The Use of Software for Teaching Economic Subjects at Secondary Vocational Schools

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Abstract

Using a wide range of specialized software is one of the most effective ways to bridge theoretical knowledge with practical application. In educational practice, the use of software is an integral component of teaching professional subjects with content that is directly applicable in real-world contexts. The aim of this paper is to present the results of a survey focused on how and to what extent specific software is used for teaching accounting at secondary schools in the Czech Republic. The research tool employed was a self-constructed questionnaire. The sample group consisted of secondary schools offering fields of study within the 'Economics and Administration' group. The respondents were teachers of economic subjects. The survey was conducted in the spring of 2024, with a total of 75 teachers participating.

Keywords: Teaching Software, Economic Subjects, Secondary Vocational Schools

1 Introduction

Accounting is a field (surely like many others) that requires an impeccable understanding of basic principles and guidelines, knowledge, diligence, integrity and, last but not least, adherence to a code of ethics. All of these are formed in the pupils during each teaching unit and the content and form of the pupils' education needs to guide them in the right direction. At the same time, it is necessary that teaching is in line with the current requirements for graduates of secondary schools with an economic focus. Pupils should be as well prepared as possible for their future careers. The more the content of teaching incorporates practical skills and gives pupils the opportunity to encounter with practice, the easier the transition to professional life will be for them. The literature states that "accounting is an activity in which

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the state of and changes in assets, liabilities and equity, costs and revenues are recorded in monetary terms in order to prepare a profit and loss account at the end of the accounting period" (Munzar & Čuhlová, 2006, p. 57).

In order to set up an appropriate approach to teaching the subject of accounting, it is important to set teaching objectives within the framework of didactic principles in order to make the educational activity effective. The current requirements of the accounting profession should be reflected in the teaching of accounting in secondary schools (Fišerová, 2022, p. 47). One of the requirements for the job position of 'accountant' is at least a basic ability to operate an accounting software (Berková, 2015, p. 9). Secondary schools specializing in economics usually have accounting software and incorporate it in teaching. This approach ensures the development of practical skills (Berková, 2015, p. 10; Fialová, 2013, p. 60).

2 Use of accounting software

The use of accounting software is the most appropriate way to transfer theoretical knowledge, ideally without unnecessary delay, into practical activities. In practice, accounting software is an integral part of accounting work. The visual aspect of the theoretical training on the so-called 'T-Accounts' is essential and also the only one possible. However, after the transition to professional life, this form of representation is only supplementary and is no longer used for accounting itself. It therefore serves only to teach and understand accounting guidelines and principles. In contrast, accounting software is a compulsory working tool in which the T-Accounts have a different visual representation. In the context of teaching the subject of accounting, teachers should relate topics to real-life situations when teaching. This is facilitated by the inclusion of thematically interesting practical examples in the classroom, which allow pupils to apply their knowledge but also to relate it to their own personal or mediated knowledge. Practical exercises and simulations of real situations provide pupils with the opportunity to develop the skills needed in practice. Solving real-life problem situations is also a beneficial form of learning. For example, demonstrating an error in an accounting entry is also one effective way of linking theory to practical application. Pupils learn to analyse why the error occurred, what the consequence is and look for solutions.

As Berková (2015, p. 9) states, "For ensuring consistency between the requirements of economic practice and the content of university curricula, it is increasingly desirable to orient teaching practically." Despite Berková (2015) specially refers colleges, it is important to note that many secondary school graduates enter the workforce directly and transition immediately into their professional lives. Orienting teaching also in a practical direction is therefore desirable and beneficial for the future employment of secondary school graduates. The above facts indicate that practical training in the subject of accounting is very important. Given the fact that the professional responsibilities of the job title 'accountant' are often financially very risky, more consistent and extensive practice with the use of accounting software would be very beneficial here as well. Practice in the accounting subject should be

incorporated into the subject without undue delay, ideally within 1 week of the theory being covered. In particular, practice should be an integral part of the accounting subject to such an extent as to ensure that graduates are well equipped for their future careers.

3 Secondary school subjects focusing on accounting

For teaching the subject of accounting, the most foundational document is the Framework Educational Programme for the field of Business Academy (MEYS, 2024). The FEPs provide a generally binding framework for developing school educational programmes across all educational fields in pre-school, primary, primary art, language, and secondary education. These programmes were introduced into education in the Czech Republic by Act No. 561/2004 Coll., on pre-school, primary, secondary, higher vocational and other education (Education Act). Based on the FEPs and the rules they establish, individual schools create their own school curricula (School Educational Programmes — SEPs), which must align with the FEP requirements. In these curricula, schools have to define the specific educational objectives of a given subject, its form, length, content, etc.

