

PAPER

Teaching Vocational Subjects in Secondary School: A New Career or a Backup Plan?

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ABSTRACT

For several years now, not only in the Czech Republic, we have been witnessing various discussions related to the issue of secondary vocational education, especially the shortage and decline of erudite and qualified teachers of vocational subjects. Another issue that increases the demand for new teachers is the ageing of the teaching staff of secondary vocational schools. The government and education policy are responding to this situation in various ways—by increasing salaries, mitigating qualification requirements, promoting qualification training, etc. The objective of this paper is to present a course aimed at qualifying teachers of vocational subjects for secondary schools and to report the results of a survey conducted among its participants. The results were compared according to selected socio-demographic characteristics. The new three-semester course has been implemented since 2020 at a public university in the Czech Republic, which has almost 60 years of experience in various forms of secondary school teachers of vocational subjects training within their fields of specialization. The survey was conducted via an electronic questionnaire and received responses from 100 respondents. The most interesting results include, for example, that about 60% of the respondents attended the course in order to obtain a qualification as a teacher of vocational subjects for secondary schools for possible future use—to strengthen their employability opportunities on the labour market, not because they are already working at a secondary school or because they currently need this qualification.

KEYWORDS

secondary vocational schools, teacher of vocational subjects, teacher qualification

1 GENERAL BACKGROUND

Interesting inspiration for the preparation of this paper included the findings and results of the Exceptional Inquiry into the state of teaching provision by teachers in kindergartens and primary and secondary schools [1]. The material was prepared to determine the state of provision of teaching in regional education and other issues in this area. The document states that “the situation in the education system is not ideal

Adamec, P. (2023). Teaching Vocational Subjects in Secondary School: A New Career or a Backup Plan? *International Journal of Engineering Pedagogy (iJEP)*, 13(5), pp. 142–160. <https://doi.org/10.3991/ijep.v13i5.37555>

Article submitted 2022-12-21. Resubmitted 2023-03-27. Final acceptance 2023-04-12. Final version published as submitted by the authors.

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in terms of teacher staffing.” The obstacles are, of course, found in the traditional and long-known categories, such as the high average age of the teachers, relatively low financial remuneration, lower prestige of the teaching profession, and general lack of a quality workforce as well as lack of graduates with teaching qualifications. It is teacher education, or qualifications determined by law (i.e., professional certification), that is largely the subject of this text.

In 2018, the average age of teachers in Organisation for Economic Co-operation and Development (OECD) countries was around 44 years of age, and the average age of principals was 52 years [2]. The Czech Republic has a relatively higher overall average age of teachers (47.2 years), with secondary schools showing an even higher average age (49.4 years). There is a significant gender imbalance in education, with men occupying only 1/5 of the teacher positions. The highest representation of men is recorded in secondary schools (39.7%). The shortage of teachers, especially in certain subjects and specializations, was also one of the central issues of the National Survey of the Ministry of Education, Youth and Sports (MoEYS) conducted in schools in 2019. It confirmed that the teachers of retirement age are gradually leaving the education system and there is a lack of graduates in teaching to fill these gaps. In the 2018/2019 school year, novice teachers represented only 3.7% of the teaching staff in schools, which is insufficient for the natural renewal of teaching teams [3].

The basic directions and tendencies of development in the field of education are anchored in the following key strategic documents: the Strategy of the Education Policy of the Czech Republic until 2020, the Long-term Plan of Education and Development of the Education System of the Czech Republic 2015–2020, the Long-term Plan of Education and Development of the Education System of the Czech Republic 2019–2023, the Digital Education Strategy until 2020 and the Strategy of the Education Policy of the Czech Republic until 2030 (Strategy 2030+), which was approved in October 2020 [4–8].

The main priorities in the above-mentioned documents for the period 2015–2020 set out for all teachers, including VET teachers: completion and introduction of a career system for teachers and the improvement of their working conditions, creation of a competency profile for teachers, reform of the concept of further education for teachers, increasing of teachers’ salaries and the attractiveness of the teaching profession for new-candidate acquisition, support of novice and experienced teachers as mentors (including the creation of a comprehensive system of implementation), and support of the involvement of practitioners (professionals) from related fields in teaching. Strategy 2030+ also envisages strengthening teachers’ well-being and reducing their exposure to stress by introducing systematic support for stress management [3]. Increasing teachers’ salaries can enhance the attractiveness of the teaching profession and the interest in studying pedagogical fields. At the same time, it can increase the chances of bringing back those who left the teaching profession for financial reasons and found employment elsewhere. According to the Czech School Inspectorate, in 2021 the average salary of a secondary-school teacher reached 152% of the 2017 salary amount [9, 10].

