

Full Length Research Paper

Secondary schools graduates' attitude towards textbooks for vocational education

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The aim of the study is to evaluate the current condition of textbooks for pupils of secondary vocational schools and high schools within their technical education. We have focused on the contextual and didactical view of the textbooks as well as working with them and their structure. The survey was realised via an expert method and the survey sample was represented by first-year university students of the Faculty of Materials Science and Technology in Trnava, Slovakia. The survey was realised as a part of KEGA Project 026STU-4/2011: 'Quality Assessment Model of Vocational Education and Training at Secondary Vocational Schools in Slovakia'.

Key words: Electrotechnics, textbook, evaluation, analysis, questionnaire.

INTRODUCTION

Quick development of science and technology has put considerable demands on secondary schools and universities' graduates. The national economy could not exist without experts with secondary or university education. Thus, it is important that the education system educates graduates to be prepared for the labour market. The transformation of the latest knowledge within science and technology plays an important role within graduates' education. However, there are graduates with lower level of vocational education from year to year. When attending the first year of their university study, they often do not reach the necessary level of education. One of the assumptions for ensuring the required level of education is to provide as many quality textbooks as possible. A pupil must have quality textbooks, both in contextual and didactical ways. A textbook does not have to provide only encyclopaedic information but it also has to be attractive for pupils and provide them an interesting way of learning. However, there is often a lack of new textbooks

as many teachers and pupils work with the old ones where the newest information can be hardly found. This is also the reason why teachers spend too much time with dictating notes while using the time during lessons more effectively. Thus, pupils are not prepared to work independently, they do not know how to work with other textbooks and find it difficult to search new information.

A textbook for vocational education

The textbook is considered to be the basic didactical tool which provides the realisation of educational and developing functions within educational processes. It includes information according to the curriculum as well as information necessary for pupils during their education. It may seem that a written textbook is no longer needed in the current information society. However, those textbooks cannot be avoided. The textbook still remains at its positions as it is one of the factors which can influence the effectiveness of educational processes. It forms the basic material for teachers as well as for pupils (Průcha et al., 2003). The

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textbook for vocational education transforms knowledge of art, science and technology into words and sentences. However, it should not contain only an amount of information because it plays an important role also during the whole education. Even textbooks for vocational education have to follow didactical principles and all phases of learning.

Survey

There are many secondary schools in Slovakia which use those textbooks which were published many years ago. Thus, they do not include the newest information. Although many teachers point on the bad economic situation within education system, the truth is that there are no newer textbooks available at the market. A textbook, as the main aid for students, is one of the most important factors which influence the efficiency of learning processes. Thus, it is very important to focus on the elaboration and evaluation of textbooks based on the pedagogical theory. In the former Czechoslovakia, the research started in the 1970s. Many textbooks for different subjects at different levels of education were evaluated. However, nowadays there are many books published for business reasons and not for pedagogical aims.

That is why, it is very important to focus on evaluations of textbooks. There are several factors which can be evaluated. First of all, a textbook includes many facts which must be divided into logical order. The text itself has to be comprehensible and readable. The textbooks can be evaluated based on the text itself, based on the assignments related to the text, based on students' and teachers' opinions, etc (Chráška, 2007; Turek, 2002). Thus, the aim of the survey was to evaluate the current condition of textbooks for vocational education which are being used within educational processes at Slovak secondary schools. The evaluation was provided by an expert method. First-year university students have evaluated their textbooks at different secondary schools in Slovakia.

MATERIALS AND METHODS

The survey was realised within the academic year 2010 to 2011 at the Faculty of Materials Science and Technology, Slovak University of Technology. Together 421 students (299 men and 122 women) have participated in the survey. 97 of them were graduates of different high schools and 324 of them were graduates of different secondary vocational schools. The survey has been realised via expert method as well as questionnaire method. The expert method helps to evaluate several factors of a textbook that is, adequacy, methodical elaboration, illustrations, etc. The evaluation is based on the experts, teachers and students' opinions mainly through a

semantic differential. The semantic differential includes 5-item scale from +2 to -2. The scale measures the connotative meaning on a scale between two bipolar adjectives. In such scale, + 2 means "very good", + 1 "good", 0 "neutral", - 1 "bad" and - 2 "very bad". Using the expert method we have tried to find out the current condition of textbooks for vocational education which had been used at their secondary schools. The questionnaire items were focused on the contextual and graphical design of their textbooks as well as on students' overall opinions on working with them (Gavora, 1999).

RESULTS

The results have confirmed that pupils at secondary schools use textbooks more during vocational education than in education within humanities. However, they do not use the textbooks regularly. According to their answers, only 3% of teachers find the textbooks to be sufficient. Almost 97% of teachers had to use other information and sources mainly of the Internet as well as other textbooks.