The subject of accounting is primarily taught at economically oriented secondary schools, particularly in business academies. It is also offered as an elective subject at other vocational secondary schools. Accounting serves as a subject that fosters students' fundamental economic thinking. Its key objective is to teach students to think effectively and behave rationally in both professional and personal contexts (SEP Business Academy, Blatná, 2010).

Students are encouraged to independently seek economic information and apply it alongside their theoretical knowledge. A critical component of the subject includes a basic understanding of legal norms that establish clear rules for the accounting field, along with an awareness of the consequences of non-compliance. Together with the subject Economics (or Fundamentals of Economics), Accounting is considered a core subject for majors dealing with economics, business or entrepreneurship. Throughout the study of the subject Accounting, coherent examples on the topic are worked out. The assignment of the examples is based on accounting practice so that the topics are as close as possible to the students and their experience.

4 Possibilities of implementing practical exercises in accounting subjects

There are three main forms of theoretical knowledge practice in secondary schools. The first form is the inclusion of practical exercises directly within the teaching of the accounting subject. Schools usually include the use of accounting software in their School Curriculum. The use of accounting software may be included directly in the accounting subject. It depends on

the content of the school's curriculum and the school's ability to teach some accounting classes directly in computer labs. The technical equipment of the school and the setting of the timetable so that pupils can work independently or in pairs to complete assignments are also important.

The second option could be a separate subject dedicated to user skills using accounting software. This is a complementary subject to the accounting subject or other economic subjects. The parameters of these complementary subjects are defined in the school curricula, which set out their general objectives and didactic approach. At the same time, they define the pupils' key and professional competences. A supplementary subject is usually intended to supplement learning activities for which there is insufficient time during regular subjects. In relation to the accounting subject, these subjects deal mainly with practical exercises where theory is combined with practice. They are therefore used to practice examples using various didactic means. One of the best-known complementary subjects is the so-called 'mock company'. It is a teaching method that develops the entrepreneurial competences of pupils and students of primary, secondary, higher vocational and higher education institutions through the simulation of the activities of a real business entity (Hula, 2022, p. 3).

Teaching is most often conducted in computer labs so that students can work either independently or in small groups. Schools also opt for a form of special classrooms that have a corporate reception area, a meeting room and a computer room. Pupils have the freedom to choose their business plan, the staffing of departments and managers, etc. The teacher is involved when necessary to consult the best solutions to given situations or to communicate with the authorities. However, the responsibility for individual decisions lies with the pupils.

One of the building blocks of the subject is the mutual cooperation of pupils and the deepening of communication skills. An integral part of this is the cyclical movement of pupils within all departments so that they learn about all spheres of business activity. Another important fact is that the subject is not primarily focused on taking time to practice all accounting cases in accounting software. As Fialová (2013, p. 62) states, the form of teaching in the Mock Company subject has all the elements of practical application of theoretical knowledge not only from the accounting subject but also from other related subjects. Its basic task is to teach students to think efficiently and economically, which will help them in their professional and personal life. Pupils take an active interest in political, economic and social events during the subject. They develop critical thinking skills, investigate the credibility of information and learn to process all administrative and working documents.

The third form is a work experience placement, which usually takes place over two to four continuous weeks. According to the Education Act, pupils' practical training takes place in schools and educational establishments or at the workplaces of natural persons or legal entities who are authorised to carry out activities related to the field of education and have made an agreement with the school on the content and scope of practical training and the conditions for its conduct (Education Act No. 561/2004 Coll., paragraph 2). Practical training with employers (companies or other organisations) must always be regulated by a written

contract that specifies the content, scope and conditions of cooperation. The provisions of the Labour Code governing working hours, occupational safety and health, care of employees and working conditions for women and adolescents and other regulations on occupational safety and health apply to pupils during their internship.