The development of pedagogical competences is given considerable attention in various developed foreign countries and is mostly institutionalized. Over the past decades, lifelong learning centres have been established at universities to offer developmental education programmes and other support activities that are either part of teacher preparation or part of teacher professional development activities. These educational programmes are accredited by MoEYS, which also sets standards and methodological recommendations for programmes submitted for accreditation in the so-called system of further education of the teaching staff. When submitting

a programme for accreditation, it is necessary to specify particular topics, specify their content, determine the estimated hourly allocation, and assign lecturers to particular topics. In the case of a combined form of training, it is necessary to specify the topics implemented in the on-location form and the topics implemented in the distance form with the possibility of entering the LMS (Learning Management System) environment. This is a way to ensure quality in vocational education, which is essential in this case [11].

2 VOCATIONAL SECONDARY EDUCATION IN THE CZECH REPUBLIC—SCHOOLS, STUDENTS, AND TEACHERS

Vocational secondary education draws on a long tradition of high quality and has undergone intensive development in recent decades, including changes to the curriculum content. The main body responsible for initial vocational education is the Ministry of Education, Youth and Sports of the Czech Republic. Initial vocational education and training consists of three coherent parts: a general education component, a vocational component, and practical training. The proportion of these three components varies depending on the training programme [12].

Typical subjects of the vocational education component are, for example, technical drawing, mechanical engineering, electrical engineering, engineering technology, accounting, business economics, and others, depending on the nature and specialisation of the secondary school (economics, agriculture, veterinary, mechanical engineering, construction, chemical, medical, textiles, etc.). The vocational education component used to include subjects with content relating to the basics of information and communication technologies. Nowadays, however, they are already considered part of everyone's general education. Typical subjects belonging to the general education component include, for example, Czech language and literature, foreign languages, civics, history, geography, mathematics, physics, chemistry, biology (the basics of natural sciences), basics of ecology, physical education, etc. [13].

Czech secondary education is carried out in the so-called fields of education, the system of which is established by the Government by Regulation [14]. 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 evaluation of educational results, and the development and the assessment of textbooks. These issues have recently been addressed [15, 16]. In the education system, all fields of study are systematically classified according to their code into education categories—determining the degree of education obtained by completing a given field of study—and into field groups, or fields of study, according to the educational content related to future employment [17].

Initial vocational training takes place in schools and includes a high proportion of practical training (in-schools, workshops, school farms or other commercial establishments, training centres, and companies). Secondary vocational education programmes (with or without certification upon completion—ISCED 2C/EQF 2–3) represent only a marginal segment of secondary education, as they are primarily designed for pupils with specific educational needs. These educational programmes are provided by vocational secondary schools (VETs) or practical schools. Vocational secondary education programmes leading to a diploma or a completion certificate (ISCED 3Ca 3A/EQF 3–4) are mostly provided by VETs. Graduates of apprenticeship courses can enrol in a two-year follow-up course (ISCED 4A/EQF 4) and take the baccalaureate exam, which opens the way to higher education. Four-year vocational

programmes ending with the baccalaureate (ISCED 3A/EQF 4) are generally implemented in vocational secondary schools and enable graduates to enrol in a university or to work in technical, administrative, or similar mid-level occupations (e.g., construction technician, IT systems administrator). Vocational secondary schools also offer lycée programmes with a high proportion of general education (up to 70% of the curriculum), which prepare graduates especially for university studies. Conservatories are a specific type of secondary school that prepare students for artistic careers in music, dance, singing, and drama [12].

In the school year 2020/2021, according to the data of the MoEYS, 1,280 secondary schools were registered, including 354 grammar schools and 986 vocational secondary schools. There were 273 schools providing post-secondary education, with 432,906 pupils in secondary schools in the Czech Republic in the school year 2020/2021. A total of 44.9% of them were enrolled in vocational education with a completion examination, 30.5% were pupils of grammar schools, and 20.9% were pupils of secondary vocational schools [18, 19].

There are more than 170,000 teachers (individual persons) working in regional education (i.e., kindergartens and primary and secondary schools) in the Czech Republic, of whom about 45,000 work in secondary education. Teachers of vocational subjects account for around 9,500 (converted into full-time equivalents). In terms of teaching specific subjects or groups of subjects, we find that all groups of teachers are above the average age rate of teachers in regional education (47.2 years) in the case of secondary schools, i.e., teachers of vocational subjects (50.9 years), teachers of practical education (50.3 years), teachers of vocational training (50.3 years), and teachers of general subjects (48.4 years) [1]. For more information, see Table 1.

Table 1. Number of secondary school teachers in the 2018/2019 school year by gender and average age

	Number of Secondary School Teachers						Average Age		
	Men		Women		Total		Men	Women	Total
GEST*	7,155	32%	15,329	68%	22,484	59%	47.8	48.8	48.4
VST**	4,151	44%	5,216	56%	9,367	25%	52	50.1	50.9
PEVTT***	3,893	61%	2,517	39%	6,410	16%	51.5	48.9	50.3
Total	15,199	40%	23,063	60%	38,261	100%	49.8	49.1	49.4

Notes: *Teachers of general education subjects; **Teachers of vocational subjects; ***Teachers of practical education and vocational training.

