied with the offer of further education*.

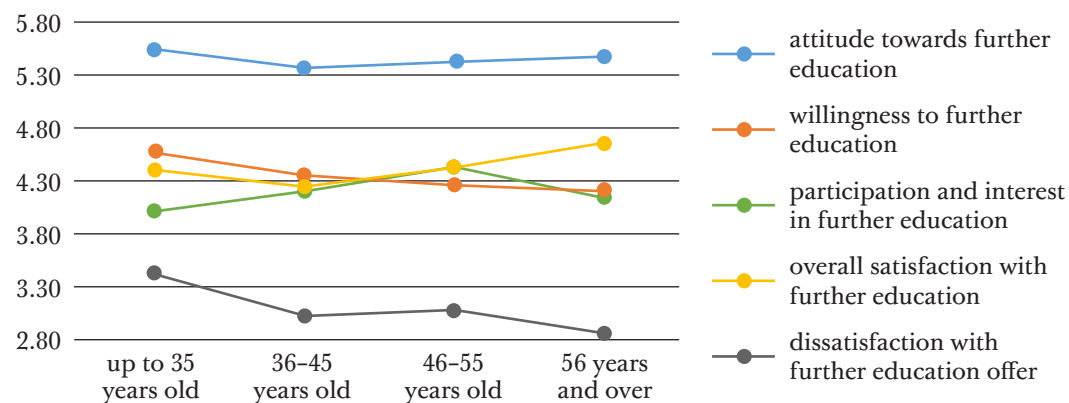
The fourth variable is “the professional field of the teacher”. Table 38 shows the mean values of each index according to whether they are “teachers of general education subjects” or “teachers of vocational subjects”. “N” denotes the number of respondents. It is clear from Table 38 that teachers do not differ in their *attitudes* and *overall satisfaction* in accordance with their professional field. Teachers of vocational subjects express on average slightly higher *willingness and participation in further education* and are more *dissatisfied with the offer of further education* compared to their colleagues teaching general education subjects.

Table 39 contains mean values of the above-described sum indices within the categories of the *school type* variable, i.e., the categories “grammar school” and “secondary vocational school”. We can see that the values of the *attitude, willingness, participation and satisfaction indices* do not differ significantly from the overall mean for both types of schools. A more significant difference is seen in the value of the index of *dissatisfaction with the offer of further education*, which is higher for “secondary vocational schools”.



**Table 35***Mean values of the sum indices by age*

Age	Statistics	Attitude	Willingness	Activity	Overall satisfaction	Dissatisfaction
up to 35 years	Mean	5.54	4.56	4.03	4.41	3.43
	Standard deviation	0.544	0.860	0.685	0.837	1.349
	N	52	52	52	52	46
36-45 years old	Mean	5.37	4.35	4.21	4.26	3.04
	Standard deviation	0.868	1.065	0.633	0.829	1.217
	N	66	66	67	66	66
46-55 years old	Mean	5.43	4.26	4.43	4.44	3.10
	Standard deviation	0.785	0.983	0.765	0.695	1.224
	N	73	73	73	72	70
56 years and over	Mean	5.47	4.22	4.18	4.65	2.88
	Standard deviation	0.656	0.932	0.675	0.709	1.249
	N	31	31	31	31	30
Total	Mean	5.44	4.35	4.23	4.41	3.12
	Standard deviation	0.744	0.976	0.708	0.778	1.257
	N	222	222	223	221	212

*Source: Author's own processing***Chart 31***Mean values of the sum indices by age**Source: Author's own processing*

**Table 36**

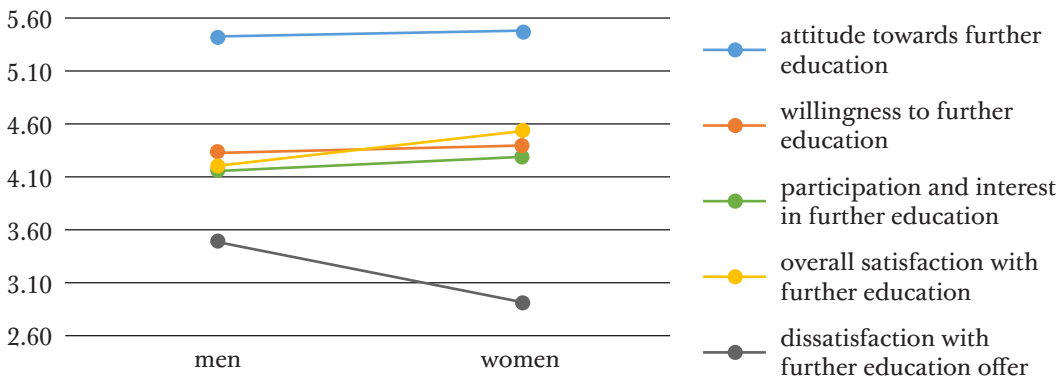
*Mean values of sum indices by gender*

Gender	Statistics	Attitude	Willingness	Participation	Overall satisfaction	Uncomfortableness
<b>Men</b>	Mean	5.41	4.30	4.15	4.21	3.47
	Standard deviation	0.800	0.983	0.776	0.801	1.239
	N	87	87	88	86	82
<b>Women</b>	Mean	5.46	4.38	4.29	4.54	2.91
	Standard deviation	0.707	0.974	0.659	0.737	1.225
	N	135	135	135	135	130
<b>Total</b>	Mean	5.44	4.35	4.23	4.41	3.12
	Standard deviation	0.744	0.976	0.708	0.778	1.257
	N	222	222	223	221	212

*Source: Author's own processing*

**Chart 32**

*Mean values of the sum indices by gender*



*Source: own processing (SPSS)*

**Table 37**

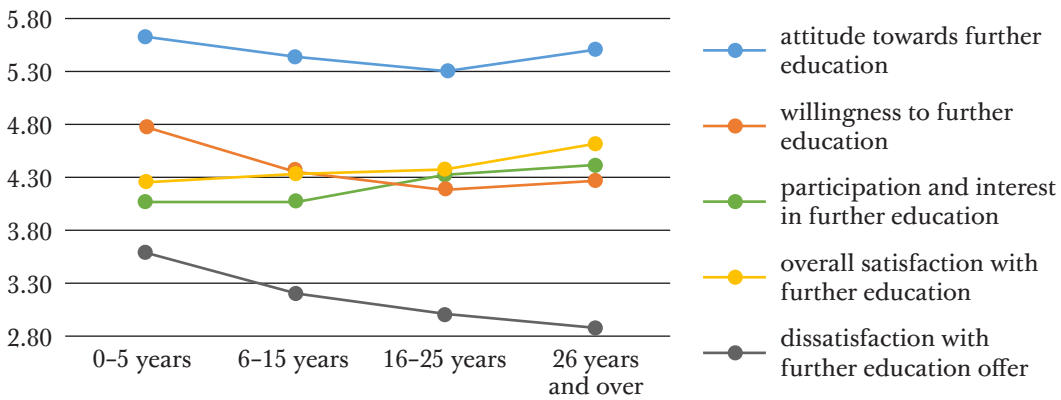
*Mean values of the sum indices by length of teaching experience*

Length of teaching experience	Statistics	Attitude	Willingness	Activity	Overall satisfaction	Dissatisfaction
0-5 years	Mean	5.63	4.80	4.08	4.27	3.61
	Standard deviation	0.516	0.777	0.776	0.972	1.456
	N	28	28	28	28	24
6-15 years	Mean	5.44	4.38	4.07	4.34	3.22
	Standard deviation	0.648	0.946	0.631	0.857	1.261
	N	74	74	74	74	72
16-25 years	Mean	5.30	4.19	4.33	4.37	3.02
	Standard deviation	0.969	1.049	0.703	0.670	1.153
	N	67	67	68	66	64
26 years and over	Mean	5.53	4.27	4.42	4.62	2.89
	Standard deviation	0.616	0.967	0.729	0.642	1.240
	N	53	53	53	53	52
Total	Mean	5.44	4.35	4.23	4.41	3.12
	Standard deviation	0.744	0.976	0.708	0.778	1.257
	N	222	222	223	221	212

*Source: Author's own processing*

**Chart 33**

*Mean values of the sum indices by length of teaching experience*



*Source: Author's own processing*

**Table 38**

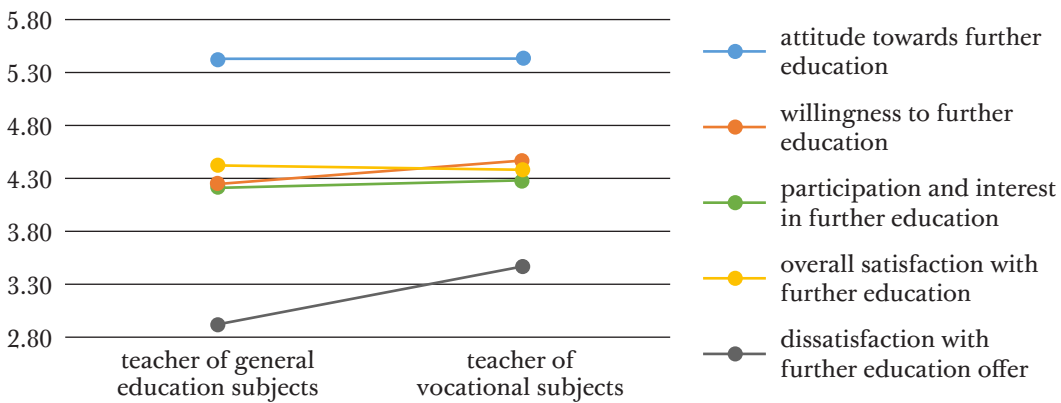
*Mean values of sum indices by teacher's professional field*

Teacher's professional field	Statistics	Attitude	Willingness	Activity	Overall satisfaction	Dissatisfaction
Teachers of general education subjects	Mean	5.44	4.26	4.20	4.42	2.90
	Standard deviation	0.803	1.066	0.719	0.728	1.213
	N	131	131	131	130	126
Teachers of vocational subjects	Mean	5.45	4.49	4.28	4.39	3.46
	Standard deviation	0.652	0.817	0.695	0.848	1.253
	N	91	91	92	91	86
Total	Mean	5.44	4.35	4.23	4.41	3.12
	Standard deviation	0.744	0.976	0.708	0.778	1.257
	N	222	222	223	221	212

*Source: Author's own processing*

**Chart 34**

*Mean values of sum indices by type of teacher*



*Source: Author's own processing*

**Table 39**

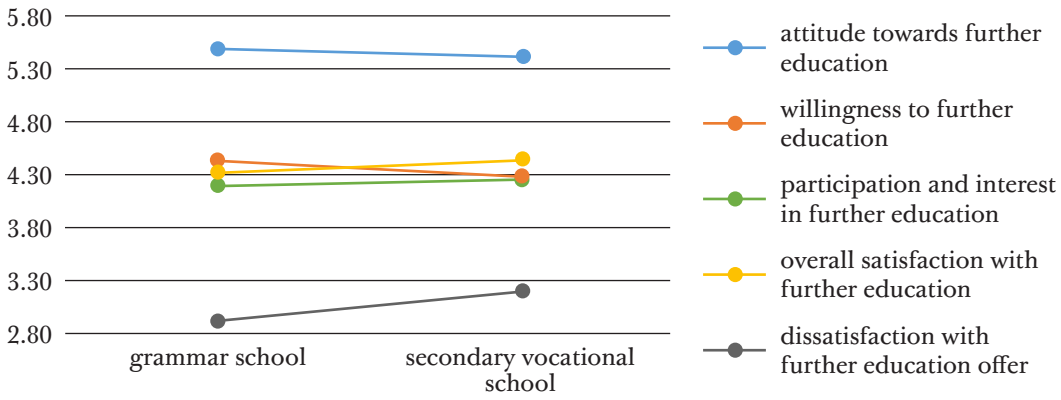
*Mean values of the sum indices by the school type*

School type	Statistics	Attitude	Willing-ness	Activity	Overall satisfaction	Dissatis-faction
Grammar school	Mean	5.49	4.44	4.20	4.34	2.92
	Standard deviation	0.932	1.078	0.744	0.811	1.255
	N	74	74	74	73	69
Secondary vocational school	Mean	5.42	4.30	4.25	4.44	3.22
	Standard deviation	0.631	0.921	0.692	0.761	1.251
	N	148	148	149	148	143
Total	Mean	5.44	4.35	4.23	4.41	3.12
	Standard deviation	0.744	0.976	0.708	0.778	1.257
	N	222	222	223	221	212

*Source: Author's own processing*

**Chart 35**

*Mean values of the sum indices by type of school*



*Source: own processing (SPSS)*

## 6.7 Statistical analysis of teachers' attitudes to further education

In this section, the answers to *sub-research question 4* and related specific research questions are being sought. The statistical testing was used to answer the questions. A research design has been developed in which the construct attitude towards further education is understood as the dependent variable summative indices: *attitude towards further education, willingness to further education, participation and interest in further education, overall satisfaction with further education and dissatisfaction with the offer of further education*. In this case, the independent variables are professional demographic characteristics: *age, gender, length of teaching experience, teacher's professional field, type of school*.

The first step in statistical testing was to formulate a *null* or *alternative hypothesis*<sup>46</sup> regarding a parameter of the distribution of a variable in the population (e.g., mean, median). After establishing a *significance level*<sup>47</sup> (0.05), a test for differences using test statistics was conducted, which use so-called *parametric* or *nonparametric* methods. In the statistical processing, exploratory data analysis was performed and assumptions for the use of relevant statistical methods were verified. A *two-sample t-test* for two independent samples was used for those variables that are dichotomously distributed (*gender, teacher's professional field or type of school*). For those variables that are divided into three or more categories (*age, years of experience*), a *one-way analysis of variance*<sup>48</sup> (ANOVA) was used. In the case of small sets or extremely asymmetric distributions, more stringent significance levels (e.g., 0.01) or non-parametric statistical methods were used; in this case *the Mann-Whitney test* (for two groups) or *the Kruskal-Wallis test* (for three or more groups). If the hypothesis

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46 "The null hypothesis ( $H_0$ ) is a statement that usually declares "no difference" between groups. The alternative hypothesis ( $H_A$ ) refers to a situation where the null hypothesis does not hold and is usually expressed as the existence of a difference between groups in a population or the existence of a relationship between variables" (Hendl, 2004, p. 176).

47 The significance level ( $\alpha$ ) is the probability of rejecting the null hypothesis even though it is true. Ronald Fisher introduced a 5% (or 1%) significance level into statistics in the 1930s with his recommendation. This approach has its positives and negatives, as well as supporters and opponents – see Soukup (2010).

