

Styles of Textbook Use

Abstract

The paper presents the results of the research focused on the issue of textbook use. The aim of the research was to identify the styles of textbook use adopted by lower secondary school teachers. The data were gathered through classroom observations (total of 155) and interviews with teachers (58). The research resulted in identification of four different styles of textbook use. It was found out that the styles varied according to the school subject. Relation to the length of teaching experience and the qualification of the teacher for a given subject was not proven.

Keywords: *textbook, textbook use, styles of textbook use*

Introduction

Textbook studies are mostly oriented towards textbook as a product and focus primarily on its content analyses. Research investigations in the field tend to be predominantly focused on examinations of characteristic qualities. Results of these content analyses then serve as a basis for inferences about textbook use and the influence of textbooks on students' learning. M. Horsley, Australian researcher, compares it with the examination of drivers' behaviour by means of the study of vehicles (Horsley, Walker, 2005). Up to now, there is only limited knowledge about how teachers and students use textbooks, and consequently about the role textbooks play in the classroom teaching and learning.

In the long run, the research at the Department of Education and Adult Education at the University of Ostrava focuses, among others, on textbooks and other educational materials. Recently, the main concern were the issues related

to the use of texts in the classroom teaching and learning (e.g. Cervenkova, 2010; Sikorova, 2010). The main aim of these investigations is to identify the role of textbooks in contemporary education, and secondary education in particular. One of the issues we were dealing with was the extent to which teachers applied textbooks in lesson planning and targeted purposes of their use. The investigation attempted to answer the research questions: What are the basic styles of textbook use applied by lower secondary teachers? Do the styles differ according to the school subject, the length of teaching experience and the teacher's academic qualification? Does the teacher's satisfaction with the textbook influence his/her style of textbook use?

Various specialists coin their own terms to describe the role in which the textbook is used. The authors use terms "styles of textbook use" (Freeman, Porter, 1988), "roles of textbooks" (Lambert, 1999), "types of textbook use" (Hinchman, 1987), "patterns of textbook use" (Alverman, 1987; Sigurgeirsson, 1992), "approaches to using" (Nicol, Crespo, 2006) and other terms. We will adhere to the term 'styles of textbook use', which are conceived as relatively stable, distinctive ways adopted by teachers while using the textbooks.

Literature review

Styles of textbook use have been explored on the basis of both qualitative and quantitative approaches. The predominant methods of data gathering are observations and interviews, sometimes supplemented with teachers' records. Extensive quantitative studies make use of questionnaires.

The inquiry of D. Lambert (1999) was conducted in geography lessons at seven secondary schools in London and its surroundings. In each school, two 8th grade classes were observed in total of 112 hours. The observations were supplemented by interviews with teachers and students. The observers identified three distinct roles of textbooks in classroom. First, the textbook served as a 'classroom management tool' – it was used to control the students' behaviour in the class. The second role was identified as a 'curriculum mediator', i.e. using the textbook as a tool for structuring the contents of the lesson and as a resource for teaching methods. As for the third role, the textbook was used as a 'curriculum support' – the purpose of the textbook was to provide a source of information, a resource for students' motivation, a support for the special needs of students a source of materials for additional tasks, a source of examples, case studies, nonverbal material, and a reference point for self-study and homework.

The research by D. Freeman and his colleagues from the University of Michigan (Freeman, Porter, 1988) focused on teaching mathematics at primary and lower secondary schools. Based on in-depth interviews with seven teachers, they distinguished three groups of textbook users relative to the teacher's dependence on the textbook. The first group proceeded 'strictly by the textbook', lesson after lesson, and additional materials were used either very little or not at all. The second group also proceeded according to the order presented in the textbook, but the teachers 'selected the texts used in lesson'. The third group of textbook users applied 'additional materials' to such an extent that they disrupted the structure and the contents of the subject matter scripted by the textbook.

Dutch scholars A. Reints and N. Lagerweij (1989) carried out an extensive quantitative research at 700 schools. Accepted methodology enabled the authors to quantify the proportions of teachers who applied particular styles of textbook use. The inquiry was conducted at primary and lower secondary schools in various subjects – geography, social sciences, mathematics, etc. Approaches to using textbooks were divided into four categories:

1. Following the textbook 'page by page' – 11 percent of teachers;
2. Textbook 'determines the structure of the lesson, but teachers supplement it with additional materials' – 50 percent of teachers;
3. Textbook is just 'one of several equally important sources' – 10 percent of teachers; the combination of styles 2 and 3 was frequent – 20 percent of teachers;
4. Teachers 'don't use' textbooks at all – 10 percent.