In 2019, the proportion of teachers with a master's degree or higher was about 81%, with lower levels of education accounting for about 19%—of which 5% were bachelor's degrees, just under 12.5% were those with secondary education and a high school diploma, and the remainder were those with still lower levels of education [1]. Even in secondary schools, there is a noticeable predominance of women in the teaching staff. However, it is not as significant as in preschool education or primary schools. On average, women constitute 60% of the teaching force in secondary schools. The proportion of men varies considerably according to the type and field of education. For example, two-thirds of teachers in 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 predominance is even higher (68%) [20].

3 QUALIFICATION REQUIREMENTS FOR TEACHERS OF VOCATIONAL SUBJECTS FOR SECONDARY SCHOOLS

The teaching profession is one of the so-called regulated professions, and the conditions for its performance—including the requirements for professional qualifications, education, or experience—are defined in the Czech Republic by Act No. 563/2004 Sb., on pedagogical staff [21]. In particular, Section 9 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:

- a) teachers of general education subjects
- b) teachers of vocational subjects**
- c) practical teachers
- d) teachers of practical training in medical care
- e) vocational training teachers
- f) teachers of vocational training in the medical professions
- g) teachers teaching in a class or school set up for pupils with specific educational needs
- h) teachers of artistic subjects

Teacher training is considerably different in each European country. There are various descriptive or comparative studies on this topic [22–24]. In the Czech Republic, the undergraduate preparation of teachers of vocational theoretical subjects and practice teachers is characterised by the consecutive model. **Teachers of vocational subjects** in secondary schools are mainly trained as specialists in their field in master's studies (usually following a bachelor's degree in the same field) at various types of universities (technical, economic, and agricultural universities, or others). At present, only two universities in the country have a concurrent teacher training programme, where students can complete a master's degree programme, including courses focused on teaching, and thus acquire a professional teaching qualification. However, the aforementioned **consecutive model of training** is more common. After a professional master's degree, teachers usually have to “follow-up” with a teaching qualification.

These methods are specifically described in Section 9(2) of the Pedagogical Staff Act [21], which states that a teacher of vocational subjects at a secondary school acquires a professional qualification through higher education obtained by studying in an accredited master's degree programme:

- in the field of pedagogical sciences aimed at the preparation of teachers of vocational subjects in secondary school;
- in the field of pedagogical sciences aimed at the preparation of teachers of general education subjects of the second stage of primary school and general education subjects of secondary school of the field of study corresponding to the nature of the professional subject taught;
- in the field of educational sciences aimed at the preparation of teachers of general education secondary school subjects in the field of study appropriate to the nature of the professional subject taught; or
- in a field of study that corresponds to the nature of the professional subject taught; and

- a university degree obtained by studying in an accredited programme of study in the field of pedagogical sciences aimed at preparing secondary school or second-level primary school teachers;
- an education in a further education programme run by a university and aimed at preparing teachers for secondary or upper primary school; or
- **studies of pedagogy according to Section 22 of the Pedagogical Staff Act [21].**

Secondary vocational schools are characterised by a high proportion of teachers who are graduates of the so-called “complementary pedagogical studies,” which is a shortened and popular term for a situation when a university-educated person in a particular field completes a programme aimed at qualifying as a teacher of vocational subjects in secondary school, under the option highlighted in boldface above. The differences in the extent to which and how general subject teachers and vocational subject teachers obtain their teaching qualifications are shown in Table 2.

Table 2. Distribution of the methods of obtaining teaching qualification of secondary school teachers

	Degree in Teaching at University	Complementary Pedagogical Studies: Study of Pedagogy	Other Pedagogical Disciplines at the University	Without Pedagogical Education
Overall	57.4%	33.7%	3.6%	5.2%
Teachers of general education subjects	83.1%	11.6%	2.4%	2.9%
Teachers of vocational subjects	25.5%	61.7%	5.5%	7.3%
Vocational training teachers	11.2%	73.7%	4.8%	10.3%
Practical teachers	30.9%	50.4%	7.2%	11.5%

The proportion of teachers without the qualifications required by the Pedagogical Staff Act [21] is 6.6% in the national average of the Czech Republic (including teachers of kindergartens and primary schools). The situation varies considerably from region to region, with some regions reaching 12.5%. In the case of secondary vocational schools, the proportion of unqualified teachers is 5.3%. Of the more than 2,000 full-time teaching positions, more than a third are in general education, about a third in vocational subjects, a quarter in vocational training, and less than 4% in practical teaching [1].

According to an amendment to the Pedagogical Staff Act [21], effective since 2015 and responding to the shortage of teachers of vocational theoretical subjects and vocational training, experts from practice (so-called “hybrid teachers”) can work in vocational schools under specific conditions. They either work with pupils on a regular basis or teach together with vocational theory teachers, or sometimes come to school as guests to present a specific topic. The amendment allows secondary-school principals to recognise professional qualifications and grant teaching status to so-called practitioners, i.e., professionals in related fields, even though they have not obtained a teaching qualification. However, the working hours of these teachers may not exceed half of the weekly working time allowance, and they themselves must continue their professional activity in the field outside the school. School principals may also now employ persons with a university degree in the field to carry out direct teaching activities for a maximum period of three years. During this period, they are required to obtain a teaching qualification, usually offered as part of further

vocational education provided by universities [3]. This can be obtained, for example, at the workplace, as specified in Section 4.