48 Analysis of Variance (ANOVA) was developed by R. A. Fisher at the beginning of the 20<sup>th</sup> century. The simplest case is the analysis of variance of simple classification, where we analyse the effect of one factor (independent variable) on the dependent variable. The basic statistic in analysis of variance is to determine the statistical significance of differences in the means of several samples. If the means are not statistically significantly different, we conclude that the factor(s) has no effect on the dependent variable. A one-factor ANOVA compares the means of two or more levels of factor A or columns in a data matrix to determine whether at least one column mean differs from the others. Statistical significance is tested by F-test such that  $H_0$  says "All means are the same" and  $H_1$  says "At least one mean differs from the others" (Hendl, 2012).

of agreement of means in more than two sets was rejected at the chosen level of significance, multiple comparison tests using *LSD*, *Scheffé*, *Bonferroni* or *Games-Howell methods* were used to detect differences in *post-hoc* tests (Budíková, Králová & Maroš, 2010). Statistical analysis of the data was carried out in the statistical data processing program IBM SPSS Statistics version 21. Due to the scope of the following text, in search for answers to specific research questions, the statistical (operational, working) hypotheses in the form of *alternative hypotheses* (H1 – H25) – i.e., in the form of “there is a difference” have been formulated

## 6.7.1 Age

**H1:** *Younger teachers have more positive attitude towards further education than older teachers.*

The hypothesis *was not confirmed*. The value of the test statistic  $F = 0.561$ , the p-value for the test of agreement of means in sets 1–4 is 0.641 ( $\alpha^* = 0.641 > \alpha = 0.05$ ). Younger teachers do not differ from older teachers in their attitudes towards further education.

**H2:** *Younger teachers are more willing to further their education than older teachers.*

The hypothesis *was not confirmed*. The value of the test statistic  $F = 1.197$ , the p-value for the test of agreement of means in sets 1–4 is 0.312 ( $\alpha^* = 0.312 > \alpha = 0.05$ ). Younger teachers do not differ from older teachers in their willingness to undertake further education.

**H3:** *Younger teachers are more active and interested in further education than older teachers.*

The hypothesis *was confirmed*. The value of the test statistic  $F = 3.610$ , the p-value for the test of agreement of means in sets 1–4 is 0.014 ( $\alpha^* = 0.014 < \alpha = 0.05$ ). Younger teachers differ from older teachers in their activity and interest in further education. Teachers in the 46–55 age group are the most active and interested, while the group under 35 is the least active.

**H4:** *Overall, younger teachers are more satisfied with further education than older teachers.*

The hypothesis *was not confirmed*. The value of the test statistic  $F = 1.863$ , the p-value for the test of agreement of means in sets 1–4 is 0.137 ( $\alpha^* = 0.137 > \alpha = 0.05$ ). Younger teachers do not differ from older teachers in overall satisfaction with further education.

**H5:** *Younger teachers are more dissatisfied with the offer of further education than older teachers.*

The hypothesis *was not confirmed*. The value of the test statistic  $F = 1.433$ , the p-value for the test of agreement of means in sets 1–4 is 0.234 ( $\alpha^* = 0.234 > \alpha = 0.05$ ). Younger teachers do not differ from older teachers in their dissatisfaction with continuing education offerings.



## 6.7.2 Gender

**H6:** *Women in the teaching profession have more positive attitude towards further education than men.*

The hypothesis *was not confirmed*. The t-value for the test statistic is  $t = -0.480$  and the p-value for the test of the agreement of means in sets 1 and 2 is 0.632 ( $\alpha^* = 0.632 > \alpha = 0.05$ ). Female teachers do not differ from male teachers in their attitudes towards further education.

**H7:** *Women in the teaching profession are more willing to further their education than men.*

The hypothesis *was not confirmed*. The t-value of the test statistic is  $t = -0.610$  and the p-value for the test of agreement of means in sets 1 and 2 is 0.543 ( $\alpha^* = 0.543 > \alpha = 0.05$ ). Female teachers do not differ from male teachers in their willingness to undertake further education.

**H8:** *Women in the teaching profession are more active and interested in further education than men.*

The hypothesis *was not confirmed*. The t-value of the test statistic is  $t = -1.403$  and the p-value for the test of agreement of means in sets 1 and 2 is 0.162 ( $\alpha^* = 0.162 > \alpha = 0.05$ ). Female teachers do not differ from male teachers in their activity and interest in further education.

**H9:** *Women in the teaching profession are generally more satisfied with their further education than men.*

The hypothesis *was confirmed*. The t-value for the test statistic is  $t = -3.129$  and the p-value for the test of agreement of means in sets 1 and 2 is 0.002 ( $\alpha^* = 0.002 < \alpha = 0.05$ ). Female teachers differ from male teachers in overall satisfaction with further education. Overall, women are more satisfied with further education than men.

**H10:** *Men in the teaching profession are more dissatisfied with the offer of further education than women.*

The hypothesis *was confirmed*. The t-value for the test statistic = 3.129, the p-value for the test of agreement of means in sets 1 and 2 is 0.002 ( $\alpha^* = 0.002 < \alpha = 0.05$ ). Female teachers differ from male teachers in dissatisfaction with the offer of further education. Male teachers are more dissatisfied with the offer of further education than female teachers.

### 6.7.3 Length of experience

**H11:** *Teachers with longer teaching experience have more positive attitude towards further education than teachers with shorter teaching experience.*

The hypothesis *was not confirmed*. The value of the test statistic  $H = 2.453$ ,  $df = 3$ ,  $p = 0.484$  ( $\alpha^* = 0.484 > \alpha = 0.05$ ). Teachers with longer teaching experience do not differ in their attitudes towards further education from teachers with shorter experience.

**H12:** *Teachers with longer teaching experience are more willing to undertake further education than teachers with shorter teaching experience.*

The hypothesis *was confirmed*. The value of the test statistic  $F = 2.771$ , the p-value for the test of agreement of means in sets 1-4 is  $0.042$  ( $\alpha^* = 0.042 < \alpha = 0.05$ ). Teachers with longer teaching experience differ in their willingness to undertake further education from teachers with shorter teaching experience. Teachers with less than 5 years of professional experience are the most willing to undertake further education. Teachers with 16-25 years of professional experience are the least willing to undertake further education.

**H13:** *Teachers with longer teaching experience are more interested in further education than teachers with shorter teaching experience.*

The hypothesis *was confirmed*. The value of the test statistic  $F = 3.699$ , the p-value for the test of agreement of means in sets 1-4 is  $0.013$  ( $\alpha^* = 0.013 < \alpha = 0.05$ ). Teachers with longer teaching experience differ from teachers with shorter teaching experience in their activity and interest in further education. Teachers in the 26+ years of experience category are the most active and interested in further education. Teachers in the 6-15 years of experience category are the least active.

**H14:** *Teachers with longer teaching experience are generally more satisfied with their further education than teachers with shorter teaching experience.*

The hypothesis *was not confirmed*. The value of the test statistic  $F = 1.862$ , the p-value for the test of agreement of means in sets 1-4 is  $0.137$  ( $\alpha^* = 0.137 > \alpha = 0.05$ ). Teachers with longer professional experience do not differ in overall satisfaction with further education from teachers with shorter professional experience.

**H15:** *Teachers with longer teaching experience are more dissatisfied with the offer of further education than teachers with shorter teaching experience.*

The hypothesis *was not confirmed*. The value of the test statistic  $F = 2.098$ , the p-value for the test of agreement of means in sets 1-4 is  $0.102$  ( $\alpha^* = 0.102 > \alpha = 0.05$ ). Teachers with longer professional experience do not differ in their dissatisfaction with the offer of further education from teachers with shorter professional experience.

## 6.7.4 Teacher's professional field

**H16:** *Teachers of general education subjects have more positive attitude towards further education than teachers of vocational subjects.*

The hypothesis *was not confirmed*. The value of the test statistic  $t = -0.114$ , the p-value for the test of agreement of means in sets 1 and 2 is 0.909 ( $\alpha^* = 0.909 > \alpha = 0.05$ ). Teachers of general education subjects do not differ in their attitudes towards further education from teachers of vocational subjects.

**H17:** *Teachers of general education subjects are more willing to undertake further training than teachers of vocational subjects.*

The hypothesis *was not confirmed*. Test statistic U-value = 5284, p-value = 0.149 ( $\alpha^* = 0.149 > \alpha = 0.05$ ). Teachers of general education subjects do not differ in their willingness to undertake further education from teachers of vocational subjects.

**H18:** *Teachers of general education subjects are more interested in further education than teachers of vocational subjects.*

The hypothesis *was not confirmed*. The value of the test statistic  $t = -0.820$ , the p-value for the test of agreement of means in sets 1 and 2 is 0.413 ( $\alpha^* = 0.413 > \alpha = 0.05$ ). Teachers of general education subjects do not differ in their activity and interest in further education from teachers of vocational subjects.

**H19:** *Teachers of general education subjects are generally more satisfied with further education than teachers of vocational subjects.*

The hypothesis *was not confirmed*. The value of the test statistic  $t = -0.334$ , the p-value for the test of agreement of means in sets 1 and 2 is 0.738 ( $\alpha^* = 0.738 > \alpha = 0.05$ ). Teachers of general education subjects do not differ in overall satisfaction with further education from teachers of vocational subjects.

**H20:** *Teachers of vocational subjects are more dissatisfied with the offer of further education than teachers of general education subjects.*

The hypothesis *was confirmed*. The value of the test statistic  $t = -3.267$ , the p-value for the test of agreement of means in sets 1 and 2 is 0.001 ( $\alpha^* = 0.001 < \alpha = 0.05$ ). Teachers of vocational subjects differ in their dissatisfaction with continuing education offerings from teachers of general education subjects. Teachers of vocational subjects are more dissatisfied with the offer of further education than teachers of general education subjects.

## 6.7.5 Type of school

**H21:** *Grammar school teachers have more positive attitude towards further education than secondary school teachers.*

The hypothesis *was not confirmed*. The value of the test statistic  $t = 0.701$ , the p-value for the test of the agreement of means in sets 1 and 2 is 0.484 ( $\alpha^* = 0.484 > \alpha = 0.05$ ). Gymnasium teachers do not differ in their attitudes towards further education from secondary vocational school teachers.

**H22:** *Grammar school teachers are more willing to further their education than secondary vocational school teachers.*

The hypothesis *was not confirmed*. The value of the test statistic:  $t = 1.005$ , the p-value for the test of the agreement of means in sets 1 and 2 is 0.316 ( $\alpha^* = 0.316 > \alpha = 0.05$ ). Grammar school teachers do not differ in their willingness to further education from secondary vocational school teachers.

**H23:** *Grammar school teachers are more active and interested in further education than secondary vocational school teachers.*

The hypothesis *was not confirmed*. The value of the test statistic  $t = -0.440$ , the p-value for the test of the agreement of means in sets 1 and 2 is 0.661 ( $\alpha^* = 0.661 > \alpha = 0.05$ ). Grammar school teachers do not differ in their activity and interest in further education from secondary vocational school teachers.

**H24:** *Grammar school teachers are generally more satisfied with further education than secondary vocational school teachers.*

The hypothesis *was not confirmed*. The value of the test statistic:  $t = -0.947$ , the p-value for the test of the agreement of means in sets 1 and 2 is 0.345 ( $\alpha^* = 0.345 > \alpha = 0.05$ ). Grammar school teachers do not differ in their overall satisfaction with further education from secondary vocational school teachers.

**H25:** *Secondary vocational school teachers are more dissatisfied with the offer of further education than grammar school teachers.*

The hypothesis *was not confirmed*. The value of the test statistic:  $t = -1.641$ , the p-value for the test of the agreement of means in sets 1 and 2 is 0.102 ( $\alpha^* = 0.102 > \alpha = 0.05$ ). Grammar school teachers do not differ in their dissatisfaction with the offer of further education from teachers from secondary vocational schools.

## **Brief summary of statistically significant differences**

- Younger teachers do not differ from older teachers in their attitude towards further education, willingness to undertake further education, overall satisfaction with further education and dissatisfaction with the offer of further education. Statistically significant differences were found in activity and interest in further education, with teachers in the “46–55 years” category declaring higher interest and activity compared to the “under 35 years” category.
- Female teachers do not differ from male teachers in attitude, willingness, activity and interest in further education. However, unlike men, women teachers are overall statistically significantly more satisfied with further education and less dissatisfied with the offer of further education.
- Teachers with longer professional experience do not differ in their attitude towards further education, overall satisfaction with further education and dissatisfaction with the offer of further education from teachers with shorter professional experience. However, teachers with longer teaching experience differ from teachers with shorter teaching experience in their willingness to undertake further education and their activity and interest in further education. Statistically significant differences were found in willingness to undertake further education among the “less than 5 years” group, which declared higher willingness than the “16–25 years” group. The difference in activity and interest in further education was evident among the group of teachers with “26+ years” of professional experience, which showed a higher level of activity and interest compared to the group with “6–15 years” of experience.
- Teachers of general education subjects do not differ from teachers of vocational subjects in attitude and willingness to further education, activity and interest in further education and overall satisfaction with further education. However, teachers of vocational subjects differ from teachers of general education subjects in that they are more dissatisfied with the offer of further education.
- The respondents are not statistically significantly different from each other across the indices by the type of school at which teachers work.

## 7 A review study of secondary school teachers' further education surveys

This chapter presents the results of eight interesting surveys focusing on aspects of continuing professional development or further education of secondary school teachers – teachers of vocational subjects, teachers of practical teaching or teachers of general education subjects. The objective of these surveys was to determine teachers' attitudes, opinions and motivation towards further education, to identify possible barriers and, where appropriate, to describe other aspects of this issue, such as workplace conditions for professional development, attitudes of school management towards further education, etc.

### 7.1 Objectives and methodology

The key to the selection of these studies were the bachelor theses conducted by the author of this monograph within the framework of the bachelor study programme *Specialisation in Pedagogy* (in the fields of *Teaching of vocational subjects* and *Teaching of practical teaching and vocational training*) and the final theses prepared within the framework of the Lifelong Learning Programme *Study of pedagogy*, whose graduates obtain qualifications as teachers of vocational subjects for secondary school. These theses were prepared and defended in the period 2018–2022 at the *Institute of Lifelong Learning of Mendel University in Brno* <sup>49</sup>.

The mission of the Institute of Lifelong Learning, as an autonomous unit, is to implement creative and educational activities primarily in the areas of *teacher education* and *non-teacher pedagogy* (cf. Czech Republic, 2016) reflecting the needs of the application sphere, region and the society for the 21<sup>st</sup> century. At the same time, the Institute contributes to the development of lifelong learning in its entirety and by implementing consultancy activities. In the academic year 2018/2019, a total of 275 students studied at the Institute in accredited bachelor's and master's degree programmes. In 2019, a total of 120 lifelong learning courses were held at the Institute, attended by a total of 4 156 students (MENDELU, 2020).