In specific cases of practice in organisations (companies) that provide client accounting services, several questions arise. Can students be allowed to handle all accounting documents or only certain types of documents? Can it be ensured that accounting documents are not damaged? Can it be relied upon that the accounting data accessed will not be misused or disclosed to a third party? Therefore, there may be a concern on the part of the provider that it is not in their power to ensure total compliance with the needs of the learners and the working rules. This can mean considerable complications which, in an extreme case, may end up in court proceedings. As Fialová (2013, p. 63) argues, sensitive data is likely to be one of the reasons for the difficulty in linking school and practice. The current attitude of companies is that they must not treat pupils as employees and follow the recommendation that the pupil should not be involved in the business activities of the practice provider (Vejsada & Škubal, 2019, unpaginated).

Indeed, as the authors further state in their article - the primary object of the internship should be the acquisition of knowledge and experience on the part of the intern, not the acquisition of unpaid labour on the part of the employer.

From all the forms above it can be concluded that the content of these subjects, nor the practice itself, is not sufficient to acquire and master the acquired theoretical knowledge that would be applied in accounting software. A similar conclusion was reached by Fialová (2013, p. 59), who states that "a frequently criticized shortcoming of education in the Czech Republic, not only in secondary schools but also in tertiary education, is the high level of theoretical knowledge imparted and the provision of a small percentage of practical skills".

5 A survey of the use of accounting software in secondary school accounting education

The aim of the following text is to present the results of a survey aimed at finding out how and to what extent the use of accounting software is included in the teaching of accounting in secondary schools in the Czech Republic. The aim was to answer the following survey questions:

The main research question was stated as follows:

- *Does the school use accounting software as part of the accounting subject?*

The sub-questions of the survey were set as follows:

- *In which economic subjects is accounting software used?*
- *How is the practice of accounting theory ensured?*

- *To what extent do pupils practice accounting theory in professional practice?*

The research instrument was a self-constructed questionnaire. The questionnaire was constructed using a form on the Google platform. The questionnaire, as already mentioned, contained a total of 16 research questions, of which 14 were dedicated to the objectives of the research and 2 were identification questions. The following is an evaluation of selected questions, not all of them, so as to fulfil the purpose of the paper. The questionnaire was designed in such a way that the questions gradually revealed the use of accounting software in teaching and the extent of their use. The questionnaire was divided into four main sections of questions:
Section 1: *Respondent Identification*.
Section 2: *The use of accounting software in teaching the accounting subject.*
Section 3: *Using accounting software in teaching a complementary subject.*
Section 4: *Opportunities and content of pupils' work experience.*

The sample consisted of secondary schools that teach economics or offer subjects related to economics and business. The selection was made through the official register of schools on the website of the Ministry of Education, Youth and Sports of the Czech Republic. The register allows to filter secondary schools by a given criterion, which was the group of fields of study '63 - Economics and administration'. There were 87 business academies and 167 other secondary schools, i.e. 254 schools in total. The questionnaire was sent to the official contact emails of the selected schools between 5 February 2024 and 19 March 2024, and the data collection was closed on 16 April 2024. The specific respondents were the teachers at the contacted schools who teach economics subjects and were therefore best equipped to answer the questionnaire. A total of 75 respondents responded, of which 15 were eliminated due to invalid or duplicate responses. Of the 60 schools included in the treatment, 27 were secondary vocational schools and 33 were business academies.

6 Results of the survey

When asked: "Is practicing accounting with the use of accounting software on a computer included directly in the accounting subject?" 25 of them answered 'Yes', i.e. 41.6% and 35 of them answered 'No', i.e. 58.4%. More than half of the respondents have not included practicing theory with the use of accounting software directly in the accounting subject.

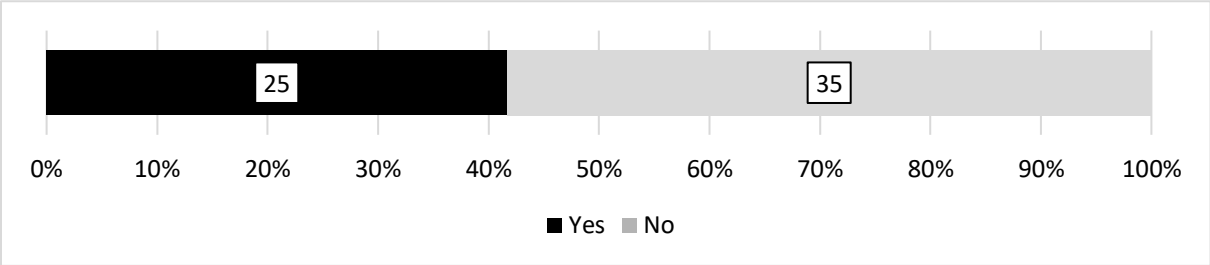

Chart 1: Is practicing accounting using accounting software on a computer included directly in the accounting subject?

