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Edukacja - Technika - Informatyka nr 4(18), 111-116

2016

Artykuł został opracowany do udostępnienia w internecie przez Muzeum Historii Polski w ramach prac podejmowanych na rzecz zapewnienia otwartego, powszechnego i trwałego dostępu do polskiego dorobku naukowego i kulturalnego. Artykuł jest umieszczony w kolekcji cyfrowej bazhum.muzhp.pl, gromadzącej zawartość polskich czasopism humanistycznych i społecznych.

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Innovative educational standards for Technical education at Slovak primary schools since the school year 2015/2016

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Abstract

This article presents an analysis of possible problems in a school practice that may be caused by the introduction of innovative Technical education at primary schools. The article highlights the need to implement a systematic approach to Technical education and also presents suggestions for possible solutions to be implemented in the near future.

Key words: Innovative educational standard, Technical education, primary school.

Introduction

Under the innovative national educational program (ŠVP) approved in February 2015 and a new Framework curriculum (RUP) the teaching techniques used in Technical education classes shall be governed by the updated Educational standard for Technical education (VŠ – T) valid since the school year 2015/2016. The article focuses its attention on significant changes in the pedagogical documentation for Technical education. Furthermore, the article analyzes the problems that the introduction of the updated VŠ – T brought to the school practice.

Changes in the teaching practice and scope of knowledge regarding the area of knowledge World of Work

Data from Table 1 show that the area of knowledge World of Work taught at lower secondary education institutions has been made up of only of one school subject – Technical education (the subject World of work had been canceled) since the school year 2015/2016. However, following the initiative of the members of the Subject committees for the educational area World of Work (PK ČaSP), with the support of ŠPÚ executives in Bratislava and thanks to the understanding staff of MŠ VV a Š SR there has been a substantial positive change in the scope of teaching techniques in RUP at the level of primary education, particularly in 5th to 9th grade.

Table 1. A showcase from the Framework curriculum (RUP) for primary schools where Slovak is the language of instruction

Area of knowledge	Subject	Grade – primary education					Grade – lower secondary education					
		1.	2.	3.	4.	number	5.	6.	7.	8.	9.	number
World of Work	Technical education ¹	–	–	–	1	1						
	World of work ¹						–	–	0,5	0,5	–	1
	Technical education ¹						–	–	0,5	0,5	–	1
	World of work ²						1					1
	Technical education ²						1					1
	Technical education ³	–	–	1	1	2						
	Technical education ³						1	1	1	1	1	5

¹ Valid till 2009/2010 ² Valid till 2010/2011 ³ Valid till 2015/2016

As reported by Hašková and Bánesz “Positives present in the updated ŠVP are an important step towards improving the situation of Technical education in primary schools” [2015, p. 31]. Under the currently valid RUP, Technical education started in the fifth grade of the primary school. In the next 4 years Technical education will be gradually taught from 6th to 9th grade. The proposal of the updated VŠ-T that is being used in schools (5th grade) and which also states performance requirements was developed by PK ČaSP ŠPÚ in Bratislava between 2013 and 2014. It is necessary to point out that after VŠ – T has been completed, under the instruction of MŠ VV a Š SR ŠPÚ in Bratislava, VŠ – T made its results available to the general public with an intention to sparkle a public debate and is also open to amendments. The results of the public discussion analysis were incorporated into VŠ – T by the members of PK ČaSP in May 2014 and thus VŠ – T got its final form.

As the profile of the graduate (technical education teacher) and structure of the study program is directly related to the curriculum of the school subject Technical education, course supervisors from departments of Slovak universities training teachers of Technical education (PF UKF Nitra, FPV UMB Banská Bystrica, FHPV PU Prešov) continually monitored information on the status and development of VŠ – T. Based on these information supervisors contacted the Ministry of Education at the end of 2014/ early 2015 to see the final form of VŠ – T and get information about the approval process. Based on the information and after the subsequent approval of the updated documents ŠVP, RUP and VŠ – T dated 6th February 2015 and after their released by the Ministry on their website, we can conclude that:

- RUP has undergone a positive change, ie Technical education will be taught again in grades 5 – 9, starting with the school year 2015/2016 one class per week,

- VŠ – T will feature new thematic unit called *Household economics*.

