

Didactic Material Resources in the Teaching of National History and Geography: Selected Results of a Qualitative Survey

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II. DIDACTIC MEANS

Abstract—The paper is the first output of a larger research project conducted at the Faculty of Education of the University of Hradec Králové, which deals with an improved understanding of teachers' work in the subject of National History and Geography. Partial findings focusing on the use of didactic material resources in teaching are presented in this phase. With the regard to promotion of independent activity of students within learner based education, material equipment of schools with didactic aids is becoming increasingly important. This paper is based on qualitative research, where the possibilities and mainly the reasons for use of material didactic resources in teaching were investigated through semi-structured interviews. Attention was focused on ways of working with different teaching aids and their implementation in the educational process. It turns out that teachers accept current constructivist and humanistic approaches to education associated with the requirement to prepare students for life in an information society, and accordingly they adjust their teaching.

Keywords—Primary education, National History and Geography, didactic material resources, qualitative research.

I. INTRODUCTION

THE research of the use of educational resources in teaching is a traditional theme not only in Czech, but also in the international environment. In the context of ever-changing requirements for the activities and status of teachers in the education, and depending on the development of modern technologies and their integration into teaching, however, this area of research has its indisputable role even today.

Since Czech educational research is at a high level, when determining the theoretical framework we draw mainly from the Czech literature. According to Maňák [1], didactic means are one of the basic elements of the educational process, while four basic components interact with each other. These include: curriculum, teacher, student and teaching resources. In the field of education teaching resources help teacher and their pupils to achieve learning objectives. The mentioned category can be understood as an umbrella term for particular areas, such as didactic technique and teaching aid see e.g. [2]–[4]. For the purposes of this paper we will continue to work only with the term of didactic means.

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Categorization of **didactic means** is provided by for example Maňák [1], Rambousek [5], Šimoník [6], Stojan [7] and others. From foreign studies we can mention, for example Harmera [8], Storch [9] or Scrivena [10]. In our case, we use the classification established by Geschwinder [11], who divides didactic means on **material and immaterial**. The category of immaterial can include teaching methods, organizational forms and teaching principles. The category of material includes teaching aids, educational technology, student aids, textbooks, classroom equipment, etc. Application of this category in the teaching of National History and Geography (Ger. *die Heimatkunde*, Fra. *Civilisation*, Spa. *historia y geografia nacionales*, Rus. *Краеведение*, Cze. *Vlastivěda*) at primary school creates the heart of the research investigation.

Inducing, organization and regulation of student learning activities, i.e. their ability not only to present the curriculum, but also to manage the process of its acquisition and control achieved results, can be considered as the primary function of didactic material resources. Informative, formative and instrumental functions—comp. [5] can be assigned to the didactic means from the integrating pedagogical point of view.

One of the most significant didactic means today is the information and communication technologies. Nowadays using ICT is also related to the use of the Internet. Communication, collaboration, research, publication and dissemination of information are considered as the main contributions of the Internet. These functions quite clearly show that the Internet has become an important and helpful tool in teaching.

The ideal subject, where it is possible to make full use of both classic and modern material resources, is the teaching of **National History and Geography**. The content of this subject is based on the Framework Education Programme for Basic Education [12], namely the educational area of Humans and the world, while this area consists of topics like The Place Where We Live, People around Us and People and Time. National History and Geography include geographic and historical curriculums. The geographical curriculum follows on the knowledge of natural science. Pupils move their observations from the closest area of residence and school to geographic observations of their region, the Czech Republic and Europe. They learn about neighbouring countries, their natural conditions, economic and social advancement. They

search major European cities and tourism centers on maps and acquire basic knowledge of the process of European unification. In the historiographical curriculum pupils learn about significant personalities and historical stages of our national history, they learn to classify the main events into centuries; they acquire basic historiographical concepts associated with the organization of society.

Thanks to its content orientation National History and Geography is an ideal subject for the creative activities of teachers and the related use of various material didactic resources.

III. INFORMATION SOCIETY

Contemporary society is usually called **information society** [13]-[15]. The main features of the information society are the preponderance of work with information, interactivity, integration and globalization tendencies. Its members must deal with new technologies, they must orient themselves in the world of available information; in other words, they must obtain at least a basic level of **information literacy** [16]. Information literacy is implemented by means of **information behavior** [17].

We can apply three tier views on every piece of information:

- **organizing** (syntax);
- **interpretation** (semantics - the relationship of a symbol to the phenomenon, which it indicates);
- **usage** (pragmatics - the importance).