4 THE STUDY OF PEDAGOGY COURSE AND IMPLEMENTING INSTITUTIONS

4.1 The educational institution and programme information

The course is implemented by the Institute of Lifelong Learning, which is part of Mendel University in Brno. The University consists of five faculties and one university institute. Mendel University in Brno also has had a tradition of **higher education pedagogy**. Courses of this type were held at the university starting in 1983. They were focused on theoretical and practical aspects of the profession of a higher education teacher and complex teaching design. The courses used to be divided into two thematic areas: psychosocial and pedagogical-didactic. The course participants particularly appreciated the information on organisational forms and methods applicable to their teaching, including an overview of material and didactic resources and the possibilities of using information and communication technologies. The course also included the development of the psychological qualities of a higher education teacher's personality, with an emphasis on dealing with stressful situations, ways of coping with stress, and psychohygiene [25]. Each year, about two dozen academic staff members, mainly from the ranks of those starting out (PhD students), participated in these courses. Due to low interest, the implementation of these activities was discontinued in 2018, hopefully only temporarily. Although these courses are not currently being offered, we are cooperating on the development of this area with our Slovak colleagues from the University of Žilina, which has long been involved in the development of pedagogical competences of novice higher education teachers [26].

The Study of Pedagogy course is intended for those who wish to qualify as a secondary school teacher, specifically **as a teacher of vocational subjects** according to Section 9 of the Pedagogical Staff Act [21], with a focus on teaching agricultural (including forestry, horticulture, ecology, farming, timber harvesting), technical (including mechanisation, IT), economic (including trade and services, administration, business), and medical (including veterinary) subjects. The graduate will acquire knowledge and skills in the field of pedagogy, didactics, and psychology, which are an essential part of the professional qualification of pedagogical staff according to the aforementioned law. The study includes three modules: *Foundations of Pedagogy and Didactics*, *Foundations of Psychology for Educators*, *Additional Topics and Practice*. Their content is divided into 15 sub-courses. The time span of education is three semesters, and it is organised in a combined form. The total number of lessons is 154, of which 105 lessons are full-time and 49 lessons are distance learning. The direct teaching is carried out in a block format in the form of two-day learning sessions on Friday afternoon and Saturday. There are four blocks of direct teaching each semester. In the third semester, pedagogical practice in schools takes place. The course is concluded with a final thesis and a final examination [27]. The complete course curriculum is listed below in Table 3.

The prerequisite for admission to the course and subsequent qualification as **a teacher of vocational subjects** is a university degree obtained by studying in a master's degree programme in an agricultural, economic, technical, or medical field that corresponds to the nature of the vocational subjects taught. Graduation is conditional on meeting the requirements set by the course supervisors and a minimum of

75% participation rate in direct teaching. Upon successful completion of the courses, the students will complete their studies by taking a final examination in front of a committee. The examination includes the defence of the final written thesis and the final colloquium. On the basis of passing the final examination, the graduate receives a Certificate of Completion of the Lifelong Learning Programme “Study of Pedagogy” in accordance with Section 22(1)(a) of the Pedagogical Staff Act [21], and Section 3 of Decree No. 317/2005 Sb., on further education of pedagogical staff, accreditation commission, and career system of pedagogical staff [27, 28].

Table 3. The curriculum of the course study of pedagogy

Module	Subject	Number of Hours	Number of Hours	Number of Hours
		Overall	PV*	DV
INTRODUCTION	Introduction to the study	2	1	1
MODULE 1: Basics of pedagogy and didactics	General pedagogy	12	8	4
	Basics of social pedagogy	12	8	4
	Pedagogical diagnostics and evaluation	9	6	3
	Special education and counselling	12	8	4
	General didactics	12	10	2
	Didactics of professional subjects**	16	12	4
	Agricultural disciplines			
	Economic disciplines			
	Technical disciplines			
	Medical disciplines	8	4	4
Digital technologies in education				
MODULE 2: Basic psychology for teachers	General psychology and personality psychology	9	6	3
	Educational psychology	12	8	4
	Developmental and social psychology	12	8	4
MODULE 3: Additional topics and practice	Communication and ethical aspects in the teaching profession	6	6	0
	Fundamentals of school management and law	7	4	3
	Pedagogical practice	22	14	8
	Seminar for the final thesis	3	2	1
TOTAL		154	105	49

Notes: *PV, full-time teaching; DV, distance learning. **By specialisation: compulsory or optional.