RUP, point 2 states the following: „*With regard to the curriculum of the subject Technical education a headmaster shall take into account human resources together with material and technical conditions of a school so that students of each grade will get the most out of the subject Technical education and Household economics*“ [RUP, p. 2].

VŠ – T states in its introduction the following: „*Educational standards of the school subject Technical education are divided into two thematic units – Technical education and Household economics, each of which is subdivided into different thematic units. The emphasis is put on the thematic unit Technical education. The school is required to teach at least two thirds of the curriculum of Technical education in each school year and no more than one third of the curriculum of Household economics according to its material-technical and personnel conditions*“ [VŠ – T, p. 4].

We consider the above change, ie the introduction of the subject Household Economics (ED) into VŠ – T to be a step in the wrong direction for the following reasons:

- initially, VŠ - T planned 33 classes of Technical education per a year (for pupils in 5th to 9th grade), while the adopted change – the possibility to cut the curriculum to only 11 classes makes it impossible to fulfill the requirements of VŠ – T in full,

- the possibility of introducing ED at the discretion of a school, although a positive thought in terms of alterations, is non-systematic because VŠ – T does not feature any guidelines that would help school to decide which Technical education thematic units can be alternated for ED thematic units and at what grade. This approach thus gives the opportunity to schools to leave out (without giving any reason) any of the Technical education thematic units in any grade, which will greatly disrupt the continuity of the Technical education curriculum across all grades and thus disables the upgraded VŠ – T.

- ED contains thematic units with a content (Planning and housekeeping, World of work, Housework and household maintenance, Food preparation and nutrition, Handicrafts, Family life, Cultivation and Animal husbandry) for which teachers (although academically qualified – Mgr.) lack the required expertise. Pedagogical faculties stopped training teachers for the former subject “Cultivation” almost 30 years ago. This means that the subject ED and its thematic units will be taught by teachers without required knowledge and expertise and under inconvenient material, technical and spatial conditions.

With regard to the above we recommend the Ministry of Education to at least issue a methodological guideline for teaching Technical education which would guide schools what thematic units of the subject Technical education can be alternated with the thematic units of ED and in what grade.

Our grounds for issuing such guidelines for teaching the subject Technical education in primary schools are as follows:

- introduction of long-term and mutually comparable (conceptual) approach to Technical education in all primary schools in Slovakia,
- developing a transparent and orderly system for teaching Technical education that can be inspected,
- preferring expert teaching of Technical education over improper teaching techniques,
- establishing uncompromising demands for the re-establishment of vocational classrooms in those schools that previously canceled such classrooms,
- establish requirements for gradual equipping of classrooms with material and technical equipment and teaching aids,
- creating conditions for supplying technical materials (eg. partly by school funders),
- creating fair conditions for the development of practical, theoretical and key skills of students attending Technical education classes as well as creating conditions for real-life development of technical skills of students with regard to their study at technically-oriented secondary vocational schools.

If the subject is given 33 teaching hours (1 class per week), then under the ambiguous instruction given in VŠ – T schools can basically teach 32–22 classes of Technical education and 1–11 classes of ED within one school year. What the real school practice will be is still unknown. There is also no clear idea of how will Technical education and ED be taught in the 5th grade. In order for teachers to develop their own teaching plan for the given grade, the following shall be done:

- school management should set the number of teaching hours for ED for each grade (5th – 9th),
- teachers should analyze VŠ – T-Z and based on the granted subsidy should develop educational plan for ED (R – TVVP).

An example for alternative R – TVVP for Technical education for the 5th grade of primary school following the instruction of VŠ – T is given in Table 2.