According to Cejпка [14], we are talking about information in the real sense at the moment when a symbol is transformed into knowledge (pragmatics), while the information management in this context refers to knowledge (results of receiving and processing information).

As stated by Havigerová [16], cognitive science underlines the relationship of information to the recipient. Information is literally "embodied" - peripheral sensory receptors transform information into nerve signals that are the basis for the development of sensory and later mental representation of information [18]. Humanities emphasize the communication function of information (in a restricted meaning - it is a "verbal information") - in their view information is defined as "knowledge communicated" [19].

Information society requires information literacy. If we look for the definition of information literacy, most commonly we encounter with the definition of the American Library Association [20], which says that it is a set of skills that allow individuals to recognize when they need information and then search for the information, evaluate them and effectively use. If information literacy is properly developed, individuals gradually acquire **information skills**, while they are realized in the form of **information behavior**. Reference [17] defines information behavior as human behavior in relation to sources and channels of information. It includes both active and passive information seeking and its use [17].

Information behavior can further be divided into:

- **Information seek behavior**, i.e. targeted seeking of information, for example for the performance of a task;
- **Information search behavior**, for example the establishment of procedures for searching information;
- **Information use behavior**, i.e. physical and mental activities enabled during the integration of the found information into the existing system of knowledge [16], [21].

More on current issues in education, didactic resources and sources of information were published by the authors in their previous works, e.g., Skutil, Faberová [22], Skutil, Krupová, Svárovská [23] or Skutil, Maněnová [24].

IV. METHODOLOGY

The research focused on teachers work within the subject of National History and Geography and is designed as a qualitative-quantitative research survey. We opted for this combination mainly because our aim is not only to describe the ways of work, but also to understand why teachers approach teaching in the selected way. It is based on the draft of Miles and Huberman presented by Flick [25], which proposes four forms of integration of qualitative and quantitative discourse. With regard to the standard methodological approaches, we inclined to the variant where the qualitative interview is followed by quantitative study, so in the third phase of the research the results of the two previous sections become joined and deepened. We chose this option because when we initially use a qualitative approach we can better avoid the omission of significant relationships compared to if we started with a quantitative approach.

The basic research questions are defined as follows:

- How do teachers use didactic material resources in the course of National History and Geography?
- What influences the teachers' choice of material didactic resources?
- How do teachers support the preparation of students for life in the information society?

To collect data for this phase of the research, we used the technique of semi-structured interview, which was recorded on a dictaphone. The records were then transcribed and analyzed. The analysis was performed based on the Grounded theory [26], where semantic categories were sought to the various elements of response. Subsequently the created categories were assigned to the categories of a higher order within an open and selective coding [27].

The first part of the interview focused on the classroom didactic material resources. In the second part the questions were directed to the use of print materials in teaching, the third part examined the possibilities of using ICT. The final part was looking for answers on ways and support for the preparation of students for integration into life in the information society.

Although the design of the interview was semi-structured, the teachers were asked to freely discuss the issues. When it emerged an interesting topic, we tried to develop it further.

The research sample consisted of six teachers who teach National History and Geography at primary schools. The respondents were chosen to cover the range of the most common types of schools, which occur in the Czech Republic – schools on large housing estates, smaller schools in the peripheral parts of villages and small schools. We believe that the internal structure of the research sample will help us to achieve a more comprehensive view. The method of selecting the research sample was therefore deliberate. The respondents are in the age range of 28-51 years, the mean duration of their experience is 12.1 years. They are therefore experienced teachers.

Statements of the respondents were categorized into categories, [28] which correspond to the structure of the prepared interview.

V. RESEARCH RESULTS

The first round of questions the teachers were asked concerned teachers' views of classroom equipment where they teach National History and Geography. In general the teachers perceived classroom equipment for teaching National History and Geography positively, which we consider to be a good finding. As they stated themselves, with certain exceptions, they are satisfied with the equipment. They do not foresee that any improvement of the facilities would have a significant impact on the quality of teaching.

"Our classroom is adequately equipped; it is equipped with a data projector, an interactive whiteboard, a computer, maps, which have to be brought from a cabinet. But what I miss are more modern textbooks for children with mild intellectual disabilities, workbooks and worksheets, and other demonstration materials ..."