The three-semester programme was newly accredited in February 2020 and the first course started in September the same year. The first cycle ended in January 2022 with the final exams. As mentioned above, the course is open to graduates in agricultural, economic, technical, or medical-related subjects that match the nature of the vocational subjects potentially or already taught (if the trainee is already teaching at secondary school). There has been—and still is—a great deal of interest in the course. From March 2020, when the offer was first published, to the end of September 2022, a total of 484 applications have been recorded, corresponding to

an average of 15 applications per month. You can see the number of applications by month during this period in Figure 1 below.

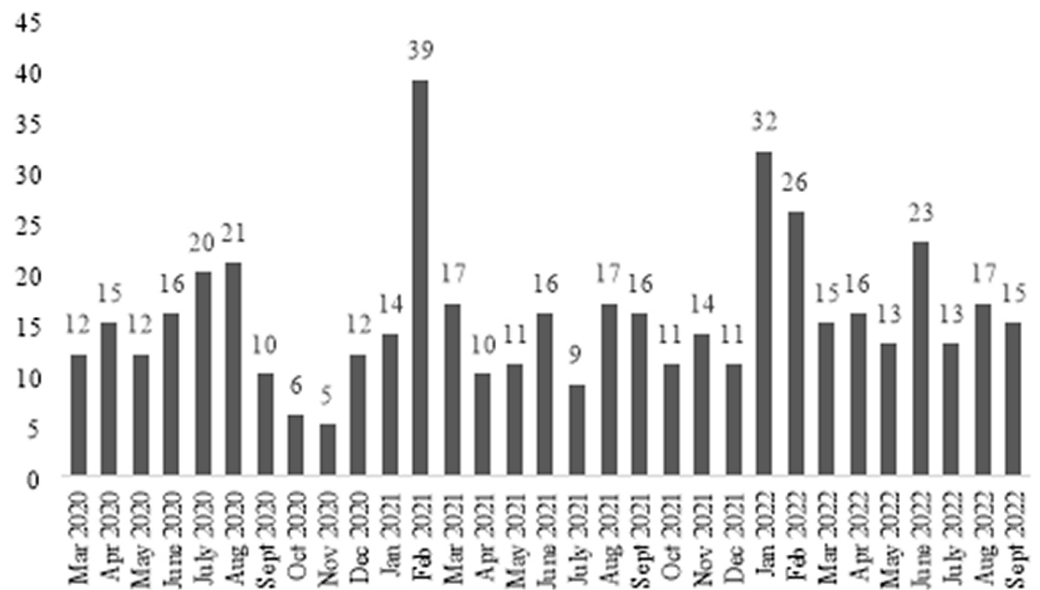


Fig. 1. Number of applications for the study of pedagogy course from March 2020 to September 2022

The maximum capacity of one course enrolment is about 20–25 people. At the same time, it should be noted that not all candidates eventually join the course and the “drop-out rate in this sense is relatively high—about 40%. This is mainly due to the fact that those interested in participating in the course have to wait until the next enrolment period opens, which can take from six months to a year. The staff and spatial capacity of the Institute of Lifelong Learning is unfortunately limited in this respect. In order to meet the huge demand, distance learning could be a solution in the future, but it is not suitable for courses of this type.

4.2 Perspective of the course development in the context of the current situation

The MoEYS initiated an amendment to the Teaching Staff Act in 2022, which is currently going through the legislative process. The amendment focuses mainly on “opening up the teaching profession” to persons without teaching qualifications, which is intended to address the perceived shortage of teachers in primary and secondary schools. It is generally known that the shortage of teachers is mostly regional (in particular, three regions have significant teacher shortage issues), and at the same time the shortage is related to selected teaching specializations. The most urgent demand is for teachers of mathematics, physics, chemistry, computer science, and English. In vocational subjects in secondary schools, there is a shortage of teachers of engineering and electrical engineering, with the average age of teachers in these subjects being 55 years. However, a non-negligible factor of this situation is the strong jump in enrolment at secondary schools in 2007 and 2008, which caused even more significant demand for teachers [10].

The so-called opening up of the teaching profession has its supporters as well as opponents. In particular, the problems relate to the requirements for “qualifications” not “credentials.” Teacher specialization refers to teaching specific subjects,

a concept not yet known in legislation. Qualification is the fulfilment of the requirements specified by the law. The current amendment draft states that a school principal may employ a person without professional qualifications provided that they complete them within three years by graduating from a teacher-training course or a complementary pedagogical study (e.g., a study of pedagogy). Unfortunately, in the Czech Republic, a system that would keep track of the number of graduates of pedagogical faculties and teachers in the regions by individual qualifications does not exist. At the same time, there is no record of the qualifications of teachers in individual regions and in real time. Such data would be a suitable basis for the proposal of legislative changes [10]. Also, the potential of secondary or university students to study teaching is not systematically investigated and dealt with, as is the case in other countries [29].