In addition, the Institute also offers courses within the framework of further education of pedagogical staff in line with e.g., *Study in the field of pedagogical sciences* or *Study of pedagogy* according to *Act No. 561/2004 Sb., on pedagogical staff* and *Decree No. 317/2005 Sb., on further education of pedagogical staff*. The Institute cooperates

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49 More information about the institution can be obtained here: <https://icv.mendelu.cz/en/>

with secondary vocational schools and secondary vocational apprentice schools where students of the bachelor's degree programme Specialisation in pedagogy carry out their teaching practice. In all its activities, the Institute cooperates with all parts of the MENDELU, other universities, research institutions, companies, state and local government authorities and other entities in the Czech Republic and abroad. Since 2011, the Institute has also been publishing an independent peer-reviewed professional periodical *Lifelong Learning – Celoživotní vzdělávání*<sup>50</sup> (ISSN 1804-526X), which is aimed at academics, university teachers, researchers, experts in lifelong learning, pedagogical staff of secondary vocational schools and secondary vocational apprentice schools, lecturers of lifelong learning courses as well as university students and the wider professional public (MENDELU. 2020).

The aim of this chapter is to compare the results of these surveys with the results of the author's research, especially in the context of a certain time gap since its implementation and the author's long-term continuous interest in this issue. The individual surveys are briefly introduced by defining their objectives, followed by a description of the structure of the respondents, the survey method and finally, the most significant results. The results of the surveys represent the opinions of more than 450 respondents – secondary school teachers from several regions of the Czech Republic. Although it is possible to discuss the non-representativeness of these surveys or to relativize the methodological approach of this chapter due to the deliberate selection of surveys carried out at one workplace. etc., the author considers the inclusion of the following text to be appropriate to complete the overall picture and status of this issue.

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50 More information about the journal can be obtained here: <https://lifelonglearning.mendelu.cz/>



## 7.2 Characteristics and results of individual surveys

### 7.2.1 Description and results of survey 1

The aim of Petr Adamec's survey was to *find out the attitudes, opinions, experiences, preferences, motivational factors as well as barriers related to further education of teachers of secondary vocational schools and grammar schools in the South Moravian Region*. The intention was to compare the results of the findings in terms of professional demographic characteristics related to secondary school teachers. These included, in particular, gender, age, length of experience and the professional field of the teacher (teachers of vocational subjects and teachers of general education subjects). The text below is based on the results of the research that is the subject of this monograph but here it explicitly targets a group of vocational subject teachers. Out of a total of 224 respondents, 131 were teachers of general education subjects (58.5%) and 93 were teachers of vocational subjects (41.5%). These results have also been partially published in a peer-reviewed study (see Adamec, 2019).

The survey used a self-constructed questionnaire. The questionnaire took the form of an inventory of batteries of indicators that focused on relevant circumstances of teacher education. Respondents expressed their subjectively felt level of consent, importance, influence, time or preference through an even numerical scale anchored at the extremes of 1–6. This study elaborates the results of only a subset of the questionnaire items. The table below shows the structure of the respondents. For 61% of these respondents, the school at which they work was the first in order of their teaching experience, for 25% the second and for 14% the third and next. The most frequent respondents (39.6%) indicated that they taught four subjects, 19.8% taught three subjects, 25.3% taught two subjects and only 15.4% taught one subject.

The attitudes of teachers of vocational subjects towards further education expressed by the answers to the individual indicators were very positive – 92.3% considered further education as an integral part of a teacher's life, 91.2% perceived further education as a necessary part of their work to a high degree and 76.9% answered that further education influenced the quality of their work to a high degree. Four-fifths (80.7%) of respondents were willing to pursue further education and half of them (50.5%) were willing to participate in further education in their free time. Only a quarter (26.1%) of respondents were willing to contribute their own financial resources for further education – on the other hand, 51.1% declared a medium level of consent in this regard.

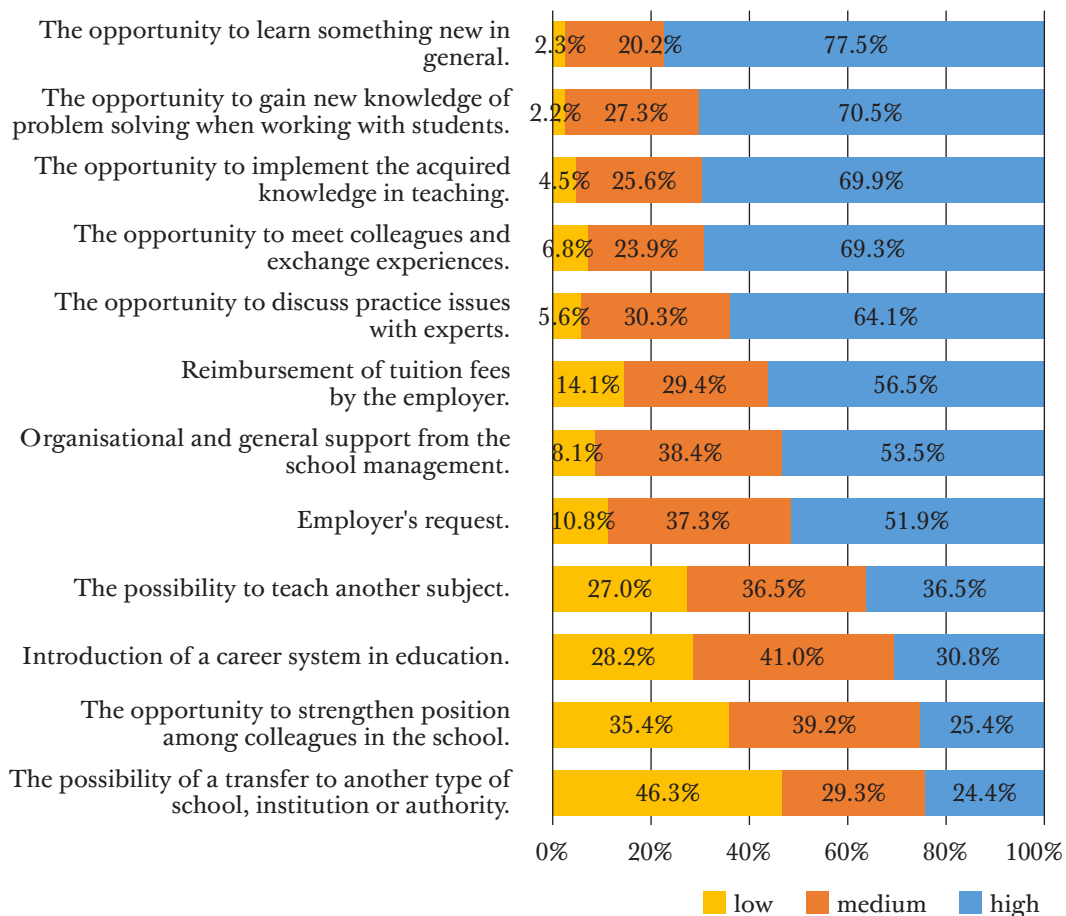
**Table 40***Structure of respondents – teachers of vocational subjects*

		<b>N</b>	<b>Relative frequency</b>
<b>Gender</b>	Men	48	51.6%
	Women	45	48.4%
<b>Age</b>	Up to 35 years old	17	18.3%
	36–45 years old	23	24.7%
	46–55 years old	38	40.9%
	56 years and over	15	16.1%
	Total	93	100.0%
<b>Education</b>	Secondary	18	19.3%
	Bachelor	4	4.3%
	Master	70	75.3%
	Doctoral	1	1.1%
	Total	93	100.0%
<b>Length of experience</b>	0–5 Years	12	12.9%
	6–15 Years	29	31.2%
	16–25 Years	31	33.3%
	26 years and over	21	22.6%
	Total	93	100.0%

*Source: Adamec (2019. p. 173); author's own processing*

The results showed that 53.8% of the respondents participated in some kind of teacher educational event in the last school year (2012/2013) and 80% in the last three years. One third (35.5%) of respondents who participated in further education during that school year attended one to two continuing educational events lasting no more than one day and approximately 24.7% attended one to two multi-day educational events. Three to five one-day educational events were attended by a quarter of respondents (26.7%) but only 17.2% attended multi-day events of this scope.

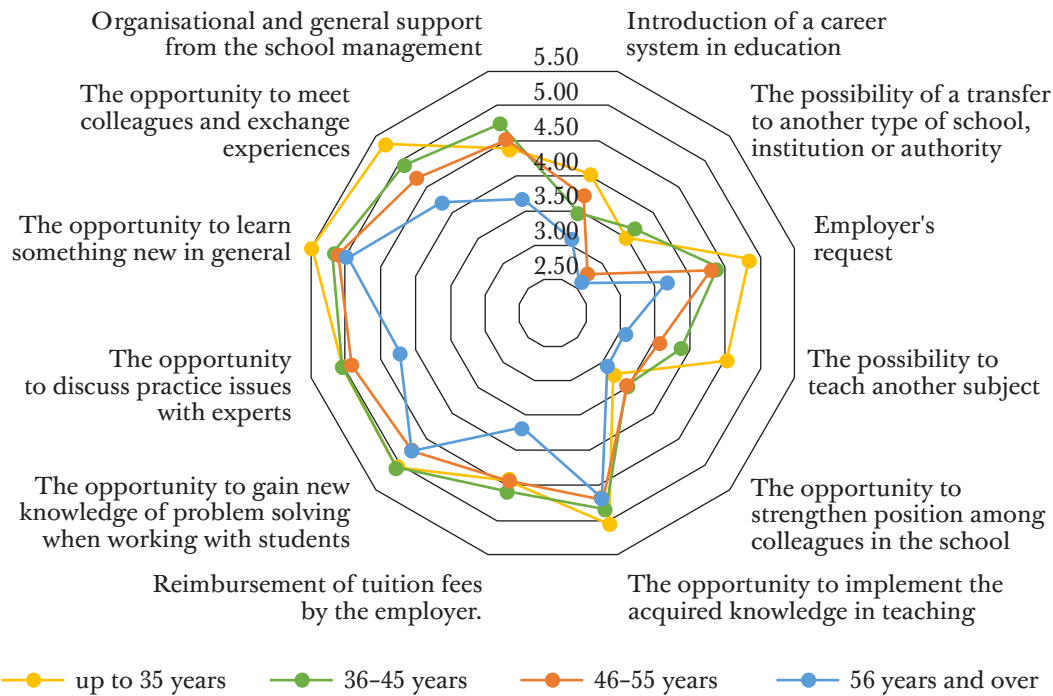
The questionnaire also included items (identifiers) related to motivational factors that may influence the decision of vocational subject teachers to pursue further education. In terms of the data processing, the responses were recorded on a numerical scale (1–6) indicating the degree of influence of each factor (1=least influence, 6=most influence). To categorise the responses, the two extreme values 1 and 2 were combined into “the low level” of influence option, values 3 and 4 reflect “the medium level” of influence option and options 5 and 6 were combined into “the high level” of influence option.

**Chart 36***Degree of influence of motivational factors for further education (categorised responses)**Source: Adamec (2019, p. 178); author's own processing*

According to the overall mean rating, the respondents from among the teachers of vocational subjects ranked the top three factors in the order of 1. the opportunity to learn something new in general, 2. the opportunity to gain new knowledge about problem solving when working with students and 3. the opportunity to implement the acquired knowledge in teaching. The opportunity to discuss practice issues with experts or to meet colleagues and exchange experiences is also a significant motivating factor.

**Chart 37**

*Mean level of influence of motivational factors by age category*

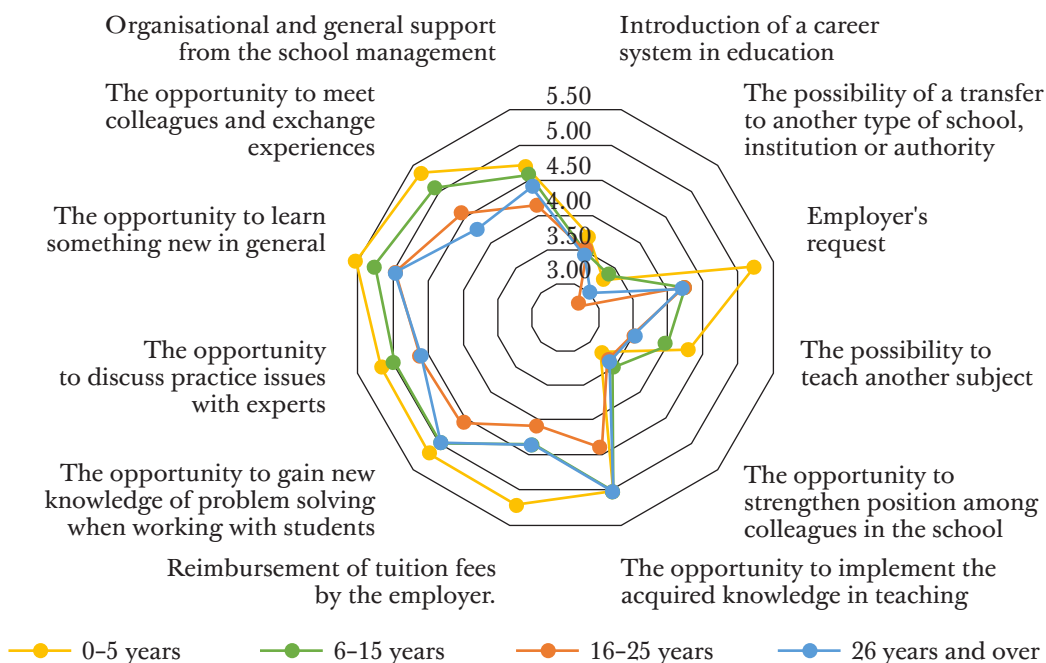


*Source: Adamec (2019, p. 180); author's own processing*

Based on the results, age influences vocational subject teachers in relation to the extent to which particular factors influence them to further their education. The employer's request was a statistically significantly more important factor for the youngest category ( $p=0.011$ ) than for the oldest generation as well as the opportunity to teach a different subject ( $p=0.012$ ) or the opportunity to meet colleagues and exchange experiences with each other ( $p=0.002$ ) meant more to younger teachers than to older ones. Teachers in the categories "36-45 years" and "56 years and over" differed in their views on employer payment of tuition fees with no effect on the older ones ( $p=0.039$ ). The rule that older teachers as opposed to younger teachers were not motivated by the opportunity to gain new knowledge about problem solving in working with students ( $p=0.048$ ) or organisational and general support from school management ( $p=0.024$ ) was also true here.