Students mostly use standard didactic material resources. Thus it is proving that even in the era of modern information and communication technologies the printed textbooks, maps, atlases and worksheets are irreplaceable. If the respondents should suggest what should be added in addition to the standard equipment, it would be modern technical equipment. It is a super-structural requirement not affecting the implementation of the educational process.

"If I could, I would use for example, a selecting machine (e.g. for tests and choosing answer from options a, b, c, d). I also would like a visualizer (a device for screening books). But I also manage well without it."

The use of printed textbooks and printed worksheets are still an important factor and still an integral part of the educational process. Although teachers still use textbooks, they consider the use of worksheets as far more important. This phenomenon shows prevalent in the views of all respondents, which we see as a vital piece of information. When evaluating textbooks, the teachers understand their importance, while they perceive limits in the use of textbooks for teaching, especially with regard to the variability of use in choosing different topics. Worksheets are generally considered to be more suitable for the development of a

constructivist way of thinking in children and with regard to their preparation they also seem to be easier because they can better reflect their learning style.

"I use textbooks more for myself, to give myself more of an idea of what to prepare in interactive whiteboard and sometimes give homework to children from the textbook. Otherwise, we very rarely work with textbooks, it seems too broad to me. Too much text is a disadvantage for children, a teacher must choose the most interesting aspects and then work with it. I definitely think it doesn't make sense to learn the definitions of textbooks because children can find them anytime themselves on the internet, for me it is important that children understand the topic and make up their own idea's about it. I try to make learning interesting for children, so I prepare a work sheet and additional sheets for the interactive whiteboard."

In our opinion, the fact that teachers perceive the involvement of modern technologies in education as a necessary part of the work at the school in the 21st century is very positive. This confirms that even experienced teachers are flexible and accept modern information and communication technologies as an element that helps and is not harmful. We regard as essential that teachers are able to identify the benefits of using ICT with regard to the development of visual perceptions, co-operative work or clarity. We appreciate that teachers are not scoreless promoters of ICT, but they also perceive the negative sides.

"I think that this century is all about technology, but it's not true that the more technology, the better, but it would be impossible without it. It's very visual, rich in images, great for kids imagination. Teaching is illuminating, more attractive, I can convey more video material - teaching is cooperative, active, experience, a rapid collection of information during repetition that kids enjoy -, the ability to reflect and work with scanned textbooks or workbooks working forwardly is a great help. I see the disadvantage in that the teacher must carefully choose the amount of illustration material so that the students do not get overwhelmed and keep their attention and focus"

In connection with the modern approaches to education and the use of ICT in education, the development of information literacy of students in such a form to be full members of the information society, has been gaining increasingly higher importance. This reflects the fact that teachers perceive the development of information behavior in students as an integral part of the educational process. The teachers find a major way of supporting work with information outside school - homework tasks. They put the emphasis on the meaningfulness of activities. This relationship is also reflected in the promotion of independent information retrieval capability. The respondents appreciated that within the scope of the subject of Natural History and Geography the opportunity to develop the information behavior is high, since it offers a plethora of choices of where and what information to search.

"Yes, of course, but because I have had the students since the 1st grade, we have already learned that. First of all, I

emphasize the fact that they have information from multiple sources for objectivity, also in creating their own presentations for which they must find information themselves and then present their work. For example, I give them homework to find a certain quote from a well-known person (Jan Amos Comenius), that we are currently discussing. Or I tell them to bring a book concerning the topic. Internet in general is a great well of information, so in particular I teach children how to search for information on the Internet. I don't just give information, but I guide students in their active search and logical inference. Plus students not only work individually but also in groups to learn co-operation."

VI. CONCLUSION

Based on the information gathered, some positive facts appear. Although the Czech education system faces long-term under-funding, teachers basically consider the equipment in their classes for working within the scope of Natural History and Geography as adequate. Although teachers can imagine better material equipment, they do not see its absence as a negative trait affecting the quality of the educational process.

The teachers surveyed also consider modern information and communication technologies as an integral part of the training of students at school, but yet they do not forget the traditional form of education based on work with printed didactic means. It should be noted that printed textbooks are in many cases replaced by worksheets that teachers prepare themselves and that correspond more with their requirements for an active, constructivist approach to education.

In this context, teachers perceive the necessity of preparing students for life within an information society. As a positive we reflect the efforts of teachers to support the active involvement of students based not only on their own search of information, but also on co-operation in groups in a critical evaluation of sources. In particular this fact is considered to be very important and highly valuable with regards to the future development of information behavior within the scope of National History and Geography.