The universities that prepare teachers are especially critical of the amendment to the law, arguing that the quality of new teachers will suffer. One of the ways to control the quality of prospective teachers is to increase the quality of additional pedagogical studies as the only relevant option for an already university-educated person to obtain a teaching qualification. Currently, the MoEYS is preparing a concept for the evaluation of this type of qualification education and changes related to the application for its accreditation. The conceptual changes will also be related to the quality requirements for teachers in these programmes. This means that the quality of teachers should not only reflect the level of their academic qualifications (e.g., degrees), but also their teaching and didactic skills and experience [10, 30].

This paper presents one such qualification course (Study of Pedagogy), whose accreditation is valid for three years. We assume that the next accreditation will already have to be obtained according to the new rules. As the guarantor of this education at Mendel University in Brno, I believe that our team is contributing with all its strength and capacity to educate sufficiently qualified teachers for secondary vocational education in the Czech Republic. Therefore, for the duration of the current accreditation, this obliges us to follow innovative trends in the field of secondary vocational education and engineering pedagogy in order to fully compete in the market for this type of education. One path we have already partly followed is the introduction of a higher degree of distance-learning or mobile-learning elements in the course. The graduates of qualifying studies should be prepared to use these forms of learning as well, according to research conducted among school principals [31, 32]. This will require an improvement in the technological equipment of the university and at the same time an increase in the competence of the course lecturers. At the same time, we are aware of the need to emphasize the quality of the lecturing team, which should be staffed by both academics who are proficient in modern information technology and experienced and motivated teachers from practice [33].

5 THE STUDY OF PEDAGOGY COURSE PARTICIPANTS SURVEY

Here we present the results of a survey conducted among the participants of the above-mentioned course; the Study of Pedagogy. From November 15, 2021 to February 28, 2022, a survey was carried out among all current participants of the course via the Microsoft Forms tool, focusing on their motivation to study pedagogy and thus obtain the qualification of a teacher of vocational subjects in secondary school.

At that time, five cycles of the course had already taken place. The survey contained ten questions, four of which were mainly related to the socio-demographic characteristics of the respondents: age, gender, field of study at university, and current profession. Two questions were close-ended, whereby the respondents could express their agreement on a four-point scale ranging from “definitely yes” to “definitely no.” Specifically, the survey included the following questions:

- Q-1: Are you male or female?
- Q-2: How old were you on your last birthday?
- Q-3: What university major did you graduate with?
- Q-4: What is your current profession?
- Q-5: Why did you sign up for this course, and what motivated you?
- Q-6: Did you have any favourite teacher at school?
- Q-7: Were either of your parents a teacher or still are?
- Q-8: Do you intend to make a living as a secondary school teacher after you graduate from this course?
- Q-9: Did the COVID-19 pandemic affect your eventual decision to work as a teacher?
- Q-10: Please provide us with any additional information and insights from the course.

The answers to the questions were then processed in a descriptive statistics methods way, and the answers were compared by socio-demographic characteristics: gender, age, and field of education (the categorization can be seen in the following tables). For dichotomously distributed variables (gender, age), a two-sample *t*-test was used for two independent sets. For variables that are divided into three or more categories (type of field of education), a simple analysis of variance (ANOVA) was used. In the case of small sets, non-parametric statistical methods were used, in this case the Kruskal-Wallis test. The level of statistical significance (*p*-value) was set at 5%. Statistical analysis of the data was performed using a particular statistical data-processing software, IBM SPSS Statistics, version 21.

5.1 Structure of the course participants and survey respondents

A partial outcome of this survey was a socio-demographic micro-analysis of the structure of participants in the courses held so far, which yielded interesting results about the “target group”—those interested in participating in the course. This micro-analysis also answers the first four questions of the survey. Women predominated among the course participants (71%), which confirms the above information about the structure of teachers in the Czech Republic. Interestingly, from a sociological point of view, the age of the participants in the five courses ranged from 34 to 47 for men and from 34 to 38 for women. The average age did not differ much between the two genders ($M=39.3$ and $F=36.5$), while the overall mean age of the course participants was about 37 years of age. This Figure was subsequently chosen as an assumed dividing line in the context of identifying statistically significant differences in respondents’ answers. The basic structure of the participants in the five course enrolments, is presented in Table 4.

Table 4. The socio-demographic micro-analysis of the course study of pedagogy

	Gender	Total		Average Age
Enrolment 1	men	9	32%	34.4
	women	19	68%	37.7
	Total	28	100%	36.6
Enrolment 2	men	11	32%	38.4
	women	23	68%	36.9
	Total	34	100%	34
Enrolment 3	men	9	27%	42.3
	women	24	73%	36.5
	Total	33	100%	38.1
Enrolment 4	men	6	18%	47.2
	women	28	82%	36.9
	Total	34	100%	38.7
Enrolment 5	men	12	35%	37.7
	women	22	65%	34.5
	Total	34	100%	35.6
Total	men	47	29%	39.3
	women	116	71%	36.5
	Total	163	100%	37.3

Out of a total of 163 trainees at various stages of the course—five courses were already under way at the time—exactly 100 of them responded, a return rate of 61.3%. Among the respondents, i.e., those who answered the survey questions, there were 29 men and 71 women. The mean age of respondents was 36 years ($M=38.3$; $F=35.3$), the median was 37 years ($M=39$; $F=36$), and the modus 39 years ($M=45$; $F=24$). The youngest participant was 20 years old ($M=20$; $F=21$), and the oldest was 55 years old ($M=54$; $F=55$). The distribution of the respondents by age can be seen in Table 5. A quarter of the respondents were graduates in agriculture (24%), a fifth were graduates in engineering (19%), almost half had a degree in economics (45%), and more than a tenth were graduates in medical field (12%).