Of the 25 respondents who have practicing accounting directly in their accounting subject using accounting software (question 3), 18 (72%) respondents stated that they use the accounting software *Pohoda*, 2 (8%) respondents use the accounting software *ABRA*, 2 respondents (8%) use the accounting software *Money*, 2 respondents use the accounting software *Stereo* i.e. 8% and 1 respondent (4%) uses the accounting software *Premier*. Hence, it is clear from the above that the most used accounting software is *Pohoda*. The accounting software *Pohoda* was also prevalent in the researche of Fialová (2013) and Berková (2015).

Software name	**Absolute frequency**	**Relative frequency**
Pohoda	18	72%
ABRA	2	8%
Money	2	8%
Stereo	2	8%
Premier	1	4%
Total	**25**	**100%**

Table 1: Please provide the name of the accounting software(s) your school uses?

Out of the 25 respondents who have accounting practice directly included in their accounting subject using accounting software, 18 respondents (72%) indicated that they do not practice within one week, while the remaining 7 respondents (28%) practice accounting software within one week of going through the theory. Hence, from the above, it is evident that out of the total 60 respondents, 25 respondents i.e. 41.6% of them include practicing accounting with the use of accounting software on computer directly in the accounting subject but only 7 of them practice on accounting software within one week of going through the accounting theory on the subject. This amounts to only 11.6% of the total respondents who use practicing on accounting software within the accounting subject within an appropriate time interval.

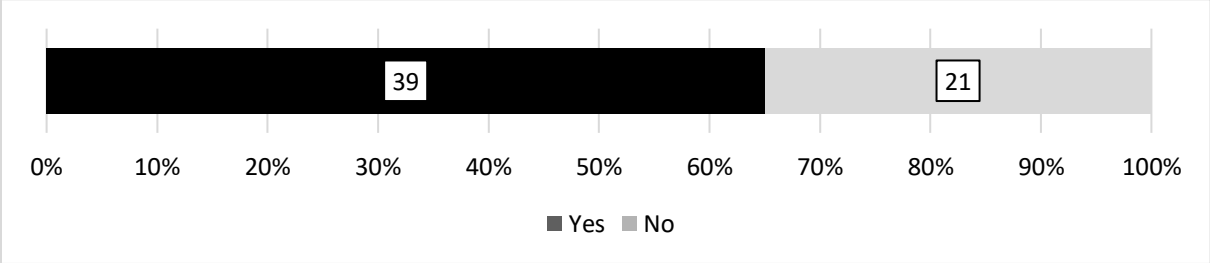

Chart 2: Is there a complementary subject at your school in which accounting in accounting software is practiced?

Thirty-nine respondents (65%) reported that an additional subject is taught at their school. The remaining 21 respondents, representing 35%, reported that the complementary subject is not taught at their school.

Name of complementary subject	Absolute frequency	Relative frequency
Accounting in practice	6	15.4%
PC-Accounting	11	28.2%
Practice	6	15.4%
Integrated economic subject	4	10.3%
Mock company	1	2.5%
Economics exercises	6	15.4%
Exercises in accounting	5	12.8%
Total	**39**	**100%**

Table 2: Names of additional subjects in which accounting is practiced in accounting software

Within the group of 39 respondents who had set up supplementary subjects in their schools to practice using accounting software, 7 specific supplementary subjects were listed, with the largest representation being the PC accounting subject with 11 respondents, or 28.2%. The second most frequent subjects were Accounting in Practice, Practice and Economics Exercises, all with 6 respondents or 15.4%. 5 respondents (12.8%) mentioned the subject Accounting Exercises, 4 respondents (10.3%) mentioned the Integrated Economics subject and one respondent mentioned the subject Mock company representing the remaining 2.5%.
39 respondents answered the question "What accounting software does your school use in the supplementary subject?". The accounting software Pohoda was again mentioned by the highest number of respondents, i.e. 22 representing 56.4%. Money was mentioned by 9 respondents (23.1%), Stereo was mentioned by 6 respondents (15.4%) and the remaining 2 respondents mentioned Premier accounting software (5.1%). As was the case for practicing in the accounting subject, Pohoda is also the most used accounting software in the complementary subject. Thus, this again confirms the research results of Fialová (2013) and Berková (2015).