Table 2. An example of R - TVVP for Technical education for the 5th grade of primary school

5 th grade	No. of classes	
	Technical education	Technical education of ED
Thematic unit:		
1. Man and Technology	10	
Unit 1a: Instructions on occupational health and safety; Introduction to the objectives and content of the subject in the 5 th grade.		1
Unit 2: Technology, man, nature - relations (introductory OSH)	1	
Unit 2b: Technology helps and also hurts		1
Unit 3: Effects of technology on a man ... (Introduction to the project assignment and the assignment itself)	1	
Unit 3a: Man - the creator of technology		1
Unit 4: Project - Conservation of Nature (assignment and initial works)	3	
Unit 4a: Project - Conservation of Nature (project work / data gathering - the Internet, literature, leaflets, etc.)		1
Unit 4b: Project - Conservation of Nature (project presentation)		1
	5	5
2. Man and a practical manufacture	14	
T 1: Crafts, craftsmen and their products, worker ... (Introduction, concepts)	1	
T 1a: E.g. Craftsmen - Products - Tools in the past		1
T 2: Field trip - handicrafts and products	2	1
T 2a: Field trip – the evaluation of knowledge		1
T 3: Craft products, materials and tools (Project - "Craftsman's letter" - introduction)	1	
T 4: "Craftsman's letter" (elaboration + presentation)	1	
T 5: Product development (mention an invention)	1	
T 6: My product - idea - an outline of one's own product	1	
T 7: My product – materials and construction	1	
T 8: My product – tools, equipment and working process (technology)	1	
T 9: My product - measuring and drawing, cutting... (making products from natural materials)	1	
T 10: My product – e.g. gluing, sewing, finish (finishing products)	1	
	11	3
3. Utility objects and gifts	7	
T 1: Utility objects and gifts - concepts. Design your own product - selection of materials	1	
T 2: Sketch and product design	1	
T 3: Materials and tools - technological process	1	
T 4: Measurement, drawing, wire cutting - work on the product	1	
T 5: Bending, gluing - work on the product	1	
T 6: Sewing (textiles) and finishing - work on the product	1	
T 6b: Presentation of student products		1
	6	1
33 lessons in total (2 lessons in a reserve):	22	9

Table 2 shows the analytical procedure the teacher may use when developing his/ her own teaching plan for Technical education for 5th grade, which is also fully in line with the requirements of VŠ – T. By doing so the teacher allocates an appropriate amount of teaching time to ED and thus no thematic unit of Technical education will be omitted. In case of alternations regarding ED (1–11 lessons), R – TVVP is fully flexible. What we still do not know, however, is

what thematic units of ED or which parts of ED (thematic units) will be taught and included in curricula in grades 5–9. There are no guidelines regarding this. When developing the above teachers should bear in mind the adequacy of specific targets of ED in relation to the specific grade – something that VŠ – T did not specify in their part regarding ED.

The obligation to elaborate R – TVVP for each grade is not written down in legislative obligations regarding teachers' pedagogical documentation. However, we recommend that teachers of Technical education do develop R – TVVP to show the Subject committee and other authorities their ability to plan learning and teaching activities regarding the given subject.

Given the above complications and problems with the elaboration of R – TVVP and also associated problems regarding the elaboration of R – TVVP for 6th – 9th grade of primary schools we recommend MŠ VV a Š SR to remove the thematic unit Household economy from VŠ – T and give the Technical education 33 lessons across all grades (5th – 9th). Moreover, we advise to teach Household economics as a separate subject and give it lessons from the amount of lessons available in ŠkVP in those schools in which the school management decides it has enough personnel and material-spatial conditions for teaching ED.

Conclusion

If the Technical education at primary schools is to meet the objectives and shape pupils in the desired direction, it is necessary to introduce conceptual, clear and unambiguous teaching techniques and highly efficient system of education allowing for regular inspections and checks embodied in VŠ – T. In addition to the proposed changes schools need appropriate technical equipment to provide their pupils with quality Technical education.

Literature

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