

The Benefit of Professional Education on the Performance of Civil Servants

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DOI: <https://doi.org/10.53349/resource.2023.is1.a1204>

Abstract

The paper is devoted to the benefit of professional education to employees' work performance. A properly set up education system motivates employees to continue their education and subsequently facilitates their work activities. However, simply completing a properly planned training course may not guarantee the facilitation of the performance of work activities. By subsequent evaluation of the educational activities of the employees, it is necessary to find out whether the setting of professional education is beneficial for them or not. The education system needs to be looked at holistically. It is impossible to separate the benefit for the employees and the knowledge gained by completing the course. Therefore, it is necessary to focus on the effectiveness of professional education to determine knowledge at the input and output of educational courses. The research was based on findings from groups of civil servants.

Keywords: Vocational education, Work activities, Civil servants

1 Introduction

The paper deals with why the completion of professional training courses is not beneficial for the employees of the customs administration for their work performance. In 2020, due to the covid-19 pandemic, the massive onset of distance education began. Full-time teaching was cancelled and in a relatively short period of time, it was switched to distance learning. Many financial resources were invested in acquiring hardware and software, and study supports were prepared. In advance, no one had decided whether the effectiveness of distance

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education would be like that of full-time teaching. Now, with time, we can check whether the changes that occurred in 2020 in the field of education are in the right direction.

2 Professional Education

Many authors deal with issues of professional education. In his monograph, Koubek (2015) calls the field of vocational education the term of qualification formation or the field of professional or professional training (Koubek, 2015, p. 255). Koubek solves in detail the system of human working abilities into three basic areas:

- the field of general education,
- the field of professional education,
- area of development.

The field of general education is implemented in school facilities supervised by the state. The area of professional education or professional training can be implemented in school facilities and within individual organisations.

In her book, Bartoňková (2010) focuses on company education, which states that company education includes mandatory and qualification training of employees. This is part of professional education and provides for developing employee competencies. It also includes acquiring, increasing, deepening, and maintaining the qualifications of employees. Bartoňková perceives corporate education as a part of professional education, which is much broader, and characterises it as the search for and subsequent elimination of the difference between “what is” and “what is desirable” (Bartoňková, 2010, p. 11).

Vodák & Kucharčíková (2011) solve the issues of vocational training only in the context of a company and therefore use the term corporate training. They deal with the issue of competences for already working individuals in connection with new technological changes and the need to ensure the efficient functioning of the company. They deal in detail with the area of planning, implementation, and subsequent evaluation of education.

Mužík (2010) deals with the field of education from the point of view of andragogic didactics. Unlike Vodák & Kucharčíková (2011), Koubek (2015) and Bartoňková (2010), he does not put the field of professional education into context with personnel planning. Still, he deals with the specifics of andragogic didactics and presents the characteristics of selected methods in adult education. Mužík defines andragogic didactics as a theory of teaching adults, where on the one hand there is a lecturer who teaches and on the other hand a participant (adult individual) who learns. The essence of andragogy didactics consists in defining the goals and contents of teaching. Mužík (2010, pp. 16–17) further states that during vocational training, there is an increasingly frequent shift from theoretical knowledge to realistically solved problems.

Plamínek (2014) deals with the issue of adult education in his publication. Like Mužík (2010), Plamínek (2014) does not address the field of education in the context of personnel planning but deals with the meaning and essence of learning, which, according to Plamínek,

expands a person's potential. Plamínek (2014, p. 19) does not perceive human resources as only individual workers, but as individuals who have knowledge potential that they can use to perform their work.

Průcha (2019) deals with vocational education at the secondary and higher vocational education levels. It describes in detail the system of vocational education in the Czech Republic, both in history and the present. It also mentions the characteristics of vocational education systems in selected European Union member states.

3 Survey Methodology

To measure the effectiveness of education in customs administration, three educational courses were selected. The first course took place in a standard full-time format, the second in a distance format and the third course again in traditional full-time teaching. As part of the testing, the participants' knowledge was measured at the beginning of the course and at the end of the course. The quality of the presented educational tests was consulted with the lecturers. The reliability of the presented tests was verified by calculation. The Kuder-Richardson formula was used to calculate reliability. The average increase in knowledge for the monitored group was calculated according to the modified formula of G. Hubner (Králová & Novák, 2014 p. 257).