**Chart 38**

*Mean impact of motivational factors by categorised length of experience*



Source: Adamec (2019, p. 181); author's own processing

Chart 38 shows the differences in the mean rating of each factor between age groups. The opportunity to meet colleagues and exchange experiences with each other was on average and statistically significantly more important ( $p=0.016$ ) for teachers with up to 5 years of experience as opposed to teachers with more than 26 years of experience. The opportunity to subsequently implement the knowledge gained in further education in teaching was statistically significantly less ( $p=0.032$ ) interesting for teachers with “6-15 years” of experience than for their colleagues with “16-25 years” of experience or more. Conversely, employer reimbursement of tuition fees was much more significant ( $p=0.046$ ) for the youngest age category (under 5 years) than for the category of teachers with 16-25 years of experience.

## 7.2.2 Description and results of survey 2

The aim of Tamara Kriklova's (2019) research was to *find out what attitudes, preferences and experiences of further education teachers in agricultural secondary schools have and to find out if there are any differences between vocational subjects teachers and general education subjects teachers*. The survey sample consisted of vocational subjects teachers and general education subjects teachers from four vocational secondary schools – two from the South Moravian Region and two from the Central Bohemian Region. The survey managed to obtain responses from 72 teachers, 44 of whom were teachers of vocational

subjects and 28 of general education subjects. The detailed structure of respondents is presented in Table 41. The survey was conducted in the spring of 2019 through an electronic questionnaire containing 14 questions. Respondents selected one answer each time on a 5-point Likert response scale ranging from “strongly agree” to “strongly disagree”.

**Table 41**

*Structure of survey respondents*

		Teachers of general education subjects		Teachers of vocational subjects		Total	
		Absolute Frequency	Relative Frequency	Absolute Frequency	Relative Frequency	Absolute Frequency	Relative Frequency
<b>Gender</b>	Men	3	10.7%	15	34.1%	18	25.0%
	Women	25	89.3%	29	65.9%	54	75.0%
<b>Age</b>	Up to 25 years	0	0.0%	0	0.0%	0	0.0%
	26–35 years old	0	0.0%	4	9.1%	4	5.6%
	36–45 years old	11	39.3%	15	34.1%	26	36.1%
	46–55 years old	7	25.0%	10	22.7%	17	23.6%
	56 and over	10	35.7%	15	34.1%	25	34.7%
<b>Length of practice</b>	Up to 3 years	0	0.0%	7	15.9%	7	9.7%
	4–10 years	4	14.3%	9	20.5%	13	18.1%
	11–20 years	11	39.3%	13	29.5%	24	33.3%
	21 years and over	13	46.4%	15	34.1%	28	38.9%
<b>Education</b>	Secondary	1	3.6%	3	6.8%	4	5.6%
	Bachelor	1	3.6%	6	13.6%	7	9.7%
	Master	24	85.7%	35	79.5%	59	81.9%
	Doctoral	2	7.1%	0	0.0%	2	2.8%

*Source: Kriklová (2019, p. 29–30)*

Table 42 below shows that teachers of general education subjects and teachers of vocational subjects who took part in the survey are essentially equal in their consent, with 4/5 completely agreeing with the statement that they consider further education to be part of their job as a teacher. If we add up the responses to the options “strongly agree” and “rather agree”, we can conclude that essentially all respondents agree with this statement.

**Table 42***I consider further education as a part of my job as a teacher*

	<b>Teachers of general education subjects</b>		<b>Teachers of vocational subjects</b>		<b>Total</b>	
	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency
<b>I strongly agree</b>	22	78.6%	36	81.8%	58	80.6%
<b>I rather agree</b>	6	21.4%	7	15.9%	13	18.1%
<b>I don't know</b>	0	0.0%	1	2.3%	1	1.4%
<b>I rather disagree</b>	0	0.0%	0	0.0%	0	0.0%
<b>I strongly disagree</b>	0	0.0%	0	0.0%	0	0.0%

*Source: Kriklová (2019, p. 31)*

Even when evaluating the results of the answers to the next item of the questionnaire, it can be stated that the opinions of the two types of teachers do not differ in principle (see Table 43). Although teachers of vocational subjects are slightly more willing to undertake further education than teachers of general education subjects, this difference is not significant.

**Table 43***Willingness to further education*

	<b>Teachers of general education subjects</b>		<b>Teachers of vocational subjects</b>		<b>Total</b>	
	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency
<b>I strongly agree</b>	20	71.4%	32	72.7%	52	72.2%
<b>I rather agree</b>	4	14.3%	9	20.5%	13	18.1%
<b>I don't know</b>	2	7.1%	3	6.8%	5	6.9%
<b>I rather disagree</b>	2	7.1%	0	0.0%	2	2.8%
<b>I strongly disagree</b>	0	0.0%	0	0.0%	0	0.0%

*Source: Kriklová, 2019, p. 32*



A noticeable difference in the responses between the two groups of teachers was found for the question focused on financing further education from own resources. As shown in Table 44, while 66% of teachers of vocational subjects were willing to contribute financially to their own further education (strongly agree and somewhat agree), only half of teachers of general education subjects were willing to do so (50%).

**Table 44**

*Measures of willingness to contribute financially to further education*

	Teachers of general education subjects		Teachers of vocational subjects		Total	
	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency	Absolute frequency	Relative frequency
<b>I strongly agree</b>	3	10.7%	4	9.1%	7	9.7%
<b>I rather agree</b>	11	39.3%	25	56.8%	36	50.0%
<b>I disagree</b>	8	28.6%	8	18.2%	16	22.2%
<b>I rather disagree</b>	5	17.9%	6	13.6%	11	15.3%
<b>I strongly disagree</b>	1	3.6%	1	2.3%	2	2.8%

*Source: Kriklová (2019, p. 32)*

A difference was also found in the level of participation in further education. Teachers of vocational subjects participated in further education in 61.4% of cases in the past 12 months, as opposed to teachers of general education subjects who participated in 82.1%. In total, 69.4% of teacher respondents had participated in further education in the last 12 months. Over the past three years, teachers of vocational subjects participated in further education at a rate of 86.4% and teachers of general education subjects at a rate of 96.4%. Thus, overall, 9 out of 10 teachers have participated in further education in the last three years.

The survey also asked about the qualitative attributes of educational events. Respondents answered the question *What is important to you when choosing a further educational event?* using a scale on which 1 meant “least essential” and 5 meant “most essential”. The mean responses are shown in the Table 45. Both general education and vocational subject teachers agree in the order in which they rate each attribute. The most important for them is the possibility of practical application of knowledge from continuing education in their teaching practice. They are least concerned about where the education would take place.

**Table 45***Importance of attributes of further educational events in selection and decision making*

	<b>Teachers of general education subjects</b>	<b>Teachers of vocational subjects</b>	<b>Total</b>
Possibility of practical use for practice	4.75	4.36	4.51
Clarity of the offer in terms of the content of the educational event	4.14	4.11	4.13
Positive references to the lecturer	4.04	3.73	3.85
Accreditation and guarantee of institutions	3.93	3.70	3.79
Reachable distance	3.96	3.52	3.69
Positive references to the organizer	3.68	3.39	3.50
Length of educational event	3.36	3.36	3.36
Possibility to implement the course electronically	2.86	2.73	2.78
Holding the event on the premises of the school where i am employed	2.71	2.73	2.72

*Source: Kriklová (2019), author's own processing*

The survey asked respondents to express their preference of the form of teaching in their further education. As shown in Table 46, from the mean responses on a scale of 1 to 5 with 5 being “the highest level” of consent, it can be concluded that the two groups of teachers do not differ in their opinions and prefer educational events in which they can be active. They prefer online learning the least.

**Table 46***Preference for form of teaching in further education*

	<b>Teachers of general education subjects</b>	<b>Teachers of vocational subjects</b>	<b>Total</b>
Preference for lecture-type events	3.25	3.32	3.29
Events with the possibility of active participation	4.00	3.66	3.79
Online education	3.07	2.64	2.81

*Source: Kriklová (2019, pp, 43–46)*

The survey asked respondents to answer an open-ended question: *What motivates you personally the most to further your education?* Among the most frequent answers, the most common response was that teachers had a need to educate themselves and to continuously maintain an adequate level of current (professional) knowledge

in their field or specialization. Most respondents saw their ICT skills or foreign language skills as weaknesses. Many respondents reported that they were motivated by the opportunity to learn new teaching methods and practices (didactics in general). Last but not least, the respondents mentioned the great importance of the possibility to consult experiences with colleagues and to make new contacts. Rarely, however, were responses related to the need for education in teaching pupils with specific needs. There were no significant differences between the responses of the two groups of teachers.

At the same time, the survey also asked respondents about the factors that prevent or discourage them from further education. The most frequently occurring factor in this sense was time. In particular, teachers argued that educational events take place during the working day and they have to provide a substitute for their teaching. This is also related to a relatively frequent factor – the reluctance of school management to release teachers for further education. Only rarely did age, distance, financial constraints or their own convenience, for example, emerge as a hindering factor. There was no difference between the two groups of teachers.

### **7.2.3 Description and results of survey 3**

The aim of Markéta Vošmerová's survey (2019) was to *find out how teachers are motivated to further their education*. The survey was conducted during September and October 2019 through a printed questionnaire in four secondary vocational schools. 72 teachers responded to the questionnaire. The questionnaire contained 13 questions. The questions offered either a dichotomous response (yes/no) or a five-point Likert scale (from “definitely no” to “definitely yes” with no middle answer option of I don't know). The respondents included 27 teachers of vocational theoretical subjects and 45 teachers of practical subjects. A more detailed structure is given below in Table 47. No sorting was done in the descriptive statistical processing and therefore the results are presented for the whole group of 72 respondents.

Table 48 shows that teachers were most motivated by their own need to learn, and this was true for nine out of ten respondents. Only 1/20 of the respondents answered that they were not motivated to further their education.

**Table 47***Structure of survey respondents*

		N	%
<b>Type of teacher</b>	Teacher of vocational subjects	27	37.5
	Practical subjects teacher	45	62.5
<b>Gender</b>	Men	44	61.1
	Women	28	38.9
<b>Age</b>	25–35 years old	8	11.1
	36–45 years old	23	31.9
	46–55 years old	17	23.6
	56–65 years old	24	33.3
<b>Length of practice</b>	0–5 years	13	18
	6–10 years	12	17
	11–15 years	8	11
	16–20 years old	14	19
	21 years and over	25	35
<b>Education</b>	Secondary	33	45.9
	Undergraduate	22	30.6
	Master	17	23.6

*Source: Vošmerová (2019, pp. 31–35); author's own processing***Table 48***Factors motivating teachers to further education*

	N	%
Your own need to learn	62	86.1%
Financial promotion	17	23.6%
Option to teach another subject	7	9.7%
Career promotion	6	8.3%
Possibility of a transfer to other school	4	5.6%
I'm not motivated	3	4.2%

*Source: Vošmerová (2019, p. 37–39); author's own processing*

In the next part of the survey, respondents were asked to comment on a question about barriers to further education. Table 49 proves that more than 52% of respondents (after adding up the answers “definitely yes” and “rather yes”) answered that activities related to further education are organised at inappropriate times. Between 10 and 20% of respondents gave reasons related to age, financial

constraints, insufficient supply or health, family and other troubles. Surprisingly, in contrast to the results of the previous survey, about 4% of respondents reported that they did not feel supported by the school management in the area of further education.

**Table 49**

*Barriers to further education*

	<b>definitely not</b>	<b>rather not</b>	<b>rather yes</b>	<b>definitely yes</b>
Education is at an inopportune time.	22.2%	25%	37.5%	15.3%
I'm too old for this.	68.1%	13.9%	9.7%	8.3%
It's expensive.	63.9%	20.8%	9.7%	5.6%
Insufficient supply.	66.7%	19.4%	8.3%	5.6%
I have health problems.	79.2%	9.7%	8.3%	2.8%
Family and personal troubles.	69.4%	20.8%	6.9%	2.8%
My employer doesn't support me.	90.3%	5.6%	2.8%	1.4%

*Source: Vošmerová (2019, pp. 40–44); author's own processing*

Table 50 illustrates the answers to the question on preferences for further education topics provided information that respondents mostly prefer (sum of “rather yes” and “definitely yes”) topics related to the development of the content of the subject they teach (88.9%), solving issues with pupils' behaviour (75%) and new didactic methods and forms (75%). To a lesser extent, they prefer topics related to inclusive education (33.4%) or school management (19.4%).

**Table 50**

*Preferences for topics in your further education*

	<b>definitely not</b>	<b>rather not</b>	<b>rather yes</b>	<b>definitely yes</b>
Developing the content of the subject i teach	4.2%	6.9%	15.3%	73.6%
Solving issues with pupils' behaviour	12.5%	12.5%	29.2%	45.8%
New didactic methods and forms	9.7%	15.3%	37.5%	37.5%
ICT skills for teachers	20.8%	22.2%	25%	31.9%
Classroom management	30.6%	26.4%	25%	18.1%
Topics of inclusive education	44.4%	22.2%	18.1%	15.3%
School counselling	41.7%	25%	19.4%	13.9%
School management	56.9%	23.6%	12.5%	6.9%

*Source: Vošmerová (2019, pp. 45–49); author's own processing*

The survey asked respondents to comment on the extent to which the further education activities they had attended in the last year had been beneficial. Table 51 sums up that they expressed themselves on a scale of 1 to 5 with 1 being the least and 5 being the most beneficial. The mean rating for the usefulness of learning activities was 3.6 – so respondents considered their further education to be rather more useful.

**Table 51**

*Level of usefulness of educational activities for teachers*

	N	%
1 – Not beneficial	0	0%
2 – Less beneficial	5	8.2%
3 – Beneficial	25	41%
4 – More beneficial	21	34.4%
5 – Very beneficial	10	16.4%

*Source: Vošmerová (2019, p. 53)*

The survey also showed that teacher activity in all schools is relatively high, with 78% of respondents declaring that they had participated in teacher education in the past two years, while 39% had participated on their own initiative and 46% had done so to meet an employer's requirement.

## 7.2.4 Description and results of survey 4

The objective of the survey by Marika Punčochářová Jurmanová (2020) was to *find out the attitudes and real opportunities for professional development of teachers of practical education and vocational training*. The survey was conducted through structured interviews, with open coding subsequently used for data analysis. In total, interviews were conducted with five female teachers working in the hairdressing profession. Four respondents indicated an age between 21 and 30 years and one respondent indicated that she was over 40 years of age. The interviews were conducted in early 2020.

Respondents MM, EK and RF were unanimous in their answers that their employer allows them to further develop within their profession. If a teacher of practical education and vocational training arranged a course that could help them to develop further, the employer did not prevent them from doing anything. None of the respondents even saw room for improvement. According to them, the attitude of the school management is very friendly, and they have nothing to complain about from the employer.