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REFERENCES

- [1] J. Maňák, *Nárys didaktiky*. Brno: MU, 2003.
- [2] Z. Kalhous and O. Obst, *Obecná didaktika*. Praha: Portál, 2002.
- [3] J. Průcha, E. Walterová and J. Mareš, *Pedagogický slovník*. Praha: Portál, 2009.
- [4] K. Janiš, *Slovník pojmů z obecné didaktiky*. Opava: Slezská univerzita, 2006.
- [5] V. Rambousek, *Technické výukové prostředky*. Praha: SPN, 1989.
- [6] O. Šimoník, *Úvod do didaktiky základní školy*. Brno: MSD, 2005.
- [7] M. Stojan, *Základní pedagogické kategorie*. Brno: MU, 1998.
- [8] J. Harmer, *How to teach English*. England: Addison Wesley Longman Limited, 1998.
- [9] G. Storch, *Deutsch als Fremdsprache-Eine Didaktik*. München: Wilhelm Fink Verlag, 1999.
- [10] J. Scrivener, *Learning Teaching*. Oxford: Macmillan Publishers Limited, 2005.
- [11] J. Geschwinder, E. Růžicka and B. Růžicková, *Technické prostředky ve výuce*. Olomouc: UP, 1995.
- [12] *Framework Educational Programme for Elementary Education*. Praha: VÚP, 2007.
- [13] C. Calhoun, D. Light and S. Keller, *Sociology*. New York: McGraw-Hill, 1994.
- [14] J. Cejpek, *Informace, komunikace a myšlení: úvod do informační vědy*. Praha: Karolinum, 1999.
- [15] F. Webster, *Theories of the Information Society*. Series: International Library of Sociology. Routledge, 2006.
- [16] J. M. Havigerová, Pupils' Information Behaviour – Introduction, Survey and Theoretical Background. In: I. Nowosad and G. Milkowska (Eds.), *A Child in School Setting*. Toruń: Adam Maszalek, 2011.
- [17] T. D. Wilson, Rethinking information behaviour research: an activity theory approach. In: *Information Use in Information Society. Proceedings of International Conference*. Bratislava, October 10-11. Bratislava: Centrum vedecko-technických informácií. 2006.
- [18] R. Jason, M. Anderman and C. Moore, Embodied Information Processing: Vibrissa Mechanics and Texture Features Shape Micromotions in Actively Sensing Rats. *Neuron*, 2008, Vol. 57, Issue 4, pp. 599-613.
- [19] R. Capurro, The Concept of Information. In: B. Cronin, *Annual Review of Information Science and Technology*, 2003, Vol. 37, Chap. 8, pp. 343-411.
- [20] ACRL - Association of College & Research Libraries: *Information Literacy Competency Standards for Higher Education*, 2000. Available at: <http://www.ala.org/ala/mgrps/divs/acrl/standards/informationliteracycompetency.cfm>
- [21] T. D. Wilson, Human Information Behavior. *Informing Science: The International Journal of an Emerging Transdiscipline*. 2000, vol. 3, no. 2, pp. 49-55. Available at: <http://inform.nu/Articles/Vol3/v3n2p49-56.pdf>
- [22] M. Skutil and M. Faberová, Selected Aspects of Humanistic Education. In: K. Gasiorek and I. Pasko (Eds.), *Poznanie swiata w edukacji dziecka (Exploring the World in Child's Education)*. Krakow: Wydawnictwo Naukowe UP, 2012.
- [23] M. Skutil, J. Krupová and A. Svárovská, Sources of Information in the Life of Pupils in the 1st Grade of Primary School. *Procedia - Social and Behavioral Sciences*. 2012, vol. 69, pp. 2237-2242.
- [24] M. Skutil and M. Maněnová, Interactive whiteboard in the primary school environment. *International Journal of Education and Information Technologies*, 2012, Issue 1, Volume 6, pp. 123-130.
- [25] U. Flick, *Designing Qualitative Research*. London: SAGE, 2007.
- [26] A. Strauss and J. Corbin, *Basics of Qualitative Research Techniques and Procedures for Developing Grounded Theory*. London: SAGE, 1998.
- [27] D. Silverman, *Doing Qualitative Research*. London: SAGE, 2005.
- [28] D. Silverman, *Interpreting qualitative data: methods for analyzing talk, text, and interaction*. London: SAGE, 2006.

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