The respondents have also mentioned that they do not use the textbooks while studying at home. They rather use notes in their exercise books (94%) what confirms that teachers prefer dictating students the required knowledge. Thus, pupils at secondary schools are not forced to work with a textbook or to find the information by their own. That is why the pupils are not prepared to work with different textbooks and other sources what leads to decreasing level of reading literacy. When working with a textbook, only a half of all respondents use all the parts of the textbook that is, texts, figures, assignments and references. Two thirds of students have confirmed that they only read a text written in a textbook. Not even a third of them highlights the main points of a text or writes their own notes.

On the other hand, 74% of respondents would prefer dividing of a text and 51% of them would prefer highlighting the main terminology. 96% of students can learn better if a text includes figures that is, photos, pictures, maps, diagrams, etc. However, 94% of them do not like problem-based tasks and they would exclude them of the textbooks. Only 6% of students prefer difficult and problem-based tasks which they always do. Most of respondents like those assignments which are focused on revising the knowledge of the text. Figure 1 presents specific results. The students also think that they should not work only with a textbook all the time. The reason is that only 5% of them consider textbooks for technical subjects to be well written. Almost 10% of students sometimes do not understand some parts of the textbooks. However, almost the half of them considers a textbook to be a complex material of all the necessary knowledge.

The next part of the survey was focused on what a

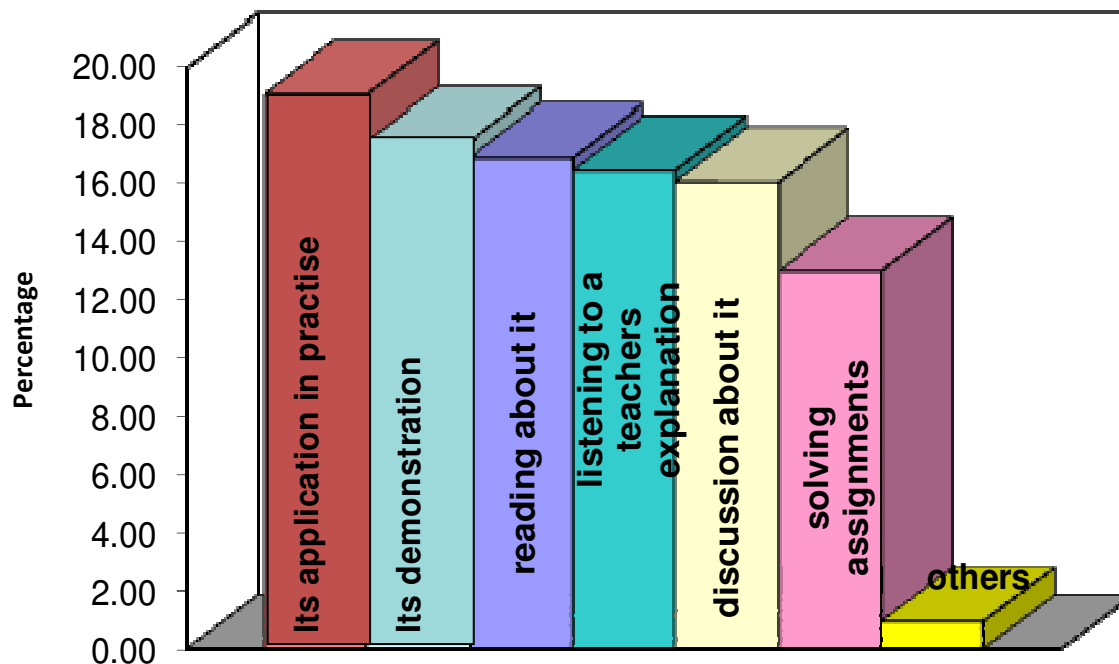


Figure 1. When learning a topic I prefer.

good textbook should include. 25% of students think that a textbook should include only the basic knowledge everyone has to learn. 42% of them think that a textbook should include not only the basic knowledge but also additional knowledge which everyone has to learn. Finally, 33% of them would appreciate if a textbook also include illustrations and other additional parts. If there is information within a textbook which students do not understand, they usually find the explanation on the Internet or they prefer to ask their classmates. Only after they are not successful, they ask their teachers. Only 16% of students find the missing information in other textbooks and 7% of them do not care at all. On the other hand, Figure 2 illustrates those parts which student do not like within a textbook. As shown in the figure, most of them do not like when a text is too difficult to understand. Many of students do not also like the wide range of information as well as the information which is not up-to-date. Nowadays, young generation considers the textbooks to be insufficient. Although it is not easy to follow all the demands, teachers as publishers have to prepare a textbook in that form which is the most suitable for its readers. The students have also confirmed that they would prefer a traditional textbook with an interactive digital video disc (DVD) included. The DVD can provide more interesting explanation of a topic as well as tools for motivating students. That is where the information and communication technologies (ICT) also have their place.