Table 5. The structure of survey respondents by gender and age

	Men		Women		Total
≤30 years old	10	31.2%	22	68.8%	32
31–35 years old	3	18.8%	13	81.2%	16
36–40 years old	2	10%	18	90%	20
41–45 years old	5	29.4%	12	70%	17
≥46 years old	9	60%	6	40%	15
Total	29	29%	71	71%	100

In general, it can be stated that almost all respondents were currently working in a wide variety of professions largely or at least somehow related to the field they studied at university. The following positions or professions appeared in the responses: a self-employed arborist, a teaching assistant, a technician in conveyor belt company, a pharmacist, a marketing manager, an automotive process engineer, a designer, a farmer, a cybersecurity specialist, a machine worker, a high school teacher, a programmer, a clerk, a law firm manager, a nurse, a payroll accountant, a project manager, a self-employed person, a banker, a marketing and HR manager, a bank advisor, an accountant, an economist, a financial advisor, a sales representative, an operations manager, a methodologist in an insurance company, an HR manager, an auditor, a financial analyst, a production planner, a head of auto insurance, a sales manager, a managing director of a construction company, an accountant as well as a first aid lecturer, a teaching assistant, and a tourist information centre worker. Fifteen women were on parental leave.

5.2 Summary of the survey results

In terms of relative representation, more than half of the respondents (about 60%) declared in their answer to question 5 that the course of study was a means of expanding their future employment opportunities and possibly acquiring new knowledge and skills. In other words, there was nothing currently forcing them to obtain this qualification. An example is the following typical statement: “I don’t plan to work as a teacher all my life. I see the course as a broadening of my horizons, and I would consider a possible career as a teacher later in life so that I could pass on some of the practicalities to my pupils” (male, 25 years old). These respondents also included women on parental leave (about 1/5), who were creating potential career opportunities for themselves after their parental leave had ended. “For a woman, the teaching profession is very attractive—both in terms of time and money, plus I won’t have to deal with childcare during the holidays” (female, 37 years old). Among the respondents, only 20% were currently working as teachers of vocational subjects (or in a related position, but in the education field) and needed this qualification to perform their job. The remaining one-fifth of respondents said they were taking the course for a variety of reasons: social, philanthropic, morally satisfying, working with children, dream job, desire to make a difference in education, desire to pass on information and educate, etc. Some respondents (about 5%) stated that they would like to work as teachers in the future because they plan to move from the private sector to the education field with the idea of a more peaceful job with a regular salary. Only a few respondents were motivated by “holidays” due to childcare, etc. The survey results show that the respondents were only slightly aware of the liabilities of the teaching profession, such as burnout syndrome. This problem is very typical for “relational” professions, such as healthcare [34].

Only 12% of the respondents stated they did not have any favourite teacher at school (question 6). All other respondents claimed they had had at least one favourite teacher and gave examples and characteristics of those teachers. The most frequently cited characteristics of favourite teachers were, on one hand, humanity, politeness, ability to listen and to speak, helpfulness, fairness, willingness, ability to evaluate fairly, and ability to admit mistakes, and on the other hand, professionalism and passion for the field, including the ability to motivate, enthuse, and excite pupils using examples from practice and life experience. One quote worth mentioning was:

“My mathematics teacher at high school showed me the direction to take after high school, motivated me to explore. A mistake with her was never a mistake, but rather a challenge and motivation to continue learning. She inspired me a lot” (female, 39 years old). Last but not least, those popular teachers did not lack a sense of humour, empathy, human approach, and the ability to praise at the right moment. In relation to question 7, it was found that exactly three-quarters (75%) of the respondents answered that neither of their parents was or currently is a teacher. Only a quarter of the respondents answered this question in the affirmative, indicating that at the same time there was another member in the family who was a teacher (aunt, uncle, grandmother, grandfather).

Table 6 shows the answers to question 8. It indicates that more than 4/5 of the respondents (the sum of “rather yes” and “definitely yes,” or 83%) tended to become a teacher of vocational subjects after graduation. However, a closer look at this result shows that men had a more negative attitude towards their future as teachers than women: 28% of men answered “rather no,” in contrast to women, who clearly had a much more positive attitude (only 13% answered “rather no”). Individual responses were also categorized on a scale of 1–4, with 1 being “definitely no” and 4 being “definitely yes.” From this perspective, the respondents with an economics background were, on average, the least likely to pursue a teaching career, as they were likely to actually complete the course, seeing it as a potential future career option.