Respondents EK and MM, in complete agreement with AK, LP and RF, declared that the main change they would like to see would be more financial support for the purchase of work equipment for the premises of vocational training centres – ideally of their own choice. At the same time, respondents AK, LP and RF agreed that the state should better financially acknowledge their profession. RF did not directly mention an increase in salary, but also the improvement of workplace equipment.

The EC respondent also saw other possibilities for state support. In her opinion, state officials should understand that a teacher of practical education and vocational training is first and foremost a professional with experience. She thinks that everyone who wants to be a teacher of practical education and vocational training should work for some time in the field they want to teach. Furthermore, the salary of such a teacher should be based on practical experience gained through employment in the field, not just on years of service in education. Respondent MM takes a similar approach. The most important way in which the state can help teachers of practical education and training is by offering sufficient time to gain and maintain further practical experience.

All respondents agreed that they definitely have opportunities for further development. They also agreed that no one was stopping them from doing so – probably just the large amount of teaching. This caused a lack of time that the practical subjects teachers could spend attending fairs and training sessions. The attitudes of the survey participants were best captured by respondent MM. In her opinion, they are the teachers themselves who have the greatest influence on further professional development. Employers do not usually organise training or workshops, nor do they actively seek them out for teachers. Therefore, it is necessary for the teachers of practical teaching and vocational training to actively engage and seek them out themselves. The employer will then, in most cases, allow them to participate based on the teaching staff capacity of the school.

In this respect, the answers of all respondents were identical and there were no differences between them. For their professional development they use not only visits to trade fairs or practical workshops, but also modern information technology and social networks. On these networks they share photos, instructional videos or other explanatory materials. In addition, three out of five respondents were employed part-time in hairdressing salons where they regularly improve their professional skills. Organising competitions for students is also an interesting activity.



## 7.2.5 Description and results of survey 5

The objective of Veronika Jurůjová's survey (2022) was to *find out what attitude teachers of vocational subjects and practical subjects teachers had towards further education* and to what extent the improvement of quality in the subjects taught is a motivating factor for further education. The survey was conducted in March 2022 through an electronic questionnaire containing 26 questions. As shown in Table 52, the responses were obtained from 104 respondents.

**Table 52**

*Structure of survey respondents*

		N	%
<b>Gender</b>	Men	30	28.8
	Women	74	71.2
<b>Age</b>	20–29 years old	20	19.2
	30–45 years old	34	32.7
	45–60 years old	38	36.5
	61 years and over	12	11.5
<b>Length of experience</b>	0–5 years	26	25
	6–15 years	24	23.1
	16–25 years old	24	23.1
	26 years and over	30	28.8
<b>Education</b>	Secondary	14	13.4
	Bachelor	11	10.6
	Master	79	76

*Source: Jurůjová (2022, pp. 58–61); author's own processing*

In this survey, 99% of teachers declared that they consider further education to be important and the same number believed that every teacher should receive regular education. Almost 2/3 of the respondents (65.4%) did not consider it necessary to further their education through higher education. Rather, the vast majority (92.3%) find further education in other ways – e.g., seminars, workshops, courses – beneficial, which they justified by the applicability of the knowledge in practice, 89.4% of respondents answered that they look for continuing education opportunities on their own, and at the same time 80.8% of respondents declared that the school management regularly informs them about further education opportunities. According to the survey results, three-fifths of respondents (59.6%) used the legal 12 days off for self-study for their further education, unless serious operational reasons prevented it.

Respondents were asked to indicate on a scale from 1 to 6 (where 1 was “the least influential” and 6 was “the most influential”) the factors that can be considered as possible barriers to further education. In the opinion of the respondents, the biggest barrier was time (3.93). Other barriers included working conditions (3.05) or the offer of education (2.60), which should be more varied, according to the respondents. Health and family were not considered by the respondents as a factor that should prevent them from further education, as well as financial demands (2.11).

The results of the survey showed that respondents are most often continuing their education because they are interested in expanding their knowledge (72.1%). Only a small proportion of respondents perceived some shortcomings in their work, and this is the reason for continuing their education (6.7%). At the same time, only less than 5% were continuing their education because they wanted to compete on the labour market. In terms of further education, the survey respondents preferred courses and seminars organised by educational agencies to the greatest extent (64.4%), and to a much lesser extent studying at universities (13.5%) or exchanging experiences between colleagues (4.8%).

On a scale of 1 to 6, respondents answered the question *To what extent does each factor influence you when choosing educational events?* The most important factor in this regard was the content of the educational activities (5.55), followed by the venue (3.58) and in third place the person of the trainer (3.29). The least important factor for respondents was price (2.90). In the same way, respondents were asked to comment on the question *To what extent do the following factors motivate you to continue your education?* The results are presented in the Table 53 below.

**Table 53**  
*Mean level of influence of motivational factors for further education*

Acquiring new knowledge and skills	5.38
Interest in improving the teaching of my subject	5.27
Meeting with colleagues, exchange of experience	4.77
Opportunity to improve your qualification	4.23
Higher financial acknowledgment	3.72
Recognition from colleagues and school management	2.61

*Source: Jurůjová (2022, p. 53)*

The most important motivating factors for further education are the opportunity to acquire new knowledge and skills or interest in improving the teaching of their subject. Exchanging experiences with colleagues and mutual support was also important to the respondents. The possible improvement of a qualification

is a particular motivating factor for those respondents who have not completed their education.

### 7.2.6 Description and results of survey 6

The aim of the survey by Lucie Petříčková (2022) was to find out *what opinions and attitudes teachers of vocational subjects had towards further education, to identify motivational factors, preferences and obstacles in their further education*. The survey was carried out at two vocational secondary schools in the South Moravian Region. The survey was conducted electronically through a self-constructed questionnaire in March 2022. The questionnaire contained 11 questions. 55 teachers of vocational subjects participated in the survey, 62% of them were women and 38% were men. The largest group of teachers was aged 55+ (46%) and the second largest group was teachers aged 36–45 (39%). No one under the age of 35 completed the questionnaire. 42% of respondents with 26+ years of experience filled in the questionnaire, as well as 31% with 16–25 years of experience. No one with less than five years of experience completed the questionnaire. 92% of respondents saw further education as an integral part of their profession, but only 23% of respondents said they had a personal development plan, 81% would be willing to further their education in their spare time and 65% would be willing to spend their own money on further education.

**Table 54**  
*Influence of motivational factors on participation in further education*

	Definitely yes	Rather yes	Rather not	Definitely not
Employer’s requirement	8%	27%	50%	15%
Possibility to teach another subject	15%	27%	43%	15%
Opportunity to implement new knowledge in teaching	73%	23%	4%	0%
Enhancing professional knowledge and skills	73%	27%	0%	0%
Opportunity for career advancement	4%	31%	46%	19%
Possibility of financial reward	12%	54%	19%	15%

Source: Petříčková (2022, p. 26)

Table 54 above illustrates the factors that most motivated respondents to pursue further education; including enhancing their professional knowledge and skills (100% – after adding up the “definitely yes” and “rather yes” responses) and the opportunity to implement new knowledge in teaching (96%). Conversely, career advancement is not what motivated teachers to further their education. Table 55

below evaluates the reasons that prevented respondents from continuing their education.

**Table 55**

*Barriers to further education*

	<b>Definitely yes</b>	<b>Rather yes</b>	<b>Rather not</b>	<b>Definitely not</b>
Financial reasons	15%	4%	39%	42%
Educational activities are held at inconvenient times	4%	38%	58%	0%
Family and personal obstacles	8%	31%	38%	23%
Lack of time	15%	39%	31%	15%
The offer does not meet my needs	0%	54%	42%	4%
Too much distance of educational activities	23%	42%	27%	8%

*Source: Petříčková (2022, p. 27)*

It is evident that the financial aspect of educational activities was not a problem for most respondents. On the other hand, it is clear that the distance of the educational activities (65%), the inadequate offer (54%), the lack of time (54%) or the inappropriate timing as such (42%) were obstacles.

**Table 56**

*Preference for form of further education*

	<b>Definitely yes</b>	<b>Rather yes</b>	<b>Rather not</b>	<b>Definitely not</b>
Group education	15%	62%	23%	0%
Exchange of experience and knowledge with colleagues	31%	62%	8%	0%
Individual (coaching, mentoring, peer review class inspection)	8%	11%	54%	27%
Distance learning	23%	46%	15%	15%
Pre-sessional education	42%	35%	19%	4%

*Source: Petříčková (2022, p. 28)*

Table 56 documents the results on the further education form preference. Respondents in this survey preferred face-to-face (77%) slightly more than distance learning (69%) in their further education. However, what they preferred most in further education was the exchange of experience and knowledge among colleagues (93%).

## 7.2.7 Description and results of survey 7

The objective of Martin Píbil's survey (2022) was to find out *how teachers of vocational subjects at secondary agricultural schools were educated, what are their opportunities for development and how much time or money they devote to their professional development*. The survey was conducted through structured interviews with five vocational subjects teachers. The interviews were conducted in April 2022.

All respondents agreed that there had been many opportunities for professional development and further education nowadays. They also agreed that the school allows them to further their professional development or at least does not prevent them from doing so. Some respondents, according to their answers, devote several tens of hours of time per month to their further education.

Respondents said they were willing to invest their own money in their further education. Most of the respondents invested units of thousands of CZK per year mainly in professional literature and one of the respondents was willing to invest even 10 thousand CZK per year for the purchase of professional literature.

The ways in which the interviewed teachers had been educated were varied. The most frequently reported methods were reading professional literature – journals, professional articles on the Internet or professional newspapers. One very important form of education is attending seminars, training sessions and professional exhibitions. Without exception, respondents agreed that there had been many opportunities for professional development or further education nowadays. At the same time, they agreed that the school management allows or at least does not prevent them from further professional development.

In the conclusion of this thesis, the author states that, as a private farmer and future teacher of professional subjects, he most often educates himself by reading professional literature and subscription magazines. The author also attends various agricultural trade fairs (e.g., *Země živitelka*, *Těchagro*, *Animal Těch*), attends seminars and webinars and considers these activities to be an integral part of his work. Finally, he agrees with the respondents that there are enough opportunities for further education in the agricultural field, as well as enough professional literature on the market. Finally, respondents also commented that there are many seminars, professional trainings, and exhibitions throughout the year and that the agricultural professional or teacher of professional subjects is mainly burdened by lack of time rather than few opportunities for education.

## 7.2.8 Description and results of survey 8

The objective of Zdeňka Vymazalová's (2022) research was to find out *whether the length of teaching experience has an impact on the willingness of practical subjects teachers to develop professionally, their motivation, attitudes towards innovation, or their tendency to turnover*. The main aim of the research was to find out the extent of motivation of practical subjects teachers towards professional development. A self-constructed questionnaire containing 30 items was used as a research tool. One vocational secondary school in the South Moravian Region with a focus on gastronomy was used for the research. The data collection took place in April 2022. After eliminating incorrectly and incompletely filled in questionnaires, it was appropriate to use 117 questionnaires completed by practical subjects teachers and teachers of vocational subjects for data evaluation and analysis. However, only 50 questionnaires from practical subjects teachers were processed (see Table 57). The remaining data – responses from 67 vocational teachers – were not processed and will be the basis for the forthcoming joint study. 96% of respondents agreed with the statement that they consider further education as part of their job and 84% of respondents stated that they were willing to undertake further education.

**Table 57**

*Structure of survey respondents*

		<b>Absolute frequency</b>	<b>Relative frequency</b>
<b>Gender</b>	Men	7	14%
	Women	43	86%
<b>Age</b>	25–30 years	5	10%
	31–40 years old	11	22%
	41–50 years old	22	44%
	51–60 years old	12	24%
	61 and over	0	0%
<b>Length of experience</b>	Up to 1 year	5	10%
	2–9 years	18	36%
	10–19 years	4	8%
	20–29 years old	15	30%
	30 years and more	8	16%
<b>Education</b>	Secondary	20	40%
	Bachelor	16	32%
	Master	10	20%

Source: Vymazalová (2022, p. 66–68); author's own processing

With regards to the answers of the respondents, it can be stated that the opportunity to learn something new (50%), the opportunity to gain new knowledge about solving problems in working with pupils (22%) or the opportunity to discuss practice problems with experts motivated the respondents the most in general (20%). The opportunity to teach another subject (4%) or the payment of tuition fees by the employer (4%) had no influence on the motivation of the practical subjects teachers in this survey. At the same time, however, 20% of respondents think that the employer should exclusively finance further education.

According to the results presented in Table 58, 18% of respondents have participated in some form of further education in the past school year (2021/2022), with 30% of respondents having participated in more than four such activities. Table 59 shows the number of times respondents have participated in further education in relation to the length of their teaching experience. This data shows that respondents have participated in some form of continuing education most often twice in the past school year and that even teachers with more than 20 years of experience are very interested in further education.

**Table 58**

*Frequency of participation in further education in the school year 2021/2022 by length of experience*

<b>Length of practice</b>	<b>At all</b>	<b>1×</b>	<b>2×</b>	<b>3×</b>	<b>4× or more</b>
<b>Less than five years</b>	0%	23%	23%	23%	31%
<b>5-9 years</b>	44%	0%	22%	0%	33%
<b>10-14 years</b>	0%	0%	100%	0%	0%
<b>15-19 years old</b>	0%	17%	33%	33%	17%
<b>20 years and more</b>	5%	0%	43%	19%	33%
<b>Total</b>	<b>10%</b>	<b>8%</b>	<b>34%</b>	<b>18%</b>	<b>30%</b>

*Source: Vymazalová (2022, p. 70); author's own processing*

Almost  $\frac{3}{4}$  of respondents (74%) preferred to learn outside school in the form of courses, training, seminars, workshops, lectures or even internships. More than  $\frac{4}{5}$  (82%) of respondents preferred face-to-face to distance learning. The results showed that only 28% of respondents actively sought out further education opportunities, with about a third being satisfied with what their employer offers. A disappointing finding was that a third of respondents (36%) had no awareness of further education opportunities. Around 14% of respondents were definitely dissatisfied with the current offer of further education opportunities. As shown in Table 60, virtually all respondents, regardless of their length of experience, thought that further education was important for teachers.



**Table 59***Importance of further education for teachers by length of experience*

<b>Length of practice</b>	<b>Yes, I consider further education to be an essential part of the teaching profession.</b>	<b>No. I don't think a graduate teacher needs further education.</b>
<b>Less than five years</b>	85%	15%
<b>5-9 years</b>	100%	0%
<b>10-14 years</b>	100%	0%
<b>15-19 years old</b>	100%	0%
<b>20 years and more</b>	100%	0%
<b>Total</b>	<b>96%</b>	<b>4%</b>

*Source: Vymazalová (2022, p. 69); author's own processing*

The results of this survey revealed that the willingness of respondents to further their education decreased with increasing length of experience. While for the categories up to 14 years of experience, 100% of respondents were of the opinion that they were willing to undertake further education. In the category of 15 years and above, only 57.9% of the practicing teachers were willing to undertake further education.