In response to the question "Does the supplementary subject include practice in accounting software on the computer immediately (within one week) after the accounting theory on the topic is covered?" out of a total of 39 respondents, only 8 of them (20.5%) answered that they practice the theory within one week of learning it. The remaining 31 respondents representing 79.5% responded that they did not. Thus, it can be seen from the above that out of the 39 respondents who practice accounting using accounting software on computer as a supplementary subject, only 8 of them do so within one week of learning accounting theory on the subject. This represents only 20.5% of this group of respondents.

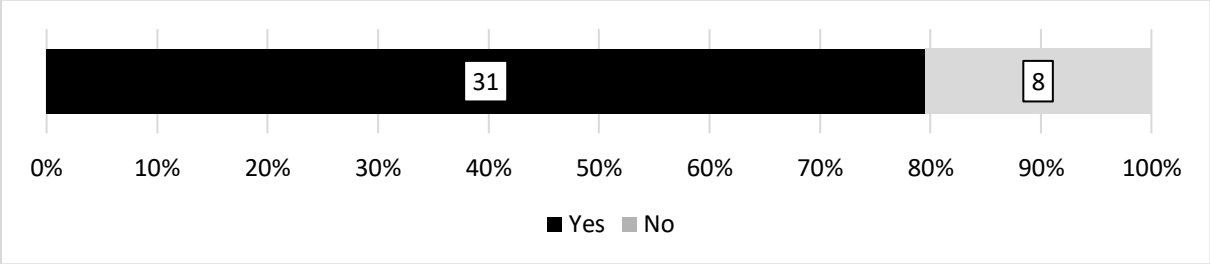

Chart 3: Does the additional subject include practice in accounting software on the computer immediately (within one week) after the accounting theory of the topic?

Of the 60 respondents, 25 (41.7%) reported that students do practice in accounting departments of companies or other organizations. On the other hand, 35 respondents, i.e. 58.3%, reported that this is not the case. It is therefore clear from the above that pupils are not placed in accounting departments as part of their internships with contractual partners and more than half of the respondents do not gain accounting experience. It should be noted that in most cases the pupils arrange their own practice and are not given a shadow position by the educational establishment in which to practice.

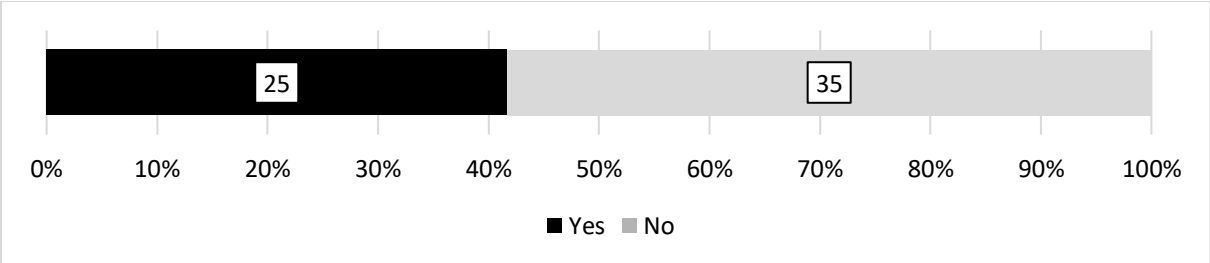

Chart 4: Do students practice directly in the accounting departments of contractual partners?

All 60 respondents also answered the last question. The option 'Yes' was chosen by 16 of them, i.e. 26.7%, and the same number said, 'They don't know'. The second highest number of responses was recorded for the 'No' option from 12 respondents (20%), 9 respondents (15%) said that direct accounting depends on the decision of the practice provider and the remaining 7 i.e. 11.6% said that it only happens 'Sometimes'.

Option to do accounting within the practice	Absolute frequency	Relative frequency
Yes	16	26.7%
No	12	20%
Depends on the provider's decision	9	15%
Sometimes	7	11.6%
I don't know	16	26.7%
Total	**39**	**100%**

Table 3: Can students do case accounting as part of their practice with contractors?

It follows that educational establishments do not actually have sufficient insight into the scope of their pupils' work experience, which is often not directly related to the field of study.