Other research which dealt with the approaches to using textbooks with respect to the degree of teacher's dependence on the textbook was carried out by a team of Canadian-American specialists under the supervision of C. Nicol and S. Crespo (Nicol, Crespo, 2006). The researchers interviewed four student teachers of mathematics about the ways in which they use textbooks, and on the grounds for that particular manner of use, and observed their lessons as well. All the students to a certain extent followed the material included in the textbook, but in three qualitatively different ways. The approach called by the authors 'adhering to the text' was typical of one female student teacher, who accepted the text as an authority in the sense of what to teach and how to teach it. She almost never adapted the texts and tasks in the textbook and she expected the textbook to provide her with precise teaching procedures. Two other students applied the method of 'elaborating the text'. The textbook was considered to be the main source for their lessons but it was supplemented with other sources and the contents of the textbook were often adapted and extended. The style of the fourth student teacher was characterized

by 'creating text'. He critically analyzed the textbook content and regarded the textbook as one of many sources which served as an inspiration for his lessons.

From this brief overview of previous research into the styles of textbook use it is apparent that the styles applied by teachers differ mainly in two ways: in the extent of the teacher's dependence on the textbook for organizing the contents and methodology of their lessons, and in the purposes of textbook use in classrooms.

Research problems

The main aim of our research was to identify basic styles of textbook use applied by teachers. The main research problem was thus formulated as follows: What basic styles of textbook use do the teachers adopt in the classroom? In addition to the main research problem, sub-questions were also formulated: Do the styles of textbook use vary depending on the subject, the length of the teacher's experience and his/her teaching qualifications?

The length of the teacher's experience was classified into five categories: 0–5 years, 6–10 years, 11–20 years, 21–30 years and more than 31 years of experience. The represented subjects were English, history, mathematics and civics. Concerning the qualification of the teacher, there were two categories: qualified – nonqualified for the given subject.

The differences in the style of textbook use were assumed in different subjects, particularly between English and mathematics on the one hand and history and civics on the other. We expected that the use of textbook would differ especially with respect to the function: textbook as a source of teaching contents vs. textbook used primarily for practicing. As for the length of teaching practice, novice teachers were supposed to rely more on the textbook when preparing for the lesson, compared to more experienced teachers. A novice teacher encounters presentation challenges of the subject matter and the delivery aspects of the lesson, particularly because he/she has not mastered the pedagogical content knowledge yet, and he/she can search for the effective representations and articulations of the subject matter in the textbook. It was assumed that also experienced teachers can have certain problems or needs related to the subject matter and its pedagogic transformation, if they are not qualified for the subject they are teaching. Nonqualified teachers were expected to rely on textbooks as sources of teaching contents and methodology of classroom instruction more than their qualified colleagues.

Methodology

The above-mentioned research questions were answered on the basis of data gathered by the methods of class observations and interviews with the teachers. Structured observation was carried out on a random sample of ten lower secondary schools in Ostrava. Two 8th grade classes at each school were observed and written recordings of 155 lessons made: 40 history lessons, 40 English lessons, 38 civics lessons and 37 mathematics lessons. The observations were recorded in detail by five observers. The average length of teachers' service was 19.5 years. A quarter of the observed lessons was taught by teachers who were not fully qualified for the given subject. This was generally the case for English (37.5 percent of the lessons) and civics (44.7 percent of the lessons).

The observations were followed by individual semi-structured interviews with the teachers. The data collected by the interviews were used for further analysis, triangulation and finally for supplementing or explaining the data obtained through the observations. Respondents of the interviews were the teachers who delivered the observed lessons, 52 teachers in total. The data were entered in pre-made forms for individual subjects. As some of the teachers taught two subjects in one class (one teacher even three), the total number of interviews was 58.