Conclusions

Elaborating a textbook is a very difficult task of the theoretical as well as practical view. A good textbook has to include the text in such way that a reader can easily understand it. Based on the expert method, first-year university students of the Faculty of Materials Science and Technology have evaluated features of textbook for technical subjects. The results point on the imperfections which can be found within the textbooks. Even the students' answers can be considered to be subjective the overall imperfections of modern textbooks are highlighted (Novota, 2010). Based on the results, the most highlighted imperfection was the fact that many textbooks are hard to understand. Thus, a new textbook has to include more illustrations and figures to better understand the learning topic.

It is also very important that a modern textbook includes the implementation of ICT, that is, an interactive compact disc (CD) or DVD, online supplementary exercises, etc. Thanks to the national project Millennium in Slovakia, the elaboration of textbooks is now a role not only for experts, but also teachers, psychologists and students. The new cooperation will bring new textbooks much better for all of them (Ministry of Education, Science, Research and Sport of the Slovak Republic, 2002). Elaborating a textbook is a very difficult task. A good textbook should include knowledge which a learner

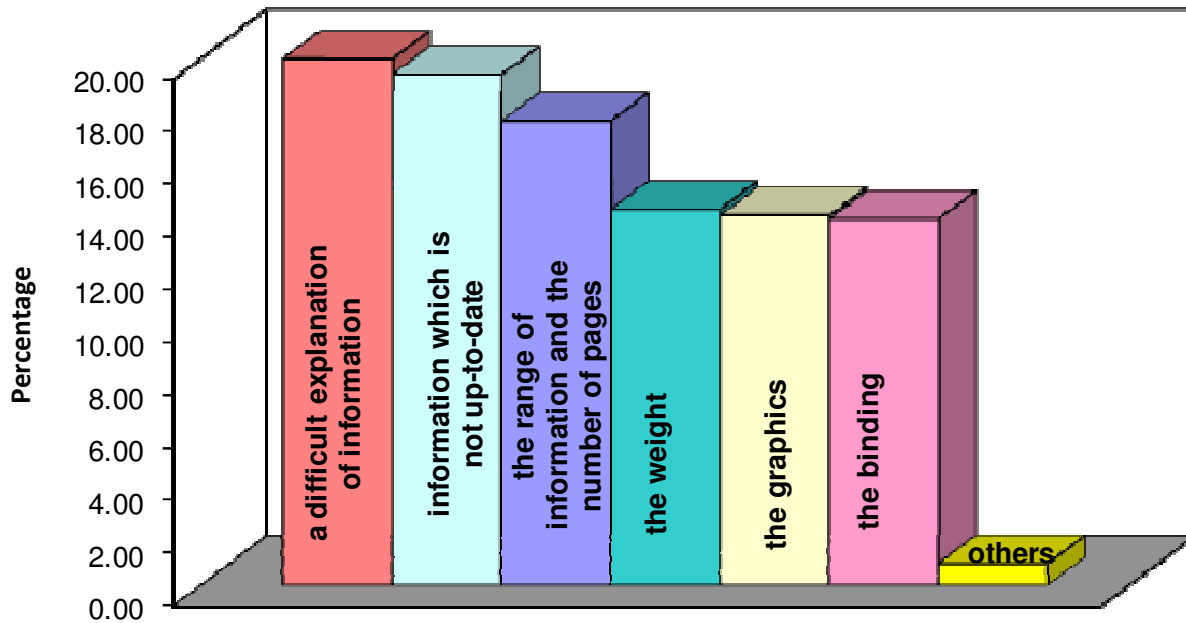


Figure 2. Parts which students do not like within a textbook.

has to know and follow demands of educational processes. The role of a textbook is not only to provide information but to allow readers learning and understanding it as well as possible. A modern textbook should also include illustrations, tasks and other assignments which help to better understand the topic. What is more, a textbook should motivate students for learning its content. In other words, a textbook should be the perfect guide during study as well as it should be useful when one wants to return to it in practise.

REFERENCES

- Chráska M (2007). Pedagogical Research Methods. Basics of Quantitative Research. Grada Publishing, Prague, p. 265.
 Gavora P (1999). Introduction to Pedagogical Research. Comenius University in Bratislava, p. 236.

- Ministry of Education, Science, Research and Sport of the Slovak Republic (2002). Millennium: The National Program of Education in the Slovak Republic for the next 15 to 20 years. IRIS Ltd., Bratislava, p. 29.
 Novota M (2010). Evaluation of the Textbook Fundamentals of Electrotechnics I. Proceedings of the Joint International IGIP-SEFI: Annual Conference 2010. SEFI, Brussels.
 Průcha J, Walterová E, Mareš J (2003). Dictionary of Pedagogy. Portál Ltd., Prague, p. 400.
 Turek I (2002). Basics of Pedagogical Research. Available on a CD.