**Table 60***Respondents' attitude towards innovations in teaching*

<b>Length of practice</b>	<b>Innovation is needed everywhere i look</b>	<b>I am convinced that innovation is not only possible but desirable</b>	<b>I don't worry about it if an innovation comes along. I just adapt</b>	<b>I am not in favour of introducing "novelties". I stick to traditional methods</b>	<b>Changes are, in my opinion, unwanted, unnecessary and often dangerous</b>
<b>Less than five years</b>	31%	38%	31%	0%	0%
<b>5-9 years</b>	11%	67%	22%	0%	0%
<b>10-14 years</b>	100%	0%	0%	0%	0%
<b>15-19 years old</b>	17%	50%	33%	0%	0%
<b>20 years and more</b>	5%	71%	19%	0%	5%
<b>Total</b>	<b>16%</b>	<b>58%</b>	<b>24%</b>	<b>0%</b>	<b>2%</b>

*Source: Vymazalová (2022, p. 72); own processing*

**Table 61***Perceptions of motivation for further education by length of experience*

<b>Length of practice</b>	<b>Motivation has a system, leads employees to high commitment</b>	<b>Staff motivation is minimal</b>	<b>Staff motivation is at a good level</b>	<b>Staff motivation is of medium level</b>	<b>No importance is attached to staff motivation</b>
<b>Less than five years</b>	15%	15%	8%	54%	8%
<b>5-9 years</b>	0%	22%	22%	56%	0%
<b>10-14 years</b>	100%	0%	0%	0%	0%
<b>15-19 years old</b>	0%	0%	83%	17%	0%
<b>20 years and more</b>	24%	19%	14%	38%	5%
<b>Total</b>	<b>16%</b>	<b>16%</b>	<b>22%</b>	<b>42%</b>	<b>4%</b>

*Source: Vymazalová (2022, p. 74); author's own processing*

More than half of the respondents were satisfied with the working conditions and conditions for personal growth. 54% of them stated that further teacher education is supported at their school. Only 8% of the respondents declared that further education is of little importance to the school management. The respondents confirmed that the school management monitors their results as well as their performance. Almost half of the respondents (48%) believed that the leadership of their school supports teacher innovation only when necessary. Further results related to teachers' attitudes towards innovation in teaching in relation to years of experience are presented in Table 61 below.

Last but not least, this survey looked at motivation for remaining in the profession (or in other words, turnover, see Table 62). Overall, more than two-fifths of respondents (42%) believed that staff motivation is at medium level, but only 16% of respondents declared that the current system motivates teachers to be highly committed.

## 8 Results and Conclusion

### Results

The monograph has brought new insights into the further education of secondary school teachers directly from teachers who know the environment in which it is implemented, know the further education system, and have practical experience with it. For secondary school principals, our results can serve as a guide in developing a further education plan or motivating some teachers or understanding their particular needs. At the same time, not only the results of our research, but also the information contained in the theoretical part of the monograph can be inspiring for other educational institutions, secondary school and other school principals, school policy makers, companies or for secondary and higher education students who are looking for similar information and suggestions on how to innovate or make processes related to education more efficient. The results of the research that is the main focus of this monograph and a brief summary of the results of other researches on a similar topic in the form of a review study are in many ways in agreement. The results of the surveys presented in the overview study also show that, when compared with the results of the main survey, the general trends have not changed significantly over the years. Both the responses of more than two hundred respondents to the main survey and the responses of more than five hundred respondents to the overview study generally agree on responses to teachers' preferences for further education, the most important motivating factors for further education, its most common barriers and other attributes, including some differences in responses by age, gender, years of experience or teachers' professional background. The following text summarises the results of the main survey reported in this monograph, which also reflects the findings of subsequent discussions with selected secondary school principals over these results, allowing for better interpretation of the quantitative data obtained through the questionnaire survey.

Teachers, i.e., the respondents in the main survey, generally have a very positive attitude towards further education and consider it as part of their professional life. As the job of a teacher is a time and mentally demanding activity, the willingness to undertake further education (possibly in their spare time) is also significantly lower, in contrast to attitudes. In the context of salary conditions in the educational sector, teachers are even less willing to contribute their own financial resources for further education. Moreover, it was found that the level of willingness to undertake further education alternates with increasing length of experience, with the lowest level of willingness reported by respondents with

between 16 and 25 years of experience. A statistically significant difference in activity and interest in further education was found among older teachers with longer experience compared to the youngest teachers. Older teachers declared higher activity and interest. Younger teachers (more likely to be in the middle phase) were also generally less satisfied with further education. Men and vocational subjects teachers are statistically significantly more dissatisfied with the offer of further education than women and general education subjects teachers.

Motivational factors for further education are indicative of both the needs of teachers in practice and the situation in secondary education. A positive finding is that the most common motive for further education was generally the opportunity to learn something new. This result was compared with the (relatively) proclamatory attitude towards further education. The author considers an important finding that in second and third place, in essentially equal measure, the research participants considered the opportunity to implement the acquired knowledge in teaching and the opportunity to gain new knowledge about working with students and problem solving as a factor motivating them to pursue further education. These factors are followed by the opportunity to meet colleagues and to exchange experiences with each other or to discuss with experts. Depending on the statistically significant differences found in the statistical analysis, these factors may be replaced by others, such as the employer's request; the opportunity to teach another subject and strengthen one's position among colleagues; or the possibility of transfer to another type of school. These factors are becoming more important for teachers of vocational subjects (or secondary vocational schools) in the context of the current political and economic situation, demographic developments, optimisation of the school network, etc.

On the basis of the results of all the surveys presented in this monograph, we can conclude that almost all secondary school teachers declared, without any differences, a very positive attitude towards further education, which they also considered to be an essential part of their work, influencing its quality. Teachers undoubtedly belong to the part of the population that on average receives more education. This was proved by the results of the research, in which the sample of teachers' participation in education (55%) is comparable to the participation of the adult population in the Czech Republic in non-formal education. For this comparison, we can use the results from *the Adult Education Survey 2016* for the Czech Republic (CZSO, 2018). Here it is reported that 62% of people with tertiary education in the Czech Republic participated in non-formal education in the last twelve months before the survey was conducted<sup>51</sup> and 45% in total.

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51 Tertiary education was considered to be ISCED 2011 level 5–8 education.

The respondents in our survey were consistent in their preferences for thematic content with primary school teachers who have participated in research which results are reported, for example, by Lazarová (2006). Teachers at both school levels most often prefer topics that are related to direct classroom work, school subjects, didactics, or classroom management. However, in contrast to the findings of Lazarová (2006), respondents in the presented survey showed higher dissatisfaction with the offer of further educational events. While 89% of the primary school teachers in the above-mentioned survey agreed that it was easy for them to choose from the offer, secondary school respondents in their answers to a similar question agreed only in 53% and specifically 34% of the respondents were dissatisfied with the offer of further education for their professional field. For the sake of objectivity, it should be noted that hereby presented research was carried out in the South Moravian Region and satisfaction with the offer may vary both between regions and between schools based on their vocational field. Last but not least, it depends on the marketing behaviour of the organisers of teacher education, their number, etc.

Secondary school teachers most often preferred educational events shorter than one day (71%). In this, our results were consistent with research by Kohnová et al. (1995), which showed a preference for single-day events, most often only half a day. The advantages of such events are, for example, that they can take place after school, do not disrupt the working life of the teacher and the school, can be attended by several teachers at the same time, or are cheaper (e.g., without accommodation). In the discussions with selected principals about the results of the survey, the author noted the view that the preference for short-term educational events tended to be underpinned, among others, by the need to leave, at least for a short time, the school environment, which is a source of stress and overload for teachers. According to the opinions of our respondents, the most frequently preferred institutions for further teacher education were institutions established by the South Moravian Region or MoEYS or faculties of universities. In accordance with the words of the selected teachers and school management representatives, these institutions guarantee, in addition to significantly lower financial costs (thanks to support from European funds, they are often free of charge), a certain quality in terms of the content and organisation of educational events. In their words, it happens, for example, that private educational agencies are organised for primary and secondary school teachers at the same time (in order to fill the capacity), but the needs and expectations of these groups are different – the lecturer cannot meet them, and the participants leave the educational event unsatisfied.

In the evaluation of the influence of motivational factors such as the possibility to teach another subject, to transfer to another type of school or the introduction

of a career system in education, highly statistically significant differences were found between the youngest (up to 35 years) and the oldest respondents (56 years and older). The same differences were also found in relation to the length of teaching experience (up to 5 years versus 16–25 years). For example, in the context of the introduction of a career system, teachers with shorter experience were more optimistic and fuller of expectations at the end of their career compared to experienced teachers. Age-comparative studies have shown that the total psychological energy an individual invests in different areas remain unchanged in old age, and research on age-related work motivation is contradictory (cf. Lazarová, 2011). For example, Hustler (2003) investigated the circumstances of further teacher education in the UK and found that teachers over 55 years of age were more likely to complain about lack of time for further education, to point to professional workload as a barrier, and to report a better overview of further education opportunities than their younger colleagues. Similarly, Zelinová (2004) demonstrates that older teachers are not a group that rejects further education and, on the contrary, she found more resistance among mid-career teachers. Interestingly, also in our research, the values of the willingness to further education index were at their lowest level for respondents with a medium length of experience (16–25 years).

The principals interviewed also reported that younger teachers are more likely to move to a different type or level of school – e.g., from a secondary school to a high school or university – after a few years of experience than older teachers. They also stated that older colleagues are more likely to be tired and less enthusiastic, for example, to start teaching another subject – if they have already achieved ‘mastery’ in their own subject. On the other hand, they recognised that older teachers are more likely to seek further education opportunities because they are more responsible and want to ‘solve a problem’, unlike younger teachers who often only participate in further education when (or because) they “have to”. This could explain the difference in mean overall satisfaction with further education, which is higher for teachers in the “56+” age category compared to the “36–45” age category. Women were also more satisfied in this survey, for whom the opportunities to learn something new in general; to gain new knowledge about problem solving in working with pupils and especially the opportunity to meet colleagues and exchange experiences are statistically very significantly more important motivating factors for further education than for men. Even the selected principals with whom the results were discussed confirmed that male teachers tended to be less active than female teachers in teacher educational events (e.g., not participating in groups, not completing questionnaires) and more likely to leave before the official end of the event. This may be why men in this survey were statistically significantly more dissatisfied with continuing education offer. The teachers of vocational subjects are also more dissatisfied with the offer.



The possibility of teaching another subject as a motivating factor for further education takes on a different dimension when viewed from the perspective of the teacher's professional field. The statistically significant difference found in the survey between teachers of vocational subjects and teachers of general education subjects may result, for example, from structural changes in individual sectors of the national economy and also from current demographic developments. Depending on these changes, for example, various sectors of industry are disappearing and thus also fields of study or teaching. Teachers of vocational subjects are therefore logically concerned about their specialisation and their jobs, and further education (e.g., extending their qualification to include another subject) is a way out of this situation. This is followed by the statistically significant difference found for the strengthening position among colleagues in the school or the employer's requirement, which were perceived in a different light by vocational subject teachers than by general education subject teachers.

Teachers of vocational subjects were more likely than teachers of general education subjects to welcome having their employer reimburse them for further education activities, as according to selected representatives of secondary school management, they need it for their work to a much greater extent. As an example, they often cited the needs of teachers of mathematics and teachers of accounting or other vocational subjects, the content of which, for example, changes incomparably faster due to frequent amendments to legislation. At the same time, further education for teachers of vocational subjects is more financially demanding.

The topics and areas in the presented survey are specific in their own way. Not all of its results can be described as representative and valid for the entire population of teachers, as the author focused on secondary school teachers in the South Moravian Region and supplemented them with the results of other surveys. The work can also be used as a basis for studying and researching further teacher education (or professional development) throughout the Czech Republic.

In the field of teacher further education, it is possible to address, for example:

- What methods and forms of further education do teachers and principals currently use and prefer?
- To what extent and in what ways are their educational needs reflected by teachers or school management?
- What mechanisms are used by schools to cooperate with external authorities in the context of teacher further education and professional development?
- How can we systematically increase financial support for teachers' professional development or further education?
- How is the evaluation of further education carried out and how is the quality of educational activities or institutions offering these products monitored?



## Conclusion

The author of this monograph believes that the topic addressed is original in a way, especially because it deals with the area of further education of secondary school teachers, while previous findings on attitudes, opinions, satisfaction, experiences and other categories of further education were obtained in the environment of primary schools or at lower secondary schools (cf. TALIS). The results of this research provide valuable information and insights that can serve as a source of inspiration for institutions providing teacher further education programmes as well as for school leaders. Based on the results of this research, the author has, among other things, come to several significant findings that can be considered as essential factors influencing the teacher development processes.

Further education is considered a supportive tool for teacher continuing professional development (CPD). The author is aware that the knowledge gained from the actual practice, in which teachers have to deal with specific and urgent situations on a daily basis, is also important for professional development. In this respect, there is ample scope for systematic support for teacher development in the field of further education, using teachers' reflective practice, as it is not only about the demands placed on teachers and school leaders, but also about their needs, 'across generations'. Last but not least, the author considers important to point out that pre-service teacher education also deserves attention, with reference to the need for lifelong learning and a collaborative way of conducting the teaching profession.

In connection with the development of technology, new learning theories, mobility possibilities and others, a whole range of forms of further education has been gradually developing, such as self-study, e-learning using Learning Management System (LMS), video conferencing or so-called "e-learning," Massive Open Online Courses (MOOCs), international visits and exchanges, in-school activities, i.e., in-house training for a team of teachers, projects and team learning within projects, action research, supervision, visits to colleagues in the classroom, peer discussion groups and of course individual (mentoring, coaching) or group teacher education according to external offers (lectures, seminars, workshops, courses, internships. etc.).

In the Czech Republic, the implementation of further teacher education in the form of structured and systematic teacher education is not fully enforced. The above-mentioned educational activities for teachers, if we do not talk about qualification education or training in connection with curriculum changes, could be described as a non-binding offer of educational topics that teachers can choose or are recommended to them by the principal – moreover, if they are free of charge as part of a "project". However, they have no general framework,

objective, or direction. The Czech School Inspectorate, for example, has negatively assessed this situation in its reports.

The system of further teacher education in some foreign countries is usually related to the hierarchy of professional advancement. Considerations and attempts to introduce a career system have been current in the Czech Republic for many years. It is even mentioned in the title of the current Educational Staff Act, but in practice it does not exist. Teacher further education can be viewed from many perspectives – from the perspective of the individual, the school, the teaching profession, society, education policy and others. In particular, however, it is an individual matter of the teacher, their career, personal life, the environment in which they live and work, abilities, skills, aspirations, needs and many other aspects. With this monograph the author has attempted to address at least some of them.