Research findings

The main criterion for identification of the teacher's style of textbook use was the degree of his/her dependence on the textbook combined with the purpose of textbook use. The degree of the teacher's dependence on the textbook during preparation of the lesson was obtained by the means of interview. The findings show that all the teachers to various extents used the textbook while preparing for their lessons. According to the degree of the teacher's dependence on/independence of on the textbook, it was possible to divide the respondents into three groups. The teachers of the first group (25.9 percent) heavily depended on the textbook while designing the course of their lessons. These teachers delivered the content in the class systematically according to the textbook, proceeding page by page, from the beginning to the end of the book. For the second group of teachers (19 percent), the textbook was not the primary source. They did use the textbook, but they also used a lot of other text materials which they considered equal to the textbook. The largest group of teachers (55.2 percent) anchored their lessons primarily on the textbook, but would modify the subject matter presented. Most frequently, the

teachers made three types of changes: a) they were omitting parts of the content, b) extending the subject matter, or c) substituting the subject matter presented in the textbook with a different one. The data related to the purpose of textbook use by the teachers were obtained through classroom observations and interviews with the teachers. In the interviews, the teachers were asked how and why they used textbooks, more specifically if they regarded the textbooks as an authority for teaching content and methodology. At the same time, the observers tried to deduce the purpose of textbook use during the observed lessons. The findings are presented in Table 1.

Table 1 Purposes of textbook use

Purpose of use	Interview		Observation	
	Number of interviews		Number of lessons with textbook	
	N	%	N	%
Source of information	49	84.5	80	67.2
Source of tasks	30	51.7	77	64.7
Basis for discussion	22	37.9	26	21.8
Program of teaching	20	34.5	-	-
Motivation of students	17	29.3	8	6.7
Supplementary material	8	13.8	5	4.2
Inspiration for teacher	8	13.8	-	-
Assessment	-	-	35	29.4
	N = 58		N = 118*	

* Basic textbook was used in 118 lessons from the total of 155 lessons.

From both the interviews with the teachers and the observations, it is obvious that the teachers used the textbook primarily as a source of lesson contents. In the interviews, they stated that they used them not only for selecting the topic but also to determine the sequencing order and depth of the topic material. To a large degree, the textbooks were also used as a source of tasks for practicing and assessment. More than a third of the teachers used the textbook as a source of teaching strategies.

Results and discussion

The basis for identifying the teacher's style of textbook use were the data on the degree of the teacher's dependence on the textbook for lesson planning in relation

to the data on the purposes of his/her textbook use. The particular styles were determined based on the analysis of several interview questions and the findings of the observations. Four different styles of textbook use were identified (cf. Table 2).

Table 2 Styles of textbook use

Teacher's style of textbook use	Number of interviews		Number of teachers	
	N	%	N	%
(1) Systematically following the textbook	15	25.9	14	26.9
(2) One of several sources	8	13.8	6	11.5
(3) Source of tasks	11	19.0	11	21.2
(4) Modification of the subject matter	24	41.4	21	40.4
Total	58	100.1	52	100

The teachers who applied the first style followed the textbook page by page. They structured the lessons by the book and to a large extent used explanatory texts as well as the exercises, tasks and questions from the textbook. For these teachers, the textbook represented both a source of information and a methodological manual for lesson planning. The correlation between the teachers who followed the textbook page by page and those who used the textbook as a source of methodology for classroom instruction was significantly high: $r_p = 0.92$, $\alpha = 0.01$. This style was very typical of English classes: 10 out of the total of 15 teachers using this style were teachers of English. Only a few of them used other text materials besides the basic textbook, and if they did, it was only sporadically.

The characteristic feature of the second style is the teachers' perception of the textbook as only one of several sources to draw upon. The teachers stated that they used the book as a supplementary material. For lesson planning, they usually consulted several textbooks from different publishers. During their lessons, they employed a broad spectrum of other text materials (e.g. atlases, web pages, authentic materials) some of which contrived by the teachers themselves. The textbook was used sometimes for subject matter, sometimes as a source of tasks or sometimes as a foundation for discussion or motivation for the students. There were only six teachers who used textbooks this way, including the teachers of history, mathematics and civics.