Table 6. Do you intend to pursue a life as a teacher after graduating from the course?

	Definitely Not + Rather Not (1+2)		Definitely Yes + Rather Yes (3+4)		Total	Mean	Median	P-Value
Men	8	28%	21	72%	29	3.1	3	p = 0.667
Women	9	13%	62	88%	71	3.17	3	
≤37 years old	9	17%	44	83%	53	3.13	3	p = 0.783
≥38 years old	8	17%	39	83%	47	3.17	3	
Agricultural	4	17%	20	83%	24	3.21	3	p = 0.442
Technical	4	21%	15	79%	19	3.11	3	
Economic	8	18%	37	82%	45	3.07	3	
Medical	1	8%	11	92%	12	3.42	3.5	
Total	17	17%	83	83%	100	3.15	3	

As bold as it may be considered, we also subjected these differences to statistical testing. We used a two-sample *t*-test, and given the small number of respondents in each set, a non-parametric Kruskal-Wallis test was also used. In neither case was there a statistically significant relationship between the variables.

Table 7 shows the result that 82% of respondents were not influenced by the COVID-19 pandemic in their eventual decision to enter the teaching profession. In this case, men were more decisive than women, in contrast to the previous question, where the opposite was the case.

Table 7. Has the coronavirus pandemic affected your eventual decision to work as a teacher?

	Definitely Not + Rather Not (1+2)		Definitely Yes + Rather Yes (3+4)		Total	Mean	Median	P-Value
Men	25	86%	4	14%	29	1.72	2	p = 0.702
Women	57	80%	14	19%	71	1.8	2	
≤37 years old	45	85%	8	15%	53	1.77	2	p = 0.942
≥38 years old	37	79%	10	21%	47	1.79	2	
Agricultural	22	91%	2	8%	24	1.5	1	p = 0.285
Technical	16	84%	3	16%	19	1.84	2	
Economic	33	73%	12	27%	45	1.96	2	
Medical	11	91%	1	8%	12	1.58	1	
Total	82	82%	18	18%	100	1.78	2	

When comparing the results between the groups, we conclude that the COVID-19 pandemic had a greater impact on negative attitudes in this respect on women, and again on the respondents with a background in economics. There were no statistically significant differences in responses between the groups.

Respondents in the survey were given the opportunity to comment on the course itself, its content, its progress, and its conclusion in the open-ended question 10. At this point, it is worth mentioning the most interesting and important statements and observations. The majority of the respondents evaluated the course as beneficial, especially in the sense that they learned about many new and interesting methods and forms of teaching that would enhance their competencies and could be used in the practice of a teacher of professional subjects, but they recommended avoiding classical theoretical lectures and, instead, focusing directly on practice, experiences, and examples from practice—they expected “a guide on how to conduct a class practically”. Specifically, there were requests for topics related to the Education Act, the organisation of the school year, school management, etc. Some participants recommended cancellation the final thesis and treating the final exam as a colloquium. The majority of the respondents appreciated the online form of course delivery in times of the COVID-19 pandemic as a means to improve their ICT and communication skills or to improve their work with literature, including foreign languages, which they could then use in school practice. These tendencies are in line with previously implemented projects focusing on similar topics [35].

6 SUMMARY

The aim of the paper was to look at the motivation of the participants in a course aimed at qualifying as a teacher of vocational subjects for secondary schools. The results provided remarkable information, not only about the structure of the course participants, but especially about their motivation and other attitudes of practitioners towards the possibility of becoming a teacher. For example, engineers who have been in practice for many years are undoubtedly influenced by their previous careers.

Their way of thinking and working, experience, and other factors influence how they view not only the delivery of the course and its effect on them as a person, but also their career path. Their attitudes should be considered in the future organization or evaluation of the course. The respondents commented specifically on their motivation for participating in the course, their tendency to pursue or not pursue the profession after the course, and whether the COVID-19 pandemic influenced them in this decision. The average age of the course participants was approximately 37 years (modus 39 years) and almost 3/4 of the participants were women (71%). Interestingly, the vast majority (60%) of respondents did not currently need this qualification and wanted to obtain it only as a potential prospective option for their employment. Only 20% of the respondents were employed as a secondary school teacher at the time of completing the survey and needed to graduate from the course to obtain the necessary qualification. When comparing the results using statistical testing, there was no statistically significant difference in the responses according to the selected socio-demographic characteristics (gender, age, occupation). Only 12% of the respondents reported that they did not have any favourite teacher at school. All the other respondents indicated that they had at least one favourite teacher and gave examples and characteristics of such teachers. Only a quarter of the respondents answered this question in the affirmative, indicating that there was also another family member who was a teacher. It is certainly a positive result that the majority of the respondents intend to perform a teaching career and thus capitalize on their years of experience in the field. Our survey also found that the COVID-19 pandemic has not affected their decision in any significant way. We believe that our efforts are bearing fruit and will bear fruit in the future in the form of new and adequately qualified teachers for secondary vocational education in the Czech Republic.

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