3.1 Effectiveness of Education in Full-time Teaching First Course

The course “Specialized Professional Training Mobile Diagnostics” was chosen to test the effectiveness of education in customs administration. The selected course took place full-time in the customs administration training centre. The total duration of the course was 33 hours. A total of 28 members of the customs administration took part in the course. The course was focused on handling mobile diagnostics.

3.1.1 Testing

Course participants were informed that their knowledge would be tested both before the start of the course and subsequently on the final day after the end of the course. The pre-test took place on the first day after the initial formalities before the start of the actual teaching. During the testing, participants were not allowed to use mobile phones due to the search for correct answers and the possibility of taking photos of the test questions. All those present agreed to perform the test. To identify the test or pair them, the participants entered their first name, length of experience and age in the recording sheet. Based on this data, the tests at the beginning and end of the course were matched.

The content of the test was consulted with the lecturer regarding content and expertise. The final test results were not used to evaluate the applicants, and the lecturer used her own

set of test questions. The table below shows the summary results of the participants from the pre-test and post-test; their point changes, in this case, increases and percentage success.

Pre-test		Post-test			
Average pre-test score	Average success rate	Average post-test score	Average success rate	Average point gain	Improvement index
10.54	70.27%	13.18	87.86%	2.64	1.25

Table 1: Knowledge results of participants in full-time teaching

In total, 28 participants again participated in the second test, and each of them succeeded. All participants showed better knowledge in the final test compared to the pre-test. The improvement index was calculated as the ratio of the average percentage of success in the post-test and the pre-test and had a value of 1.25. The average point gain in the pre-test and post-test comparison was 2.64 points. The knowledge gained of the course participant was calculated according to the formula:

$$E = \frac{V_{post} - V_{pre}}{V_{max} - V_{pre}} \cdot 100$$

V_{pre} the knowledge that the participant had before completing the course

V_{post} the knowledge that the participant had after completing the course

V_{max} the maximum possible knowledge that the participant could acquire in the course

Based on the testing, it was found that all course participants had an increase in their knowledge. All participants also met the 50% threshold for successful course completion.

3.2 Effectiveness of Education in Online Learning

To further test the effectiveness of education in the customs administration, the “Vocational Training of Agenda Investigation” course was chosen. Unlike the previous course, this occurred online through the Microsoft Teams application. The total duration of the course was 66 hours. A total of 30 members of the customs administration took part in the course, with three members having an individual study plan. The course was devoted to substantive law issues and procedural law in application of practical examples.

3.2.1 Testing

Course participants were informed that their knowledge would be tested both before the start of the course and subsequently on the final day after the end of the course. The pre-test took place on the first day after the initial formalities before the start of the actual teaching. Since the learning took place online through the Microsoft Teams application, course participants received a test in an interactive form in *.docx format. They then submitted the completed forms electronically. All those present agreed to perform the test. To identify the test or pair

them, the participants entered their identifier in the recording sheet at their discretion, e.g. personal number, first name, or initials. Based on this data, the tests at the beginning and end of the course were matched.

The final testing took place during a full-time meeting on the final exam day. The course participants filled out an identical test again, but in paper form. Participants had a total of 25 minutes to complete the test.

The content and expertise of the test were consulted with the course lecturer. The course results were not used for the participants' evaluation but were handed over to the lecturers for further use. Testing, of course, participants were based on case studies. Each participant chose a case from practice and based on the acquired knowledge, had to propose a way to solve it.

The table below shows the summary results of the participants from the pre-test and post-test, their point changes and percentage success.

Pre-test		Post-test		Average point gain	Improvement index
Average pre-test score	Average success rate	Average post-test score	Average success rate		
11,41	76,05 %	11,19	74,57 %	-0,22	0,98

Table 2: Knowledge results of participants in online teaching

In total, 27 participants again took part in the second test. 26 participants passed, and 1 failed because he had 7 points from the test, which is 46.67%. The average point value was 11.19 points, which is 74.57%. Out of the total number of 27 participants, only 10 interviewees showed higher knowledge, 4 participants did not change issues, and the remaining 13 participants showed lower values in the post-test.

The improvement index was calculated as the ratio of the average percentage of success in the post-test and the pre-test and had a value of 0.98. The average point gain in comparing the pre-test and post-test was -0.22 points. Thus, the students show lower knowledge in the post-test than in the pre-test.