The third style was applied by the teachers who used textbooks almost exclusively as a source of tasks, exercises and homework. They frequently made use of other materials which served them as additional sources of tasks, especially task-books and workbooks. The textbook chapters represented an outline of topics and the explanatory texts in the book provided the teachers with a guideline so that

they knew to what extent and depth the given topic should be discussed. However, they did not use the textbook for methodological organization of the lesson. This style was typical of mathematics (64 percent) and English (remaining 36 percent).

Unequivocally, the largest group of teachers belonged to the fourth style. Typically, these teachers somehow adapted or modified the material in the textbook. Most of the teachers applied several modifications simultaneously: some contents were reduced, others were extended, or substituted. Despite the modifications, the teachers still considered the textbook to be the most important curriculum material, which served as a source of teaching contents. Compared to the other teachers, they used textbooks as a source of tasks less frequently. They quite often used other text materials, such as workbooks, web pages, task books, newspapers and magazines, and other materials, especially to make the lesson more interesting. This category encompassed teachers of all four subjects, however civics teachers prevailed (46 percent).

In relation to the styles of textbook use, we were also interested in the factors which could influence their employment, specifically the school subject, the length of the teacher's experience, and the teacher's qualification for the given subject.

The school subject seems to significantly influence the teacher's general style of textbook use. A statistically significant relationship between the subject the textbook is designed for and the style of textbook use has been proven (Chi-square: $\chi^2: p = 0.0004$). The style of 'systematically following the textbook' was standard for the English teachers (67 percent of them), the 'source of tasks' style was characteristic of the mathematics teachers (64 percent). The civics teachers modified the textbook content more often than others (46 percent). However, if the teacher regarded the textbook as one of several sources and used it for different purposes in different situations (style 'one of the sources'), the subject did not matter.

Surprisingly, the length of teaching experience did not relate to the teacher's style of textbook use. All four styles were represented by teachers with varied years of experience (Chi-square: $\chi^2: p = 0,536$). The style of 'systematic following of the textbook' was assumed to be used primarily by novice teachers, who are less weathered, and who would resort to the textbook as a safe haven. This assumption has not been proved. In fact, the results imply the opposite. This style was adopted by fifteen teachers, ten of whom fell into the groups with 21–30, and 31 and more years of teaching.

Another surprising finding showed that the style used by teachers was not related to the teacher's qualification for the given subject (Chi-square: $\chi^2: p = 0.845$). It was expected that the teacher who was not qualified for the given subject might have certain doubts regarding the subject matter and he/she might be more dependent on the textbook. The hypothesis has not been proven.

The most easily identifiable style was the 'systematic following of the textbook'. These teachers explicitly admitted to the use of the textbook accordingly. Moreover, a very high correlation was proved between this category and the group of teachers who used textbooks as lesson program manual. The second easily identified group were the teachers who applied the style 'one of several sources'. There were only a few of them (6 in total), but their use of the textbook was totally different from other groups. They did not make use of the textbook either as a source of the subject matter, or as a source of methodology for classroom instruction, and they employed also other sources. More accurately, they used a certain textbook as a source of particular content, another textbook as an inspiration for their teaching strategies and another material as a guide for in-class activities. In other words, these teachers used the textbooks selectively and at the same time they were independent of them. The largest group of teachers was evidently heterogeneous. It comprised the teachers who considered the textbook as the main source but they modified its contents and supplemented it with other materials. Some of them made only minor adjustments, whereas others modified the textbook extensively. Certain sub-styles could surely be identified within this group, but a much larger sample would be needed.

Conclusion

The study of the function of textbooks in the classroom instruction and the purpose of their use by its main users – teachers and students, is in our view the crucial issue in the textbook research. Based on these findings, we can identify what role textbooks play in contemporary education systems and help to define the requirements which a high-quality textbook should meet.