7 Summary and Discussion

The questionnaire survey revealed several important issues that schools could consider and address more effectively in the future. The results suggest that schools vary significantly in their use of accounting software and have differing approaches to its integration into the teaching of accounting. Almost ¼ of the secondary schools (23.3%) in our survey used accounting software only when teaching the accounting subject and did not extend its use in teaching of additional subjects. Less than 1/5 of the respondents (18.3%) used accounting software not only in the accounting subject but also in the teaching of additional subjects. More than 10% of respondents (11.7%) reported that they used accounting software in neither the primary accounting subject nor in supplementary subjects. Almost half of the respondents (46.7%) used accounting software at least in the supplementary subject but not in the main accounting subject. Of those respondents who used accounting software either in the main subject or in supplementary subjects, about 30-40% practiced material currently covered in class within 1 week of teaching it.

It is important to note that the gradual digitalization of accounting practices (Fišerová, 2022, p. 48) and the increased reliance on various economic systems require secondary education—particularly in economic fields—to adapt by implementing innovative approaches and allocating more time to the use of accounting software.

The Pohoda software remains one of the most commonly used accounting tools. This conclusion aligns with previous research by Fialová (2012) and Berková (2015). However, it is worth noting that our study and the referenced research were conducted 12 and 9 years ago, respectively. Despite this time gap, it is reasonable to assume that Pohoda software continues to be a practical and cost-effective solution for schools, even though financial constraints were mentioned only once in the survey. The results of our investigation pointed to another alarming result concerning the mandatory performance of internships with contractual partners (companies) while studying. More than half of the respondents indicated that students do not work in accounting departments during their practice and only 26.7% of all

respondents indicated that students could practice accounting. The rest of the respondents cannot influence this, accounting does not occur at all and have no prior knowledge of the scope of practice.

We consider the findings from 60 secondary schools that offer education in economics and prepare future accountants and economists for the profession to be beneficial. Information and facts have been identified from which suggestions can be drawn and their implementation in the content framework of accounting education can subsequently be thought about. At the same time, the results of our investigation offer suggestions for reflection on how to link theory and practice in the field more intensively. With the help of the right educational objectives, competences and the use of appropriate didactic tools (such as accounting software), students can be better prepared for their future careers.

References

Berková, K. (2015). Význam a využití účetních programů v terciárním a sekundárním vzdělávání [The importance and use of accounting programs in tertiary and secondary education]. *Media and Education*, pp. 9–12. http://www.media4u.cz/mav/9788087570302.pdf#page=9

Fialová, J. (2013). Propojení teorie a praxe ve výuce účetnictví na obchodních akademiích [Linking theory and practice in the teaching of accounting at business academies]. *Media4u Magazine*, pp. 59–63. http://media4u.cz/

Fišerová, M. (2022). Výuka účetnictví ve světle aktuálních požadavků na účetní profesi [Teaching accounting in the light of current requirements for the accounting profession]. *Sborník recenzovaných příspěvků 7. ročníku mezinárodní vědecké konference*, pp. 34–39. https://kdep.vse.cz/veda-a-vyzkum/konference-schola-nova-quo-vadis/

Hula, L. (2022). *Metodika výuky ve fiktivní firmě* [*Methodology of teaching in a fictitious company*]. Národní pedagogický institut. https://cefifportal.nuv.cz/Explorer/

Munzar, V., & Čuhlová J. (2006). *Slovník základních pojmů z účetnictví* [*Dictionary of basic accounting*]. Nakladatelství Fortuna Praha.

Starcová, R. (2024). *Využití účetního software ve výuce předmětu účetnictví* [*The use of accounting software in the teaching of accounting*]. Mendelova univerzita v Brně.

RVP. (2023) *Rámcový vzdělávací program SOV pro kategorie dosaženého vzdělání M, L0*. [*Framework Educational Programme for education categories M, L0*]. https://www.edu.cz/rvp-ramcove-vzdelavaci-programy/ramcove-vzdelavaci-programy-stredniho-odborneho-vzdelavani-rvp-sov/

Školní vzdělávací program Obchodní akademie Blatná. (2009). [School educational programe of Blatná Business Academy]. https://www.blek.cz/rvp-svp-2/

Zákon č. 561, školský zákon (2004). Sbírka zákonů České republiky [Act No. 561, Education Act, Collection of Laws Czech Republic]. https://www.zakonyprolidi.cz/cs/2004-56.