Not only direct teaching activities, but also further education of teachers of vocational subjects, or their professional development is characterized by its close connection with practice and technological development. This places considerable demands not only on the teachers themselves but also on the secondary schools where they work. The need for continuous updating of knowledge is therefore more frequent and more financially demanding than in the general education component of the subjects. Demographic developments, structural changes in the national economy, optimisation of the school network, financing of the sector and other factors, including the distinctive (life) situations of individuals, also play a significant role.

The results of this monograph show possible directions for further research. Potential research projects that build on this work may use quantitative, qualitative, or mixed approaches to elaborate and enrich theoretically and practically this stimulating area of the teaching profession. The author would appreciate it if this work would generate interest in the issue of teacher education and if its results would serve as a call for further research projects.

## 9 Summary

The monograph deals with further education of secondary school teachers in the context of their professional development. It is divided into several parts. The objective of the theoretical part was to define and describe all relevant concepts, constructs, terms and categories that relate to the empirical part of the work and also form the basis of the whole work. Thus, the following theoretical areas were anchored: lifelong education and learning, a secondary school teacher in the Czech school system, motivation in the context of further education, further teacher education and their professional development. At the same time, in these chapters the author has attempted to describe their practical aspects and summarise specific findings from the research carried out in these areas.

The next empirical part presents the results of the survey which had two specific objectives. The first was to describe and analyse the relevant factors and conditions for the further education of secondary school teachers today. The second objective was to identify the links between teachers' attitudes towards further education, motivation for further education on the one hand and professional demographic characteristics on the other. The main areas that were examined in this context included teachers' general attitudes and willingness to further education or their preferences, motivations, barriers and other factors related to further education. The professional demographic characteristics were gender, age, length of experience, teacher's professional field of study and type of school.

A quantitative approach was applied to answer the research questions and test the working hypotheses. A self-constructed questionnaire was used to collect data and was distributed in printed form. The sample was constructed from secondary school teachers in the South Moravian Region of the Czech Republic using a random stratified sampling strategy. A total of 224 respondents from 12 secondary schools participated in the research. The respondents were found to have a highly positive attitude towards further education but a lower willingness to learn in their spare time and a relative reluctance to spend their own money on further education. Statistically significant differences in attitudes and motivation towards further education were found depending on individual occupational-demographic characteristics – in particular gender, age, length of experience and professional focus. This research was specific in its focus and the results point to possible directions for further research.

The empirical part of the monograph was also supplemented by an overview study with the results of other surveys that focused on aspects of professional development or further education of secondary school teachers – teachers of

vocational subjects, teachers of practical subjects or teachers of general education subjects. The aim of these surveys was to determine teachers' attitudes, opinions and motivation towards further education, to identify possible obstacles and, where appropriate, to describe other aspects of this issue, such as workplace conditions for professional development, attitudes of school management towards further education, and others. The results of these surveys yielded similar results.

The monograph has provided new and valuable insights into the further education of secondary school teachers directly from respondents who are intimately familiar with the environment in which it is delivered, know the ways in which further education is organised in schools and have practical experience of it. Not only the results of the research investigation but also the findings from the theoretical part of the thesis can be a source of inspiration for educational institutions as well as for school leaders, school policy makers, educational companies or students of secondary and higher education institutions.

**Keywords:** concept of lifelong learning; further education for secondary school teachers; further education offer for teachers; motivation for further education; professional development of teachers; teachers' attitude towards further education.

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## 12 List of abbreviations

AES – Adult Education Survey  
ANOVA – Analysis of variance  
CBM – Competency-based management  
CHES [CSVŠ] – Centre for Higher Education Studies  
CONFINTEA – International Conferences on Adult Education  
CPD – continuing professional development  
CR [ČR] – Czech Republic  
CSI [ČŠI] – Czech School Inspectorate  
CVTS – The Continuing Vocational Training Survey  
CZSO [ČSÚ] – Czech Statistical Office  
DZS – Czech National Agency for International Education and Research  
EACEA – The European Education and Culture Executive Agency  
EC – European Commission  
EESC – The European Economic and Social Committee  
EU – European Union  
EUROSTAT – Statistical office of the European Union  
FEP [RVP] – Framework Education Programme (FEP) / Framework curricula for school education  
GACR [GAČR] – the Czech Science Foundation  
IEB [ÚIV] – Institute for Information in Education  
ISCED – International Standard Classification of Education  
JMK – The South Moravian Region  
LFS – Labour Force Survey  
LLL – Lifelong Learning  
LMS – Learning Management System  
MENDELU – Mendel University in Brno  
MoEYS [MŠMT] – Ministry of Education, Youth and Sports  
MoLSA [MPSV] – Ministry of Labour and Social Affairs  
MOOC – Massive open online courses  
NIDV – National Institute of Further Education  
NPI CR [NPI ČR] – National Pedagogical Institute of the Czech Republic  
NVF – National Education Fund  
OECD – The Organisation for Economic Co-operation and Development  
PIAAC – Programme for the International Assessment of Adult Competencies

SEP – School Education Programme  
SGE – Secondary General Education  
STVT – Secondary Technical and Vocational Education  
SVE – Secondary vocational education  
SVS [SOŠ] – Secondary vocational school  
TALIS – Teaching and Learning International Survey  
TAPATE – Transactional Analysis Proficiency Award for Teachers and Educators  
UN – United Nations  
UNESCO – United Nations Educational, Scientific and Cultural Organization  
VET – Vocational education and training

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# 15 Appendix



## Part 1 – Continuing professional education



(hereinafter referred to as CPD)

**To what extent do you agree or disagree with the following statements? Please rank your answers on the following scales.** (where 1 = lowest level of consent 6 = highest level of consent and 9 = don't know, don't want to answer)

<i>Teachers' attitudes towards further education</i>			
I consider lifelong learning to be an integral part of a teacher's life.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
I see further education as an essential part of my job.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
I am convinced that further education of teachers influences the quality of their work.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>

<i>Willingness to further education</i>			
I am willing to further my education.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
I am willing to participate in further education in my spare time.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
I am willing to contribute financially to my further education.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>

<i>Frequency of participation – further education</i>	
<b>Have you attended a CPD educational event in the past three years?</b>	1. Yes <input type="checkbox"/> 2. No <input type="checkbox"/>
<b>How many CPD further educational events have you attended in the past three years? (approx!)</b>	Single-day event: 
	Multiple-day event: 

<b>Have you attended a CPD educational event in the past school year?</b>	1. Yes <input type="checkbox"/> 2. No <input type="checkbox"/>
<b>How many CPD further educational events have you attended in the past school year? (approx!)</b>	Single-day event: 
	Multiple-day event: 

<i>Frequency of participation – qualification education</i>	
<b>In the past three years, have you participated in qualification training within the framework of continuing education of pedagogical staff (CPD)?</b>	1. Yes <input type="checkbox"/> 2. No <input type="checkbox"/> → If so, which one?
1. studies in the field of educational sciences (§ 2)	<input type="checkbox"/>
2. study of pedagogy (§ 3)	<input type="checkbox"/>
3. studies for teaching assistants (§ 4)	<input type="checkbox"/>
4. study for school and school institutions principals (§ 5)	<input type="checkbox"/>
5. studies to extend professional qualification (§ 6)	<input type="checkbox"/>
6. study for senior pedagogical staff (§ 7)	<input type="checkbox"/>
7. studies for educational counsellors (§ 8)	<input type="checkbox"/>
8. studies for the performance of specialised activities (§ 9)	<input type="checkbox"/>

**To what extent do you agree or disagree with the following statements? Please rank your answers on the following scales.** (where 1 = lowest level of consent, 6 = highest level of agreement and 9 = don't know, don't want to answer)

<i>Awareness of further education</i>		
I look for information about further education opportunities myself, especially on the Internet.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
I find out about further education opportunities from the school management or a designated person.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
References from my colleagues and their experience are important to me in this area.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
I learn about further education opportunities from colleagues and friends.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
I read about further education opportunities in professional literature or magazines.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>

**How much time, if any, do you spend on the following activities? Please rank your answers on the scales.** (where 1 = I did not get to these activities. 6 = I spend a lot of time on them and 9 = I don't know, I don't want to answer)

<i>Teachers' own activities – activity and interest</i>		
I follow current political, economic and cultural developments in the Czech Republic and abroad.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
I follow new findings in my area of expertise. pedagogy and psychology.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>

I read professional literature, professional journals in the field of teaching.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
I actively seek opportunities for further education.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
I am collaborating on the school's further education plan.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
I contribute to online discussions about school policy.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
I am involved in projects that are administered by MoEYS or other organizations.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
I participate in professional conferences (passively and actively).	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
I am getting ready for class.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>

**To what extent do you agree or disagree with the following statements? Please rank your answers on the following scales.** (where 1 = lowest level of consent, 6 = highest level of consent and 9 = don't know, don't want to answer)

<i>General satisfaction with further education</i>		
I have had positive experience with teacher educational events.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
I am satisfied with the overall level of further educational events.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
I am satisfied with the programme offer of teacher training institutions.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
The school management supports further education of teachers.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
I can always put into practice the knowledge gained through further education.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>

**To what extent are you usually satisfied or dissatisfied with the following items related to teacher educational events.** (where 1 = lowest level of satisfaction, 6 = highest level of satisfaction and 9 = don't know, don't want to answer)

<i>Satisfaction with the material and organisational aspects of further education</i>		
I am satisfied with the content and thematic focus of the further educational events.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
I am satisfied with the material and technical equipment of the education events.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
I am satisfied with the teaching materials I receive at further educational events.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>

I am satisfied with the teaching methods used in further education.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
I am satisfied with the professionalism and quality of the teacher educators.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
I am satisfied with the dates and times of the education events.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>

**To what extent do you agree or disagree with the following statements? Please rank your answer on the following scale.** (where 1 = lowest level of consent, 6 = highest level of consent and 9 = don't know, don't want to answer)

<i>Dissatisfaction with further education provision</i>	
The offer of further educational events is insufficient for teachers of my profession.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
At the moment, I have nowhere to study given the range of educational institutions on offer.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
Considering the content and form, I have not yet been interested in any of the further education offers.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>

**Please indicate to what extent you agree or disagree with the following statements.** (where 1 = lowest level of consent, 6 = highest level of consent and 9 = don't know, don't want to answer)

<i>Satisfaction with the school management's approach to continuing education</i>	
The school management allows the knowledge from further education to be applied in the classroom.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
The school management communicates educational needs with teachers.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
The school management financially supports the further education of teachers.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
The school's management organises teacher education.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>


**Please indicate which of the PROVIDERS of further education you usually (most) prefer. Mark only one option.**

<i>Further education provider preferences</i>			
<b>Studies to further professional qualification (\$10)</b>	Further education = all other training courses, seminars, workshops – short-term  (This is not training with the aim of obtaining a teaching qualification.)	1. CPD institutions established by the Region	<input type="checkbox"/>
		2. NIDV and its regional branches	<input type="checkbox"/>
		3. Faculties of other universities or parts thereof	<input type="checkbox"/>
		4. Secondary or primary schools	<input type="checkbox"/>
		5. Private educational companies and others	<input type="checkbox"/>

**Please indicate how much you agree or disagree with the following statements.**  
(where 1 = lowest preference, 6 = highest preference and 9 = don't know, don't want to answer)




<i>Preferences in the organisation of further education</i>		
In general, I prefer education to be solely theoretical rather than practical.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
I prefer educational events where I can be more active than passive.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
In my further education, I would prefer a face-to-face form over e-learning support.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>

<b>Do you prefer shorter educational events (max. 1 day) or multi-day events?</b>	
1. Yes. I prefer shorter events.	<input type="checkbox"/>
2. No. I prefer longer events.	<input type="checkbox"/>
3. I don't care.	<input type="checkbox"/>

<b>Has it affected participation in further education in the past year (or in other years) your teaching practice?</b>	
1. No <input type="checkbox"/>	
2. Yes <input type="checkbox"/>	→ If so, in what sense? 1. Positively. <input type="checkbox"/> 2. Negatively. <input type="checkbox"/>
3. Other answer 	



**Order the topics of further education to match your preferences.** (for each circle write a serial number where 1 = I prefer the most and 3 = I prefer the least)

<i>Preferences in the content of further education</i>	
Write the order	
	<b>a) Preferences – subject orientation</b> <i>pedagogy, psychology, subject didactics – development of subject and subject didactic competences for subjects and innovations in these areas, improvement of skills to reflect on experience from own pedagogical practice, etc.</i>
	<b>b) Preferences – problem orientation</b> <i>all other issues of school practice and current (“popular”) topics – working with disabled pupils, developing group problem-solving skills, developing communication skills, prevention of bullying, racism, xenophobia, classroom and school climate, environmental education, education for a healthy lifestyle, ethical education, financial literacy, civic education European issues, state school leaving exams, pupil testing, etc.</i>
	<b>c) Preferences – personality orientation and psychological hygiene</b> <i>development of one’s own person and maintaining mental balance – personal development in the broad sense of the word, broadening the cultural and general education of the teacher, foreign language training, ICT competences, programmes oriented towards maintaining the teacher’s mental health, stress management, etc.</i>

## **Part 2 – Factors influencing motivation and decision making for further education**

**For the following motivating factors, please indicate how they influence your decision-making.** (where 1 = low influence, 6 = high influence and 9 = don’t know, don’t want to answer)

<i>Motivational factors</i>		
Introduction of a career system in education.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
The possibility of a transfer to another type of school, institution or office.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
Employer's request.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
The possibility to teach another subject.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
The possibility to strengthen the position among colleagues in the school.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
Opportunity to implement the acquired knowledge in teaching.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
Employer reimbursement of tuition fees.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
The opportunity to gain new knowledge about problem solving when working with students.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>

The opportunity to discuss practice issues with experts.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
The opportunity to learn something new in general.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
The opportunity to meet colleagues and exchange experiences.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>
Organisational and general support from the school management.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 9 <input type="checkbox"/>

**Read the following statements carefully and indicate how much you agree or disagree with them.** (where 1 = lowest level of consent, 6 = highest level of consent and 9 = don't know, don't want to answer)

<i>Barriers to further education</i>		
I do not consider my age to be an obstacle to my further education.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
My health prevents me from continuing my education.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
The obstacle to further education for me is the family situation and personal troubles.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
I am not too busy with work. I have time for further education.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
Further educational events usually conflict with my schedule.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>
Further education at our school is complicated by the reluctance of teachers to agree.	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/>	9 <input type="checkbox"/>