Our inquiry, among other things, indicated an interesting line of further research in the field of textbook use. It occurred that one of the most important factors influencing the teacher's style of textbook use is the subject the textbook is designed for. This finding has been proved by many other research studies (e.g. Hiebert et al., 2003; Roth et al. 2006; Sikorova & Cervenkova, 2007; Laws & Horsley, 1992). Even if this research is prevailing, there are also some authors who question the unequivocal relation between the subject and the style of textbook use (e.g. Sosniak, Stodolsky, 1993). Even if this investigation confirmed the relation between style and subject, the issue is not easily resolvable. The research sample included several teachers who were teaching two subjects simultaneously, in one instance even three. In most cases, they were teaching the combination of history and civics

for which they usually applied identical styles (usually style 4 or 2). However, there were also two teachers who were teaching subjects of unrelated nature. Teacher H. applied the same style both for English classes and civics, namely 'systematic following of the book', whereas teacher O. used the style 'one of several sources' in his history and civics classes, but for English classes he employed the "opposing" style of 'systematic following of the book'. The subject seems to have a significant impact on the style of textbook use, but in our opinion there is also another very strong factor and that is the teacher's beliefs or teaching philosophy. The way in which the teacher conceptualizes the students, the subject and the teaching, has a fundamental impact not only on his/her style of textbook use but also on his/her capability to realize the potential and the qualities of these materials. The notion of a 'good textbook' (and its qualities) cannot be considered as an absolute one. In our point of view it is closely related to the conception of the teaching in which the textbook as a curriculum material is used.

References

- Alvermann, D.E. (1987). The Role of Textbooks in Teachers' Interactive Decision Making. *Reading Research and Instruction*, 26 (2), 115–127.
- Červenková, I. (2010). *Žák a učebnice: užívání učebnic na 2. stupni základních škol*. Ostrava: Ostravská univerzita.
- Freemann, D. J. & Porter, A.C. (1988). Does the content of classroom instruction match the content of text books? Paper presented at the annual meeting of the American Educational Research Association. New Orleans: AERA.
- Hiebert, J. et al. (2003). *Teaching Mathematics in Seven Countries. Results from the TIMSS 1999 Video Study*. U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. Available at: <http://www.uiv.cz/clanek/429/722>.
- Hinchman, K. (1987). The Textbook and Three Content-Area Teachers. *Reading Research and Instruction*, 26 (4), 247–263.
- Horsley, M. & Walker, R. (2005) *Textbook Pedagogy: A Sociocultural Analysis*. In M. Horsley, S. Knudsen & S. Selander (eds.). 'Has Past Passed?' Textbooks and Educational Media for the 21st Century. Stockholm: Stockholm Institute of Education Press, Štátny pedagogický ústav Bratislava.
- Johnsen, E.B. (1993). *Textbooks in the Kaleidoscope. (A Critical Survey of Literature and Research on Educational Texts)*. Oslo: Scandinavian University Press.

- Lambert, D. (1999). Exploring the use of textbooks in KS3 geography classrooms: A small scale study. *The Curriculum Journal*, 10, 85–105.
- Laws, K. & Horsley, M. (1992). Educational Equity? Textbooks in NSW Government and non-Government Schools. *Curriculum Perspectives*, 13 (3), 7–17.
- Nicol, C.C. & Crespo, S.M. (2006). Learning to Teach with Mathematics Textbooks: how preservice teachers interpret and use curriculum materials. *Educational Studies in Mathematics*, 62, 331–355.
- Průcha, J. (1998). *Učebnice: teorie a analýzy edukačního média: příručka pro studenty, učitele, autory a výzkumné pracovníky*. Brno: Paido.
- Reints, A. & Lagerweij, N. (1989). *Om de kwaliteit van hetleermiddel (On the Quality of Teaching Materials)*. Tiburg: Zwijssen.
- Roth, K.J. et al. (2006). *Teaching Science in Five Countries: Results From the TIMSS 1999 Video Study. Statistical Analysis Report*. U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. Available at: <http://www.uiv.cz/clanek/429/722>.
- Sigurgeirsson, I. (1992). *The Role, Use and Impact of Curriculum Materials in Intermediate Level Icelandic Classrooms*. (Printed doctoral dissertation). Brighton: University of Sussex.
- Sikorová, Z. (2010). *Učitel a učebnice: užívání učebnic na 2. stupni základních škol*. Ostrava: Ostravská univerzita.
- Sikorová, Z. & Červenková, I. (2007). *Užívání učebnic a jiných textových materiálů ve výuce na ZŠ a gymnáziu*. In XV. konference ČAPV. České Budějovice: PdF JU.
- Sosniak, L.A. & Stodolsky, S.S. (1993). Teachers and Textbooks: Materials Use in Four Fourth-Grade Classrooms. *Elementary School Journal*, 93 (3), 249–275.