It is clear from the conducted testing that almost half (48,18%) of the applicants experienced decreased knowledge after passing the test. A total of 4 respondents (14.81%) had the same understanding. Improvement in ability was reported by only 10 interviewees, i.e., 37.04%. One participant had a knowledge level below 50% (46.67%). If the required threshold for passing the course were 50%, this participant would fail the final test. The comparison of points obtained in the pre-test and post-test is shown in the graph below.

3.3 Effectiveness of Education in Full-time Teaching Second Course

To further test the effectiveness of education, the course "Vocational Training of Agenda Taxes" was chosen. The selected course was again held at the customs administration training centre. The total time allowance of the course was 64 hours, and 8 hours for the exam. A total of 27 participants took part in the course.

3.3.1 Testing

The course participants were informed that their knowledge would be tested both before the start of the course and subsequently on the final day after the end of the course. All participants agreed to the course. The pre-test took place on the first day of the course, after the initial formalities, before the start of classes. Course participants were under supervision and did not use any aids (notes, mobile phones, etc.). To match the pre-test and post-test results, the participants wrote their first names, length of experience and age in the recording sheet. Based on these data, the tests at the course's beginning and end were identifiable.

The content of the test was consulted with the lecturer regarding content and expertise. The results of the final test were not used to evaluate the applicants. The final test by the lecturer was an oral exam. The following table shows the summary results of the participants from the pre-test and post-test; their point changes, in this case, increases and percentage success.

Pre-test		Post-test			
Average pre-test score	Average success rate	Average post-test score	Average success rate	Average point gain	Improvement index
10.77	69.78%	13.86	89.87%	3.09	1.29

Table 3: Knowledge results of participants in full-time teaching

In total, 27 participants again took part in the final testing. None of the test questions had to be dropped, and every participant in the course passed. All participants showed better knowledge in the post-test than in the pre-test. The improvement index was calculated as the ratio of the average percentage of success in the post-test and the pre-test and had a value of 1.29. The average point gain in the pre-test and post-test comparison was 3.09 points.

4 Discussion

Vocational training should provide students with additional knowledge to help their work performance. We assume that the participants' understanding of the educational courses will be more profound after completing the course during the final testing than at the beginning. This fact was confirmed for us only in the case of education, which took place in a full-time

format. In the case of online education, the participants' knowledge at the final test was lower than at the beginning of the educational course. Furthermore, a different increase in learning can be observed even in the case of full-time teaching.

In the case of full-time teaching, it is necessary to consider that the lecturer of the 3rd course has more experience in the field and passed a pedagogic course compared to the lecturer of the 1st course.

Course participants were not allowed to use any note-taking devices or mobile phones in all cases of testing due to the objectivity of the testing. All tests were processed based on teaching materials and consulted with lecturers in terms of content and formality. This measure was so that participants could not complain that the testing content included questions that needed to be covered.

The participants knew that they were the subject of a research study. It can be assumed that this information will motivate them to perform better, and the Hawthorne effect will manifest in the course participants. This effect is used when improvement occurs due to self-observation and not due to changes in conditions (Průcha & Veteška, 2012, p. 114). The deterioration of results in the case of online education completely denies the phenomenon in this case.

The question remains why the participants of online education had worse results on the tests. In the pre-testing, the initial knowledge was verified online, and participants could share or obtain answers to questions, e.g., on the Internet or consult with their colleagues. This presumption can be supported by the fact that the entry values were higher for online education participants than for traditional teaching. There the initial values were lower. In the case of the final testing, the course participants no longer had the opportunity to cooperate and obtain the required information. Therefore, the output values are lower than in the case of the classic presence form of the course. This agrees with our survey (Zelníčková & Vorel, 2020) that addressed online education issues. We have compared high school students, university students and members of the customs administration. All three interviewed groups admitted to cheating in online learning, although they know that this phenomenon is incorrect, and that missing information will result in poor performance. (Zelníčková & Vorel & Sládek, 2021)

5 Conclusion

The paper deals with why, according to employees, taking educational courses at the customs administration does not benefit their work performance. Based on the research carried out, it was found that the form of full-time teaching is more effective than distance education, as the monitored sample experienced an increase in knowledge during full-time teaching. So far, the research has been carried out with three groups of participants. Two groups implemented full-time teaching, and one group of respondents completed distance learning. When comparing two groups of full-time teaching, it was found that the greater benefit of

knowledge was noted in the group where the teaching was carried out by a lecturer with more extended experience and pedagogical education compared to the other group. Considering this is a pilot investigation, the following research must be continued to confirm or refute the facts for different groups of students. We plan that such research investigations will take place in January 2023.

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