### Part 3 – Occupational demographic characteristics

<b>You are</b>	
1. Man.	<input type="checkbox"/>
2. Woman.	<input type="checkbox"/>

<b>How old were you on your last birthday?</b>	
1. less than 35 years old	<input type="checkbox"/>
2. 36–45 years old	<input type="checkbox"/>
3. 46–55 years old	<input type="checkbox"/>
4. 56 and over	<input type="checkbox"/>

<b>What levels of education and types of schools have you attended?</b> <i>Please tick the relevant degrees completed.</i>	
1. Grammar school or Vocational secondary school	<input type="checkbox"/>
2. Higher education institution (Bc.)	<input type="checkbox"/>
3. University (Mgr., Ing., incl. PhDr., JUDr., ...)	<input type="checkbox"/>
4. University (PhD.)	<input type="checkbox"/>

<b>What position do you work in?</b> <i>You can tick more than one option.</i>	
1. Teacher of general education subjects	<input type="checkbox"/>
2. Teacher of vocational subjects	<input type="checkbox"/>

<b>Which type of school do you work at?</b>	
1. Grammar school	<input type="checkbox"/>
2. Secondary vocational school	<input type="checkbox"/>

<b>How many years have you worked in education as a teacher?</b>	
1. Up to 5 years	<input type="checkbox"/>
2. 6–15 years	<input type="checkbox"/>
3. 16–25 years	<input type="checkbox"/>
4. 26 years and over	<input type="checkbox"/>

<b>How many schools have you taught at during your teaching experience?</b>	
1. One	<input type="checkbox"/>
2. Two	<input type="checkbox"/>
3. Three	<input type="checkbox"/>
4. Four and more	<input type="checkbox"/>

<b>How many subjects do you currently teach?</b>	
1. One	<input type="checkbox"/>
2. Two	<input type="checkbox"/>
3. Three	<input type="checkbox"/>
4. Four and more	<input type="checkbox"/>

**Thank you for your time and patience in completing this questionnaire.**

Questionnaire number	
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# Tabular annex – results of the questionnaire survey

## Teachers' attitudes towards further education

	1	2	3	4	5	6	Total	Mean
I consider lifelong learning to be an integral part of a teacher's life.	1	0	2	10	48	159	220	5.64
	0.5%	0.0%	0.9%	4.5%	21.8%	72.3%	100.0%	
I see further education as an essential part of my job.	2	0	1	17	57	144	221	5.53
	0.9%	0.0%	0.5%	7.7%	25.8%	65.2%	100.0%	
I am convinced that further education of teachers influences the quality of their work.	2	2	6	36	68	108	222	5.21
	0.9%	0.9%	2.7%	16.2%	30.6%	48.6%	100.0%	

## Willingness to further education

	1	2	3	4	5	6	Total	Mean
I am willing to further my education.	4	7	17	25	37	128	218	5.15
	1.8%	3.2%	7.8%	11.5%	17.0%	58.7%	100.0%	
I am willing to participate in further education in my spare time.	7	18	22	64	64	45	220	4.34
	3.2%	8.2%	10.0%	29.1%	29.1%	20.5%	100.0%	
I am willing to contribute financially to my further education.	28	27	31	72	30	26	214	3.59
	13.1%	12.6%	14.5%	33.6%	14.0%	12.1%	100.0%	

## Awareness of further education

	1	2	3	4	5	6	Total	Mean
I search for information about further education opportunities on my own, especially on the internet.	14	21	32	40	45	61	213	4.24
	6.6%	9.9%	15.0%	18.8%	21.1%	28.6%	100.0%	
I find out about further education opportunities from the school management or a designated person.	7	9	17	46	66	68	213	4.69
	3.3%	4.2%	8.0%	21.6%	31.0%	31.9%	100.0%	
Reference from my colleagues and their experience are important to me in this area.	9	16	18	51	55	63	212	4.49
	4.2%	7.5%	8.5%	24.1%	25.9%	29.7%	100.0%	

I learn about further education opportunities from colleagues and friends.	20	19	33	56	57	30	215	3.93
	9.3%	8.8%	15.3%	26.0%	26.5%	14.0%	100.0%	
I read about further education opportunities in professional literature or magazines.	68	32	36	32	26	17	211	2.84
	32.2%	15.2%	17.1%	15.2%	12.3%	8.1%	100.0%	

## Teachers' own activities

	1	2	3	4	5	6	Total	Mean
I follow current political, economic and cultural developments in the Czech Republic and abroad.	2	9	26	90	67	29	223	4.34
	0.9%	4.0%	11.7%	40.4%	30.0%	13.0%	100.0%	
I follow new findings in my area of expertise. pedagogy and psychology.	2	3	25	76	84	31	221	4.49
	0.9%	1.4%	11.3%	34.4%	38.0%	14.0%	100.0%	
I read professional literature, professional journals in the field of teaching.	12	31	38	71	50	19	221	3.78
	5.4%	14.0%	17.2%	32.1%	22.6%	8.6%	100.0%	
I actively seek opportunities for further education.	8	17	40	93	46	15	219	3.90
	3.7%	7.8%	18.3%	42.5%	21.0%	6.8%	100.0%	
I am collaborating on the school's further education plan.	26	24	33	58	44	20	205	3.63
	12.7%	11.7%	16.1%	28.3%	21.5%	9.8%	100.0%	
I contribute to online discussions about school policy.	143	32	22	12	5	2	216	1.66
	66.2%	14.8%	10.2%	5.6%	2.3%	0.9%	100.0%	
I am involved in projects that are solved by the MoEYS or other organizations.	51	22	15	56	44	29	217	3.49
	23.5%	10.1%	6.9%	25.8%	20.3%	13.4%	100.0%	
I participate in professional conferences (passively and actively).	45	39	30	64	25	11	214	3.08
	21.0%	18.2%	14.0%	29.9%	11.7%	5.1%	100.0%	
I am getting ready for class.	1	1	8	37	70	105	222	5.20
	0.5%	0.5%	3.6%	16.7%	31.5%	47.3%	100.0%	

## General satisfaction with further education

	1	2	3	4	5	6	Total	Mean
I have had positive experience with teacher educational events.	11	12	36	82	35	12	188	3.82
	5.9%	6.4%	19.1%	43.6%	18.6%	6.4%	100.0%	
I am satisfied with the overall level of further educational events.	2	8	7	68	77	22	184	4.50
	1.1%	4.3%	3.8%	37.0%	41.8%	12.0%	100.0%	
I am satisfied with the programme offer of teacher training institutions.	11	17	25	67	36	25	181	3.97
	6.1%	9.4%	13.8%	37.0%	19.9%	13.8%	100.0%	
The school management supports further education of teachers.	3	6	5	41	61	97	213	5.08
	1.4%	2.8%	2.3%	19.2%	28.6%	45.5%	100.0%	
I can always put into practice the knowledge gained through further education.	4	7	33	55	57	61	217	4.55
	1.8%	3.2%	15.2%	25.3%	26.3%	28.1%	100.0%	

## Satisfaction with the material and organisational aspects of further education

	1	2	3	4	5	6	Total	Mean
I am satisfied with the content and thematic focus of the further educational events.	3	6	12	67	80	14	182	4.41
	1.6%	3.3%	6.6%	36.8%	44.0%	7.7%	100.0%	
I am satisfied with the material and technical equipment of educational events.	2	8	13	57	76	28	184	4.53
	1.1%	4.3%	7.1%	31.0%	41.3%	15.2%	100.0%	
I am satisfied with the teaching materials I receive at further educational events.	2	12	14	51	69	33	181	4.50
	1.1%	6.6%	7.7%	28.2%	38.1%	18.2%	100.0%	
I am satisfied with the teaching methods used in further education.	2	10	14	71	66	19	182	4.35
	1.1%	5.5%	7.7%	39.0%	36.3%	10.4%	100.0%	
I am satisfied with the professionalism and quality of the teacher trainers.	4	5	14	48	88	26	185	4.56
	2.2%	2.7%	7.6%	25.9%	47.6%	14.1%	100.0%	
I am satisfied with the dates and times of educational events.	3	8	17	60	80	15	183	4.37
	1.6%	4.4%	9.3%	32.8%	43.7%	8.2%	100.0%	

## Dissatisfaction with further education provision

	1	2	3	4	5	6	Total	Mean
The offer of further educational events is insufficient for teachers of my profession.	15	34	43	39	38	31	200	3.72
	7.5%	17.0%	21.5%	19.5%	19.0%	15.5%	100.0%	
At the moment, I have nowhere to be educated given the range of educational institutions on offer.	50	55	37	33	15	8	198	2.66
	25.3%	27.8%	18.7%	16.7%	7.6%	4.0%	100.0%	
Considering the content and form, none of the further education offers have so far interested me.	55	31	47	38	16	13	200	2.84
	27.5%	15.5%	23.5%	19.0%	8.0%	6.5%	100.0%	

## Satisfaction with the school management's approach to further education

	1	2	3	4	5	6	Total	Mean
The school management allows the knowledge from further education to be applied in the classroom.	1	1	4	28	70	102	206	5.29
	0.5%	0.5%	1.9%	13.6%	34.0%	49.5%	100.0%	
The school management communicates educational needs with teachers.	10	9	27	43	72	48	209	4.44
	4.8%	4.3%	12.9%	20.6%	34.4%	23.0%	100.0%	
The school management financially supports the further training of teachers.	17	13	17	53	43	54	197	4.29
	8.6%	6.6%	8.6%	26.9%	21.8%	27.4%	100.0%	
The school management organises teacher training.	7	6	12	39	51	91	206	4.91
	3.4%	2.9%	5.8%	18.9%	24.8%	44.2%	100.0%	

## Preferences in the organisation of further education

	1	2	3	4	5	6	Total	Mean
In general, I prefer education to be solely theoretical rather than practical.	65	49	35	38	7	8	202	2.49
	32.2%	24.3%	17.3%	18.8%	3.5%	4.0%	100.0%	
I prefer educational events where I can be more active than passive.	5	13	34	61	43	43	199	4.27
	2.5%	6.5%	17.1%	30.7%	21.6%	21.6%	100.0%	
In my further education, I would prefer a face-to-face form over e-learning support.	12	21	21	37	47	49	187	4.25
	6.4%	11.2%	11.2%	19.8%	25.1%	26.2%	100.0%	



## Motivational factors

	1	2	3	4	5	6	Total	Mean
Introduction of a career system in education.	34	27	26	41	35	24	187	3.47
	18.2%	14.4%	13.9%	21.9%	18.7%	12.8%	100.0%	
The possibility of a transfer to another type of school. institution or office.	60	46	25	30	27	16	204	2.83
	29.4%	22.5%	12.3%	14.7%	13.2%	7.8%	100.0%	
Employer's request.	17	22	20	51	60	39	209	4.11
	8.1%	10.5%	9.6%	24.4%	28.7%	18.7%	100.0%	
The possibility to teach another subject.	59	29	19	41	33	26	207	3.18
	28.5%	14.0%	9.2%	19.8%	15.9%	12.6%	100.0%	
The possibility to strengthen position among colleagues in the school.	58	36	23	46	26	16	205	2.97
	28.3%	17.6%	11.2%	22.4%	12.7%	7.8%	100.0%	
The opportunity to implement the acquired knowledge in teaching.	4	1	15	32	77	86	215	5.02
	1.9%	0.5%	7.0%	14.9%	35.8%	40.0%	100.0%	
Employer reimbursement of tuition fees.	19	21	22	40	54	53	209	4.19
	9.1%	10.0%	10.5%	19.1%	25.8%	25.4%	100.0%	
The opportunity to gain new knowledge about problem solving when working with students.	4	1	14	36	76	86	217	5.01
	1.8%	0.5%	6.5%	16.6%	35.0%	39.6%	100.0%	
The opportunity to discuss practice issues with experts.	8	7	16	46	54	85	216	4.79
	3.7%	3.2%	7.4%	21.3%	25.0%	39.4%	100.0%	
The opportunity to learn something new in general.	2	1	11	31	68	105	218	5.19
	0.9%	0.5%	5.0%	14.2%	31.2%	48.2%	100.0%	
The opportunity to meet colleagues and exchange experiences.	6	8	15	43	73	72	217	4.77
	2.8%	3.7%	6.9%	19.8%	33.6%	33.2%	100.0%	
Organisational and general support from the school management.	8	13	27	57	54	50	209	4.37
	3.8%	6.2%	12.9%	27.3%	25.8%	23.9%	100.0%	

## Barriers to further education

	1	2	3	4	5	6	Total	Mean
I do not consider my age to be an obstacle to my further education.	10	8	16	22	35	128	219	5.05
	4.6%	3.7%	7.3%	10.0%	16.0%	58.4%	100.0%	

My health prevents me from continuing my education.	150	30	19	10	6	4	219	1.65
	68.5%	13.7%	8.7%	4.6%	2.7%	1.8%	100.0%	
The obstacle to further education for me is the family situation and personal troubles.	88	39	32	34	20	5	218	2.42
	40.4%	17.9%	14.7%	15.6%	9.2%	2.3%	100.0%	
I am not too busy with work. I have time for further education.	56	53	46	41	13	6	215	2.63
	26.0%	24.7%	21.4%	19.1%	6.0%	2.8%	100.0%	
Further educational events usually conflict with my schedule.	23	26	20	51	42	39	201	3.90
	11.4%	12.9%	10.0%	25.4%	20.9%	19.4%	100.0%	
Further education at our school is complicated by the reluctance of teachers to agree.	73	43	30	27	6	4	183	2.25
	39.9%	23.5%	16.4%	14.8%	3.3%	2.2%	100.0%	

### Professional demographic characteristics

Gender		
Men	89	39.7%
Woman	135	60.3%
Total	224	100.0%

Age		
Up to 35 years	53	23.7%
36–45 years old	67	29.9%
46–55 years old	73	32.6%
56 years and over	31	13.8%
Total	224	100.0%

Education		
Secondary	26	11.7%
Bachelor	3	1.4%
Master	187	84.2%
Doctoral	6	2.7%
Total	222	100.0%

Teacher's professional field		
Teacher of general education subjects	131	58.5%
Teacher of vocational subjects	93	41.5%
Total	224	100.0%

<b>School type</b>		
Grammar school	75	33.5%
Secondary vocational school	149	66.5%
Total	224	100.0%

<b>Length of teaching experience</b>		
0-5 years	28	12.6%
6-15 years	74	33.2%
16-25 years old	68	30.5%
26 years and over	53	23.8%
Total	223	100.0%

<b>School ranking within teaching practice</b>		
One	93	41.7%
Two	73	32.7%
Three	43	19.3%
Four and more	14	6.3%
Total	223	100.0%

<b>Number of subjects taught</b>		
One	49	22.2%
Two	89	40.3%
Three	43	19.5%
Four and more	40	18.1%
Total	221	100.0%

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